

ASSESSING THE EVIDENCE:

MIGRATION, ENVIRONMENT
AND CLIMATE CHANGE IN

KENYA



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ACRONYMS AND ABBREVIATIONS

AFDB	African Development Bank
AIDS	Acquired immunodeficiency syndrome
ASAL	Arid and semi-arid land
DRR	Drought risk reduction
EM-DAT	Emergency Events Database
ENSO	El Niño Southern Oscillation
GDP	Gross domestic product
GLP	Great Lakes Protocol on Protection and Assistance to Internally Displaced Persons
GNI	Gross national income
GPID	Guiding Principles on Internal Displacement
HDI	Human development index
HIV	Human immunodeficiency virus
ICZM	Integrated Coastal Zone Management
IDMC	Internal Displacement Monitoring Centre
IDPs	Internally displaced persons
IDP Act	Prevention, Protection and Assistance to Internally Displaced Persons and Affected Communities Act (2012)
IOD	Indian Ocean Dipole
IOM	International Organization for Migration
IPCC	Intergovernmental Panel on Climate Change
KACCAL	Kenya Adaptation to Climate Change in Arid and Semi-Arid Lands
KISIP	Kenya Informal Settlements Improvement Project
KNBS	Kenya National Bureau of Statistics
LAPSSET	The Lamu Port and Southern Sudan-Ethiopia Transport
MDONK	Ministry of State for Development of Northern Kenya and Other Arid Lands
MDP	Ministry of Devolution and Planning
MECLEP	Migration, Environment and Climate Change: Evidence for Policy

MGCSD	Ministry of Gender, Children and Social Development
MLHUD	Ministry of Land, Housing and Urban Development
MOSSP	Ministry of State for Special Programmes
MSL	Mean sea level
MTI	Ministry of Transport and Infrastructure
NCCAP	National Climate Change Action Plan
NDMA	National Drought Management Authority
NEMA	National Environmental Management Authority
NFD	Northern Frontier District
SGR	Standard Gauge Railway
UN	United Nations
UNDP	United Nations Development Programme
UNEP	United Nations Environment Management Programme
UNFCCC	United Nations Framework Convention on Climate Change
UNHCR	United Nations High Commissioner for Refugees

EXECUTIVE SUMMARY

The Republic of Kenya has been prone to extreme weather conditions, namely droughts and floods, and it is likely that climate change will lead to an increase in the frequency and severity of extreme weather conditions (SEI, 2009; Schade, 2011). Since 1964, a total of 101 disasters (droughts, floods and related epidemics) affected a total of 58.66 million people in Kenya (CREG, 2016). The great majority of these events occurred over the past two and a half decades. As about 83 per cent of the Kenyan landmass is classified as arid or semi-arid land (ASAL), large areas of the country are exposed to the threat of water scarcity in relation to changing precipitation and temperature patterns (NEMA, 2005; NCPD, 2013). More frequent and more extreme droughts and related losses of soil fertility are the most important consequences. The Kenyan population is severely affected by floods due to the climatic conditions in Kenya. Some parts of the ASAL areas, as well as other parts of the country, are also prone to the risk of floods, particularly riverine floods, such as in Tana River county and Garissa county.

The impact of natural disasters is strongly interrelated with man-made environmental changes that may interfere with coping strategies traditionally applied and with natural resource-based livelihoods more generally. In fact, a large portion of the Kenyan population still depends on agrarian livelihoods particularly susceptible to natural and man-made environmental changes. Thus, the importance of migration as a response to environmental and climatic stressors in combination with other societal developments is likely to grow in the future.

The aim of this assessment report is twofold, such that it: (a) maps the migration–environment nexus in Kenya by looking at human mobility due to environmental change; and (b) examines existing policy and legal frameworks and offers guidance in mainstreaming migration in Kenya’s national planning of different sectors and at different levels.

Despite the various linkages between climate and environmental change and migration in Kenya, national policies so far do not provide a coherent framework to address this issue. There is a need to streamline policies, which are currently separately concerned with climate change and migration, but also with related areas, such as disaster response, resettlement and relocation, urban planning, population planning, as well as development, and which to varying degrees refer to migration in the context of environmental and climate change.

The diversity of livelihoods in Kenya in fact requires a diverse set of approaches to enhance the resilience of people towards climate- and environment-related stressors and support migration as a successful adaptation strategy. Pastoralists would benefit from facilitated livestock mobility, including the provision of water ponds along their routes and the guarantee of secure cross-border mobility. Tenure security, land ownership and secured access to natural resources for small-scale farmers and also for pastoralists would increase their potential for in situ adaptation. Benefit sharing with communities affected by development projects, also in the context of climate change adaptation and mitigation, is considered crucial in order to provide affected communities with alternative local sources for livelihoods maintenance. As regards to migration in the context of climate change, the National Climate Change Action Plan (NCCAP) of Kenya sets forth a two-pronged agenda: (a) research into migration as an adaptation strategy; (b) identification of in situ alternatives to prevent migration (Government of Kenya, 2013a:38). This report seeks to contribute to both agenda strands and link the topic to relevant cross-cutting issues in order to support coherent policy development.

The potential of migration as an adaptation strategy should be further emphasized in Kenya's climate change policies to provide safe options for internal and international migration and coordinate diaspora engagement to use remittances for sustainable solutions in response to climate change. Also the importance of reverse remittances, which often support the education of children, should also be acknowledged. Access to education can also open avenues for alternative livelihoods that are less dependent on climatic and environmental factors. Policies supporting sustainable and safe forms of migration, which minimize the negative consequences for migrants, their families and for immobile populations in areas of origin and destination, should be developed, thereby keeping in mind the equal importance of local in situ adaptation strategies to climate and environmental change. As the poor are often most severely affected by climate change (IPCC, 2014), efficient policies enhancing the adaptive capacity of Kenya's population, including through migration, are also important to reduce the existing high levels of poverty. Currently, 45 per cent of the population lives below the national poverty line, including 51 per cent of the rural and 33 per cent of the urban population. Furthermore, the Gini coefficient of 0.445 indicates that there is a high degree of inequality between the populations of different counties, as well as between households and individuals (KNBS and SID, 2013).

Environment and climate change is costly for Kenya and may affect the delivery of the Kenya Vision 2030 plans as well as the Sustainable Development Goals (UNEP, 2009). It is estimated that environment and climate change, including adaptation and mitigation strategies, will cost Kenya around 3 per cent of the GDP

or USD 2 billion every year (SEI, 2009). Although Kenya contributes to only a small share of the global greenhouse gas (GHG) emissions – which is the major cause of climate change – the country is equally exposed to its impacts (Government of Kenya, 2010).

In order to enhance coherent policymaking for migration as adaptation and for the prevention of forced migration in the context of climate and environmental change, it is recommended to create a common platform for inter-agency and interministerial coordination. Focus should be put on disaster, adaptation, migration, land-use and urban policies, combined with do-no-harm approaches in the context of the wider development efforts undertaken in the country. Planning should build on existing knowledge and exchange with experts and civil society. The technical working group of the Migration, Environment and Climate Change: Evidence for Policy (MECLEP) project,¹ which is composed of relevant ministries and government agencies, can provide a useful starting point.

¹ This publication has been prepared in the framework of the MECLEP project. For more information, see <http://environmentalmigration.iom.int/migration-environment-and-climate-change-evidence-policy-meclep>

I

INTRODUCTION



I. INTRODUCTION

While environmental and climatic changes, as well as migration have been addressed separately, there is little comprehensive information about the relationship between them in the Kenyan context. At the global level, the potential consequences of local and global environmental stressors – in some cases perpetuated by the impacts of climate change – for migration and displacement have been discussed since the 1985 United Nations Environment Programme (UNEP) report (El-Hinnawi, 1985). Environmental change can be slow and evolutionary but also, in the case of disasters, sudden and disruptive. In many cases, migration decisions are taken by the prospective migrants and their families themselves, while in other cases governments decide the relocation of people either for development purposes, environmental conservation or permanent evacuation from risk-prone sites. There are thus many factors involved in decisions about how people respond to different forms of environmental stressors and in how decisions are taken about and on different forms of migration. Due to this complexity, estimates of numbers of environmental migrants² at a global level vary greatly and are mainly based on educated guesses due to the lack of statistical data (Laczko and Piguët, 2014). In addition, under some circumstances, environmental stressors also have the potential to limit people’s ability to make use of migration as a livelihood strategy, forcing them to stay in environmentally degraded areas (Foresight, 2011).

This complexity of the environment–migration nexus has also raised questions about the potential of migration as an adaptation strategy. Understanding under what circumstances and for whom migration can be an adaptation strategy in response to environmental stressors is essential in order to advance scientific knowledge and formulate efficient policy recommendations (Schade, Faist and McLeman, 2016). Equally important for the success of migration as an adaptation strategy is the destination of migrants. It is widely assumed that people move from degraded and polluted natural environments to clean and less polluted places; however, evidence also suggests that “people move from areas with relatively low population densities and relatively little environmental degradation to environmentally degraded areas with high population densities” (de Haas, 2008; Foresight, 2011).

² Defined by IOM as “persons or groups of persons who, predominantly for reasons of sudden or progressive change in the environment that adversely affects their lives or living conditions, are obliged to leave their habitual homes, or choose to do so, either temporarily or permanently, and who move either within their country or abroad” (2011:33).

The relationship between the environment, climate change and migration is equally complex in Kenya. In a country where 83 per cent of the land mass is considered arid and semi-arid (ASAL), any changes to the climate leading to a further decrease of rainfall will have severe effects. In addition, in some part of the ASAL as well as other regions of the country, extreme rainfalls are increasingly causing severe floods. Extreme weather conditions and environmental hazards have always existed in Kenya. For example, drought and floods have accumulatively affected about 50 million people in the country since 1964 (CRED, 2016). As a consequence, food security is constantly under threat and the loss of vegetative cover is so great that Kenya retains only 1.7 per cent of its forests and 70 per cent of its mangroves (UNEP, 2001; UNEP, 2009:115). As the vast majority of Kenya's population depends on natural resources for their livelihoods, including people employed in agriculture, small-scale farmers, pastoralists and fishermen, resource related conflicts are frequent, threatening the political stability and economic growth of the country (IDMC, 2012; OCHA, 2013). Climate change is expected to worsen these conditions in the future, including further changes to temperature and precipitation patterns, as well as increases in the frequency and severity of extreme events (IPCC, 2014).

Human mobility is to various extents related to natural and man-made environmental change, as well as to climate change and climate change mitigation project. The following sections of this report explain those linkages in the Kenyan context. One example of more voluntary migration is people moving from rural to urban areas in response to decreasing agricultural productivity as a consequence of droughts and/or floods. These movements, in turn lead to increased urbanization (KNBS, 2010), and entailing more urban air and water pollution. In addition, the effects of decreasing rainfall, such as the drying out of water ponds and the reduction of grazing land, force pastoralists to change their routes (Greiner, Alvarez and Becker, 2013). The drying out of water ponds and overfishing, for instance in Lake Victoria, leads to increased mobility of fisherfolks along the lake in search of fish.³ Forced migration and relocation can also occur in the context of environmental and climate change. Displacement after natural hazards can be considered the most obvious and direct link between the environment and population movements. In 2013, about 170,000 people were displaced due to floods alone in Kenya (IDMC, 2014a). However, people have also been involuntarily relocated from areas where climate change mitigation and adaptation projects were developed, for instance in the context of geothermal expansion in the Rift Valley (Schade and Obergassel, 2014). What remains unclear are answers to the questions how this phenomenon will likely evolve and under what conditions migration can be considered as an adaptation strategy or as a failure to adapt in response to environmental and climatic stressors.

3 Interview with Fishery Officer, Nairobi, 30 July 2014 by Jeanette Schade.

In order to shed light on these questions, this assessment report aims to achieve several objectives. First, it critically analyses the existing literature concerning migration, environmental and climate change, as well as people's vulnerability towards environmental and climatic stressors in Kenya. Second, it maps out the existing policy frameworks and instruments available for managing migration and environmental change and evaluate whether such policies are based on evidence. Third, it identifies both knowledge and policy gaps and makes recommendations for further actions.

I.1. Methodology

This assessment is informed largely by a review of a number existing secondary information sources of information on migration, environmental and climate change in Kenya. The publications reviewed consist of research reports, books, journals, official government publications, policy documents and legal publications. This was complemented by UN publications, media reports and the internet.

Ten complementary interviews with government officers and stakeholders were conducted in July 2014 to get an update on some of the activities being undertaken by the government and other stakeholders, for guidance on policy issues and identification of knowledge gaps.

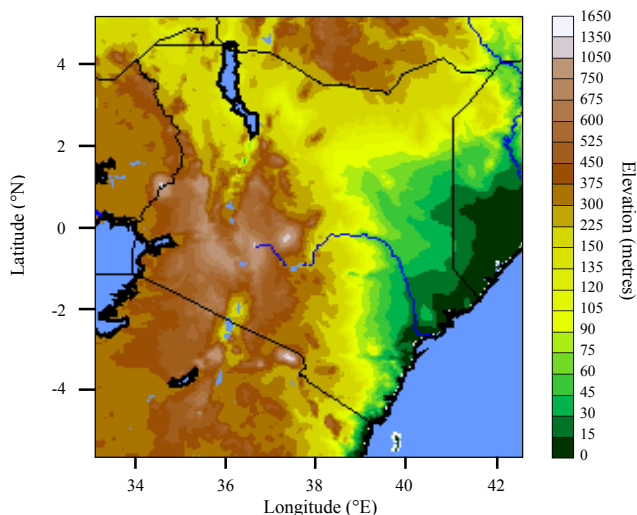
I.2. Background and context

I.2.a. Geography and climate of Kenya

Kenya shares borders with Somalia, Ethiopia, Sudan, Uganda and the United Republic of Tanzania, and a shoreline with the Indian Ocean. Depending on the applied method, its coastline measures 536 km (CIA, n.d.), or based on GIS data, 1,586 km (World Resources Institute, n.d.).⁴ Kenya has a territory of a total of 591,971 km² consisting of 580,609 km² land mass plus 11,362 km² of water areas. (that is, national sea area) (KNBS, 2015:xiii). Kenya has only a sparse forest cover of 3,464,000 ha mainly comprising open woodlands (2,052,000 ha) and indigenous closed canopy (1,137,000 ha) (KNBS, 2014a:118). Of the land mass, 29,648 km² are gazetted as national parks, most of which cover bushland and grasslands, the latter comprising an area of 24,245,000 ha and 10,528,000 ha respectively (KNBS, 2014a:3, 118). Elevations within Kenya vary from 0 m at the coast to close to 5,200 m at the peaks of Mount Kenya (KNBS, 2014a:3).

⁴ Coastal length data are based on the World Vector Shoreline, United States Defense Mapping Agency, 1989. Figures were calculated by L. Pruett and J. Cimino, unpublished data, Global Maritime Boundaries Database, Veridian – MRJ Technology Solutions (Fairfax, Virginia, January 2000).

Map 1: Topographical map (elevation above sea level)



Source: Rourke, 2011:29.

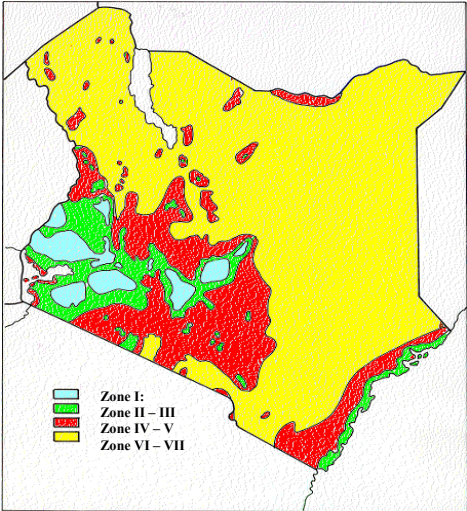
Due to the equator that divides the country into two almost equal parts, Kenya's rainfall regime is closely linked to the intertropical convergence zone, which allows for two rainy seasons per year. The long rains are characterized by more intense rainfall from March to May (about 70% of rainfalls) and the short rains occur from mid-October to the end of December (about 20% of rainfalls). The rainy seasons alternate with seasons of dry spells (Devisscher, 2009:25). Weather extremes in Kenya are a common feature of the country's climate (Schade, 2011:19).

The mean annual rainfall over Kenya is estimated at 621 mm or about 360,000 million m, but the rain is not spread equally across the country (NEMA, 2009b:50). It varies greatly due to the high variability in altitudes (Map 1). The western part of Kenya at elevations above 500 m and adjacent to Lake Victoria receives considerably more rainfall on a regular basis. In contrast, the north-east, and particularly the north-west at an average elevation below 200 m, display the lowest as well as the most unreliable rainfall (Rourke, 2011:86).

These spatial and rainfall patterns of Kenya form the climatic zones of the country and are mirrored in the vegetation cover. The National Environmental Management Authority of Kenya (NEMA) distinguishes a total of seven agroclimatic zones according to rainfall patterns, which largely correspond to the ecological zones shown in Map 2. Mean annual rainfalls between areas range from 2,700 mm in humid zones to below 300 mm in very arid zones. Of those agroclimatic areas,

zones 1 to 4 cover 16 per cent of the total land mass, whereas zones 5 to 7, the arid and semi-arid zones, comprise the remaining 84 per cent (NEMA, 2005:4; Table 1) and thus the majority of the country. A closer look at the climatic zones in Table 1 reveals that actually 46 per cent of the country is very arid and cannot support any form of cultivation.

Map 2: Ecological zones of Kenya



Source: Government of Kenya, 2009a.
 Legend: Zone I: Afro-alpine moorland and grassland or barren land above forest line
 Zone II: Forests and derived grasslands and bushlands
 Zone III: Land of high agricultural value, low forest potential
 Zone IV: Semi-humid, annual rainfall: 700–850 mm
 Zone V: Semi-arid, annual rainfall: 550–700 mm
 Zone VI: Arid, annual rainfall: 300–500 mm
 Zone VII: Very arid, annual rainfall: 200–300 mm

Table 1: Agroclimatic zones of Kenya

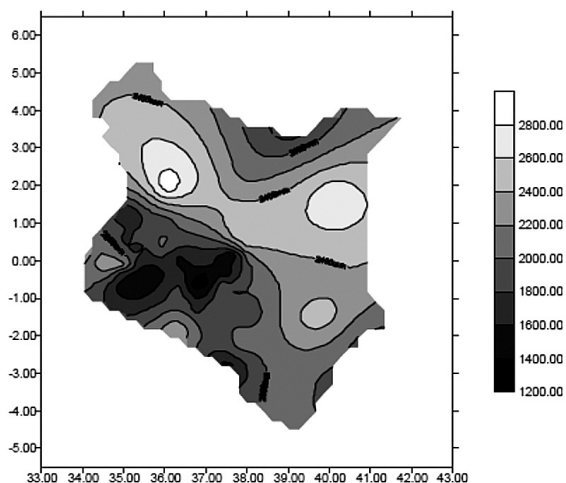
Zone	Climatic zone	Mean annual rainfall	Per cent (%) of total land area
1	Humid	1,400–2,700	3
2	Sub-humid	1,000–1,600	4
3	Semi-humid	800–1,400	5
4	Medium to semi-arid	600–700	5

Zone	Climatic zone	Mean annual rainfall	Per cent (%) of total land area
5	Semi-arid	500–600	15
6	Arid	300–550	22
7	Very arid	< 300	46

Source: NEMA, 2005:4.

The ASALs are characterized by high temperatures and thus also by high evaporation rates (NEMA, 2009b:52). Indeed, the evaporation rates over Kenya seem to be indicative of the agroclimatic zones. The annual evaporation potentials in Map 3 mirror the agroclimatic zones of the country in Table 1.

Map 3: Mean annual potential evapotranspiration



Source: NEMA, 2009a:53.

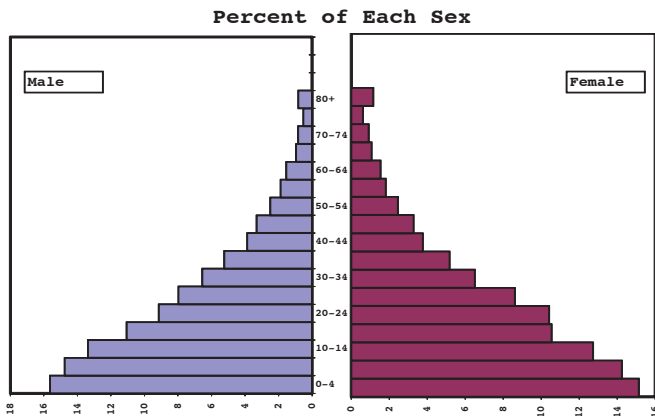
The climate and geography of Kenya also impacts upon groundwater availability. It is unevenly distributed accordingly in terms of quality, quantity and depth of the groundwater table (NEMA, 2009b:54). The central rift valley and the area around Lake Victoria have high groundwater storage capacities, as well as high groundwater quality. The coastal strip also has reasonable groundwater capacities, but the water is saline and of low quality. Also in the eastern and north-eastern parts, where the water table is much lower, groundwater is saline and below World Health Organization (WHO) drinking water standards. Groundwater capacity is lowest in the north-western and central eastern parts of the country.

I.2.b. Population

Kenya is a multi-ethnic and multilingual country with Kiswahili and English being the two official languages. In total, there are about 43 different ethnic groups that tend to occupy exclusive parts of the country. The six largest ethnic groups (>2 million) are the Kikuyu (17%), the Luhya (14%), the Kalenjin (13%), the Luo (10.5%), the Kamba (10%), the Kenyan Somali (6%) and the Kisii (6%). In contrast, widely known Kenyan pastoralist “tribes”, such as the Turkana and the Maasai, only amount to about 2.5 and 2.1 per cent respectively. Kenya is also multi-religious, the dominant group being the various Protestant churches (18.3 million), followed by Catholics (9 million) and other Christians (4.6 million), as well as Muslims (4.3 million) (KNBS, 2010).

Kenya’s population has grown rapidly since the first census was conducted. In 1969, the population stood at 10.6 million, while in the 2009 national census, the population reached 38.6 million (KNBS, 2010). The government projects that in 2015, the Kenyan population already reached between 46.39 and 47.24 million people, and that it will be at 64.38 to 71.26 million in 2030 (NCPD, 2013:27), that is by the time when Kenya seeks to become a newly industrialized country according to Vision 2030 (Government of Kenya, 2008). This also implies that Kenya has a fairly youthful population with 13.7 million people under the age of 35. People under the age of 25 constitute 63 per cent of the population (KNBS, 2010; 2015). Comparatively, only 6 per cent of Kenyans are over 60 years old (Figure 1).

Figure 1: Population pyramid of Kenya as per 2009



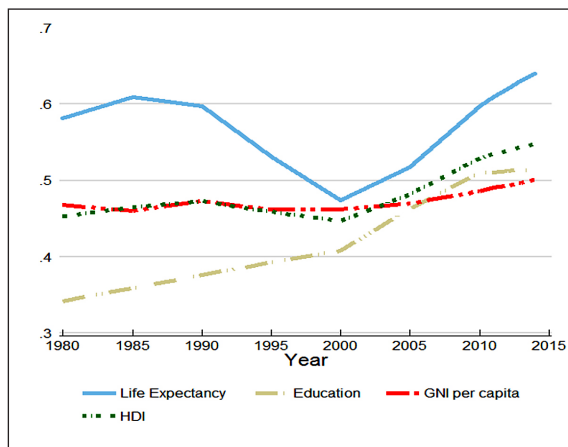
Source: KNBS, 2010:24.

Kenya, nevertheless, remains sparsely populated with 66 people per square kilometre on average according to the 2009 census. However, there is a large variation of population density per county. Among the least populated areas are the counties of Marsabit (4 persons/km²), Tana River (6 persons/km²) and Isiolo (6 persons/km²). Among the most densely populated areas (between 500 and 1,000 persons/km²) are Vihiga, Kisii, Kiambu, Nyamira and Kakamega counties. Counties affected by water hazards, such as Kisumu (465 persons/km²) and Murang'a (368 persons/km²), are typically more densely populated than counties affected by aridity, such as Kitui (33 persons/km²) or those mentioned above (KNBS, 2014a:8). Most people in Kenya (over 24 million) reside in just four former provinces, including Central (333 persons/km²), Western (522 persons/km²), Nyanza (432 persons/km²) and the Rift Valley, which hosts more than a quarter (over 10 million, but only 55 persons/km²) of the total population (KNBS, 2014a:5–7). In a nutshell, the fertile and high-potential zones support about 80 per cent of the population and show an average population density of 230 people per square kilometre. The remaining 20 per cent of the 38.6 million Kenyans live in ASALs (NEMA, 2005:5–7; KNBS, 2010:2). Another dominant feature of population distribution is urbanization (see 1.3.d. Internal migration and urbanization).

1.2.c. Human development

Generally, inequality in Kenya is high. According to the World Bank's World Development Indicators, the Gini index was at 48.5 in 2015 (reference year 2005) and the richest 20 per cent of the population consumed close to 55 per cent of the GDP (World Bank, 2015c). The World Bank classifies Kenya as a developing country and a low-income economy, which are defined as those with a gross national income (GNI) per capita of USD 1.045 or less (World Bank, 2015a). According to World Bank data, in 2005, 43 per cent of the Kenyan population lived on less than USD 1.25 a day (World Bank, n.d.). On average, 46 per cent of the population lived below the national poverty line, including 49 per cent of the rural and 34 per cent of the urban population (ibid.). Kenya ranks 147 at the Human Development Index (HDI), and as Figure 2 shows, its HDI index as well as its GNI per capita is slowly but continuously improving. The biggest area of improvement has been in the mean years of education from 2.7 years in 1980 to 7 years in 2012 (NCPD, 2013). This is partially a reflection of the Government of Kenya's expansive investment in education since 1978, followed by the introduction of compulsory universal primary education in 2003 and subsidized secondary education in 2007. The literacy rate among people over the age of 15 years is 87.4 per cent (KNBS, 2010a).

Figure 2: Trends in Kenya's HDI component indices, 1980–2014



Source: UNDP, 2015:3.

Less progress has been made with life expectancy. The United Nations Development Programme estimates that in 2013, life expectancy was 61.72 years (UNDP, 2014). This is comparable to the 1980s, but is much better than the life expectancy that was during the 1990s, when it dropped to close to 50 years that has been attributed to the effects of HIV/AIDS in the country (National AIDS Control Council, 2014). The current HDI puts the infant mortality rate per 1,000 live births at 48 (World Bank, 2014a). According to KNBS, it stood as low as 39 infant deaths per 1,000 live births in 2014, compared to 52 in 2008/9 (KNBS, 2014b:22). HIV/AIDS prevalence is 5.3 per cent and is a major health concern (National AIDS Control Council, 2014).

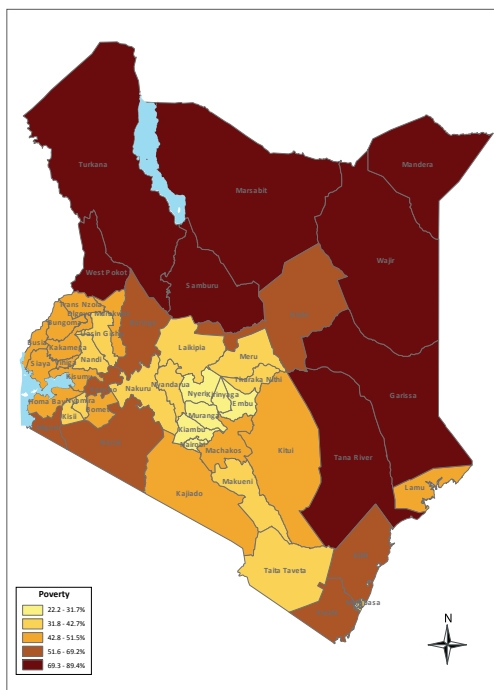
Poverty deserves a second look. Though GNI per capita has improved, on average the share of population living below USD 1.25 a day is still at 43.37 per cent, and the share of working poor earning below USD 2 a day is at 33.6 per cent (current HDI index; World Bank, n.d.).⁵ These aggregate data at the country level indicate that generally speaking, large parts of the Kenyan population face poverty. Yet, a look at the distribution of income and assets within the country shows that regional economic disparities, as well as the highly unequal distribution of resources and access to income generation within the different regions, illustrate the significant level of social inequality in Kenyan society (KNBS and SID, 2013) (see Map 4). For example, 51 per cent of Kenyans who live in rural areas are considered poor, while

⁵ According to the World Bank source, the most recent data available is for the year 2005.

in urban areas, the number is 33 per cent (KNBS and SID, 2013:37). The North-Eastern Province, one of the poorest regions of Kenya, has twice the relative poverty headcount of the national headcount (IFAD, 2013). The maps that follow visualize the close relationship between poverty (Map 4) and aridity (Map 5) in Kenya. This geography of poverty, however, also roots in colonial and postcolonial policies that restricted exchange between the north-east and the rest of the country because of security considerations (see subsection 0).

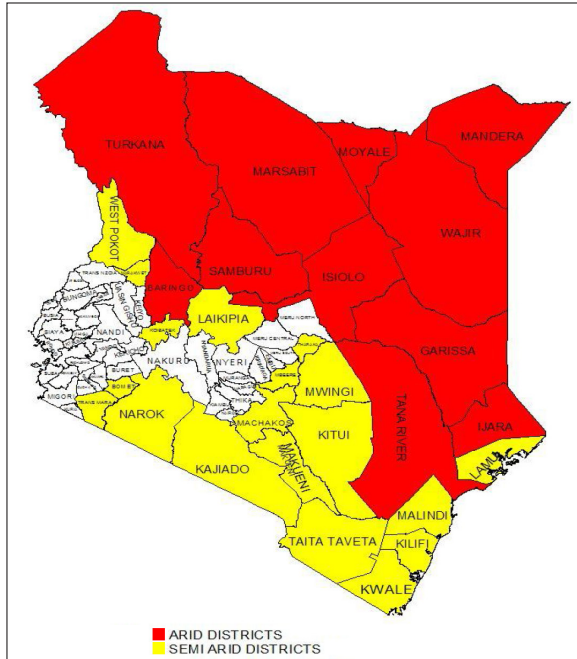
The poorest places are, however, not the same as the places with the greatest number of poor people. The highest concentration of poor people is to be found in the major urban areas of Nairobi, Kisumu and Mombasa (Fengler and Kiringai, 2013). It is estimated that between 1992 and 2003, the percentage of urban poor in Nairobi has increased from 29 per cent to 44 per cent. According to a Kenya National Bureau of Statistics (KNBS) mapping exercise in 2003, the poverty level varies between 20 per cent and 70 per cent in the poorest districts (Nairobi City Water and Sewerage Company Ltd. and Athi Water Services Board, 2009:10). The high level of poverty exists despite the fact that Nairobi contributes 60 per cent to Kenya’s GDP (CSUDP, n.d.).

Map 4: Map of poverty rates by county



Source: Fengler and Kiringai, 2013:4.

Map 5: Map of arid districts compared



Source: Government of Kenya, 2012a:3.

I.2.d. Economy

Between 2010 and 2013, the Kenyan economy grew on average 4.9 per cent (KNBS, 2015:1). During 2011 and 2012, the inflation was particularly high, 14.0 per cent and 9.4 per cent respectively (KNBS, 2015:23). Kenya's trade balance deficit grew from roughly USD 5.64 billion in 2010 to USD 9.56 billion in 2013 (KNBS, 2015:23).⁶ The most important commodities for export are tea (in 2012, USD 1.06 billion) and horticulture (USD 0.85 billion) followed by apparel and clothing accessories (USD 0.22 billion) (KNBS, 2015:36). The most dominant imports are petroleum products (USD 2.50 billion) and industrial machinery (USD 2.05 billion) (KNBS, 2015:37).⁷ Spending on those already exceeds the earnings from the main foreign exchange earners. Dependency on petroleum imports is a major problem for the Kenyan economy. The creation of South Sudan in 2011 and the discovery of

⁶ Figures originally in Kenyan shillings; converted into US dollars by OANDA currency converter, April 2015.

⁷ Most imports come from Asia (in 2012, USD 9.00 billion) with a strong growing tendency, followed by imports from the European Union (USD 2.37 billion). Most exports are targeted to the Member States of the East African Community (USD 1.42 billion) and to the European Union (USD 1.14 billion) (KNBS, 2015:47–48).

Kenya's own oil in Turkana in 2013, therefore, fuelled the government's largest infrastructure project, the Lamu Port Southern Sudan-Ethiopia Transport (LAPSSET) corridor. Another large-scale programme that serves to reduce spending on petroleum imports is the extension and exploration of geothermal power in the African Rift, and the development of renewable energy sources more generally (Government of Kenya, 2011:4 and 25; Diaby, 2011:2).

Agriculture was and still is one of Kenya's most important sources of growth. In 2012, it contributed 19.5 per cent and continuously contributes between a fifth and a fourth to its GDP (KNBS, 2015:7–8). Apart from the education sector, agriculture is also the sector with the largest share of wage employment (around 330,000), followed by manufacturing (around 275,000) (KNBS, 2015:18). However, compared to the education sector with roughly 385,000 employees and a total of about USD 2 billion of paid salaries, it only accounts for about USD 0.73 billion paid wages and is thus not necessarily economically attractive (KNBS, 2015:21). Other sectors with high employment rates are manufacturing, construction, public administration, health and social work, and wholesale and retail, including repair of motor vehicles, the latter being an important source of growth (KNBS, 2015:7, 18). However, for over a decade, the greatest potential for job creation has remained in the informal sector, which has added 466,000 jobs annually as compared to only 3,000 jobs in the agricultural sector or 34,000 and 11,000 in services and industry, respectively (Fengler and Kiringai, 2013:vi). These figures may be indicating the decline of agricultural sector contribution to Kenya's economy, as well as the limited capacity of the formal sector. Both formal and informal sectors employ 13.52 million people (KNBS, 2014c:65).

Despite the decline, agriculture has not lost its meaning as the prevailing livelihood activity in Kenya. According to the International Labour Organization (ILO), in 2009, 75 per cent of Kenya's labour force (three quarters of the population) was still working in agriculture (ILO, 2009). Out of agricultural production, the field crops and horticulture contributed most to the gross national product – 18.3 per cent in 2012 – followed by animal husbandry with 5.1 per cent (KNBS, 2014c:21). Despite the fact that the pastoralists are vital in raising the livestock to satisfy Kenya's domestic demand for animal products, these statistics may also indicate their socioeconomic marginalization (KNBS, 2014c:155). Further, crucial Kenyan statistics such as the Economic Survey or the Statistical Abstract do not provide information on employment in the pastoralist sector and neither in small-scale farming, because it is not wage employment. According to Huho et al., in the ASALs, pastoralism accounts for 90 per cent of the employment and 95 per cent of family incomes (2011:779).

I.2.e. Transportation infrastructure

Domestic transport in Kenya is an important contributor to human mobility and thus to migration. Kenya has a total of 2,700 km of railways lines, and between 2004 and 2013, services have been provided on average to around 5 million passengers annually (KNBS, 2014a:167, 168). A current major development project undertaken by the Ministry of Transport and Infrastructure (MTI) is an expansion of the railway network by constructing the Standard Gauge Railway (SGR) from Mombasa to Malaba and Kisumu via Nairobi. This expansion will be linked to a regional SGR master plan connecting Mombasa with Kampala and Kigali, and later even with Juba via Tororo (MTI, 2014a).

The more important means of transport are vehicles including cars, buses, trucks and motorcycles. Those have increased from 711,142 in 2004 to around 2 million in 2013 and use about 63,500 km of asphalt and earth/gravel roads (KNBS, 2014a:170, 173). Kenya has a total of 10 public airports, of which three are international (Kenya Airports Authority, n.d.). If realized as planned, the above-mentioned LAPSET corridor will contribute to all three means of transport by constructing 1,710 km of railway, 880 km of highway and three airports, which will particularly contribute to an improved transport system for the north-east of Kenya and its connectivity to the southern and western parts of the country, as well as to Ethiopia and South Sudan (Government of Kenya, n.d.). This connectivity potentially contributes to the economic development of the north-east.

I.2.f. Political system

Kenya became independent in 1963. Much of its postcolonial administrative and legislative system was inherited from the British colonizers and laid down in its Constitution. The new Constitution, enacted on 27 August 2010, replaced the previous one and stipulated a number of groundbreaking reforms, which at the time of writing this report have not yet been fully implemented. Some of the most crucial reforms are the devolved government, the land reform, and the bill of rights; the latter even including social and economic rights, as well as rights and duties with respect to the environment. To the extent these reforms are important to this report, they will be discussed in the subsection on policy analysis.

The system of governance as it stands now consists of the executive, the legislature (National Assembly and Senate), the judiciary and the above-mentioned devolved governments. Elections are held every five years. The devolution of government implies inter alia the decentralization of development planning and public spending and more generally, the transfer of powers and functions. To this purpose, the new Constitution established 47 counties with their own county governments (consisting of an Assembly and an executive branch) with the Assembly and the

county governor being elected directly (KNBS, 2014a:1–2). In contrast, prior to the constitutional reform, the powerful commissioners of the eight provinces, as well as those of the districts (largely overlapping with current counties) had been appointed directly by the president. According to the National Government Co-ordination Act of 2013, county commissioners (that is, national government administrative officers at county level) still exist but are not directly appointed, and their mandate is limited to coordinating and performing national government functions at county levels. However, the devolution of government has only been in effect since March 2013, and still has to be fully implemented (Kenya School of Government and World Bank, 2015; Fengler and Kiringai, 2013:135–150).

I.3. Migration – Evidences from the past

Migration patterns in Kenya today are shaped by historical and recent developments of the country's socioeconomic structure and related policy interventions. As agriculture and pastoralism have been the basis of Kenya's economy for a long time, and still are the dominant source of livelihood, it can be held that population movements have always also been related to the Kenyan climate (Vaughan, 1987). The main features can be described as consisting of nomadic pastoralism, a strong rural–urban migration trend, internal displacement due to various factors namely political violence, natural disasters and forced evictions due to development and conservation activities, and cross-border labour migration, as well as refugee movements. The following subsection will first introduce into historical migration patterns and their long-lasting impacts before detailing on the above-mentioned features.

I.3.a. Migration and displacement triggered by colonial and postcolonial politics

At least three policies of the colonial administration had a major and long-lasting impact on migration patterns in Kenya: (a) appropriation of fertile land from natives for the white settlers and of the coast stripe for the Arabs; (b) creation of native reserves along ethnic lines; and (c) declaration of the Northern Frontier District as a closed area. It is estimated that hundreds of thousands of Africans especially in Central Kenya were displaced in the course of this process (Kitching, 1980). One example is the acquisition of large plots of land through the highly contested Anglo-Maasai treaties of 1904 and 1911, which resulted in the Naivasha Maasai moving to the United Maasai Reserve, which was then declared a closed area (TJRC, 2013b:9). In total, about 11,200 Maasai and 2 million cattle thus paved the way for 48 Europeans in the Naivasha region and later, in 1932, for other ethnic groups to relieve overcrowding in their respective reserves (Mwangi, 2005:35).

Establishing native reserves was another way to appropriate the land and control migration. On the main land, the African population was first divided into districts along the “ethnic” lines, which was accompanied by a reserves policy that allocated the land for the major tribes, the so-called Native Trust Land Areas (Rutten and Owuor, 2009:308). An identification system (kipande (passbook) system) to control the movement of communities and individuals from one reserve area to another was established (TJRC, 2013a:185). The system was used to restrict the movement, as well as channel it to the labour demand areas. Labour movement to the farms was triggered by imposing taxes on the Africans, which “had to be paid in the British currency, which could only be earned by employment in the service of the British and which for most Africans already quarantined in the reserves was labour on European farms” (TJRC, 2013a:186). For the White Highlands populated by pastoralist, non-farming communities, authorities resorted to forced recruitment of labour from Central, Nyanza and Western provinces, which resulted in mass migration of Kikuyu, Abagusii, Luhya and Luo who then lived as “squatter labourers” on the plantations (Kahl, 1998).

At the coast, land alienation during the colonial period resulted in forced evictions, and the largest concentration of landless “squatters” in Kenya. The immediate coast was populated by Omani Arabs, whose sultan arranged a leasehold with the British colonizers in 1885 on the so-called 10-mile strip (mwambao) (Wayumba, 2004:7). A subsequent adjudication process in 1908, open to Africans as well, in practice excluded those and converted the lease into freeholds of Arab landlords (Karanja, 2010:181). Ninety-five per cent of the mwambao was finally private property of Arabs, which in the long run resulted in the problem of absent landowners. The rest as well as the “waste and unoccupied land” (TJRC, 2013b:103) of the hinterlands became Crone land, later government land, where the natives, mainly Mijikenda and also Orma, Pokomo, Taita-Taveta and others, had resorted to. They did so for escaping the Arabs who had been heavily involved in slave trade (TJRC, 2013b:169), which adds the dimension of forced international migration. Their sultan of Zanzibar held sovereignty over the 95 per cent of the Mwambao until independence in 1963 (TJRC, 2013b:175).

Forceful evictions without compensations have been pertinent in the mainland as well (TJRC, 2013b:188–193). To secure land for white settlers, the Sabaot (Elgon Maasai) were evicted by the colonial government successively between 1913 and 1938 from their homelands in Trans Nzoia and dispersed to Sebei District in Uganda and the Maasai reserves in Narok and West Suk (Pokot District) without getting a reserve of their own and the few Sabaot staying in Trans Nzoia being declared squatters. In other areas, evictions occurred in the course of white investors and missionaries expanding into non-scheduled areas, who first sought acceptance to stay and then in-kind contributions from local communities and,

if not provided, vacated the land forcefully. In case of violent resistance, colonial authorities responded with great force, which inter alia caused the Pokot retreating to Uganda and the Talai to move from the Rift Valley to Gwassii in South Nyanza. In addition, multinational companies acquired most of the fertile land in the Rift Valley, especially in Kericho, for cultivation of tea. Resistance to land alienation in the form of the Mau Mau uprising resulted in the brutal and indiscriminate response by the British colonial regime and forced thousands of young men out of the Central province into urban areas, including Nairobi and the Rift Valley (Kyle, 1999).

It is estimated that local communities lost about 5 million ha of land to white settlers (Berman and Lonsdale, 1992:38). Resettlement schemes during the transition to independence had initially been meant to return back land to the landless Kenyans and those with little access to land, but resulted in the concentration of most fertile lands in the hands of selected ethnic groups and, indeed, few families (Leo, 1978:622; TJRC, 2013b:213–216). The most famous, the One Million Acre Scheme (1962–1967), offered foreign funding for Africans to purchase a total of 1 million acres out of the 7.5 million acres held by European settlers, was spoiled by implementing officers and their superiors, leaving the original inhabitants landless or with unproductive land (TJRC, 2013b:225). The area of the Lugari Settlement Scheme in the Western province was vacated from squatters and farm workers originating from Central Province to be distributed among members of the Luhya community. In the Aberdares, all members of ethnic groups other than Kikuyu had been evicted by the government to resettle exclusively the latter. Moreover, irregularities in the purchase of (re)settlement land were reported for Sitatunga, Maridadi and Liyavo Settlement Schemes in Trans Nzoia. Settlement schemes at the coast favoured “up-country communities”. In Lamu, for example, they covered only 15–20 per cent coastal communities and within a decade (1969–1979) contributed to the increase of the Kikuyu population by 20 per cent (TJRC, 2013b:245). Indeed, the postcolonial settlement schemes implied population movements of certain ethnic groups into fertile and economic attractive areas, whereas others again became displaced.

In contrast to the population of the mainland, the population of the Northern Frontier District (NFD), predominantly nomadic pastoralists, had been forced to stay under colonial rule. NFD comprised what is today Marsabit, Moyale, Isiolo, Mandera, Wajir and Garissa counties (the latter includes former Ijara District). The population was regarded as “hostile tribes”, and driven by security concerns the colonial administration in 1902 declared the NFD a “closed area”. As a consequence, no person could move in or out of the area without a pass or special permit, and the area was literally cut off from the rest. This policy was continued and even extended by the postcolonial government, which ruled the north and

north-eastern area by decree, including Tana River and Lamu Districts, because of security concerns in the context of the Shifta War (TJRC, 2013b:56–59). This special treatment has been felt continuously until today. Though there are no longer any official travel restrictions, the local population still faces difficulties in getting national ID cards or passports, which are preconditions for entering the formal job market in Kenya or to study abroad respectively (TJRC, 2013b:63). Moreover, the infrastructure for mobility is underdeveloped with the Isiolo-Moyale road, currently under construction, being the first tarmac road built since independence that reaches out to the north beyond Garissa town (TJRC, 2013b:69).

Migration patterns at the time of independence have thus been shaped by the political and physical remoteness of the north and north-east, the settlement schemes and related displacements, the labour force that was thus “set free”, and – last but not least – by the economic hubs created during colonialism. At the beginning of the 1960s, migration streams to the Rift Valley, in particular to Nakuru District, accounted for about 44 per cent of a total migrating population of 604,700, the main areas of origin being the Central Province (48%) and the province of Nyanza (44%). This was followed by Nairobi as the second most important destination, which accounted for approximately 26 per cent of the total migrating population; again, migrants mainly originated from Central Province (45%) and Nyanza Province (35%) (Ominde, 1968:122–124). The Coast Province was the third most important destination and accounted for more than 77,500 persons, of which the majority (close to 37,000) went to Mombasa District (Ominde, 1968:127). The majority of migrants belonged to the ethnic groups of the Kamba, Kikuyu, Luo and Luhya, commonly referred to by the natives as *wabara* or upcountry people (TJRC, 2013b:99).

Central and Nyanza Province have also been major destinations. Central Province, in particular its farming districts, received more than 67,500 persons from the rest of the country. The dominant migrant origins are the then Southern Province (32%), the Rift Valley (30%) and the nearby Nyanza Province (27%) (Ominde, 1968:130, 132). Main destinations in Nyanza Province have been its tea areas, but population stream only amounted to 27,900 persons, mainly coming from Rift Valley Province (44%) (Ominde, 1968:132, 135). North and north-east had no meaningful role in migration, neither as origin nor as destination.

1.3.b. Internal displacement

There are four categories of internally displaced persons (IDPs) in Kenya: (a) victims of political violence; (b) so-called integrated IDPs; (c) those displaced due to development and conservation activities; and (d) those who became homeless due to natural disasters. Data on IDPs provided by

the Government of Kenya is, however, not disaggregated and the exact number for each category is not known. In particular, the number of integrated IDPs – that is, those who are hosted by relatives instead of being assisted by the State – is unknown but likely to be high. Data collection by UN organizations also does not offer a coherent but a rather fragmented picture (see overview at IDMC, 2014c:5–6). According to the Refugee Consortium of Kenya, as of 2014, there were 41 registered IDP camps in the country compared to 120 in 2008. IDP camps are usually located near the previous places of living and in proximity to administrative points, which facilitates easy service delivery. Government support is thereby usually limited to shelter and food and does not include livelihood restoration.⁸

Conflict-induced internal displacement

The total number of IDPs due to conflict in Kenya stands at 309,200 as of 24 April 2015, provided by the Office of the Coordination of Humanitarian Affairs (OCHA). The Internal Displacement Monitoring Centre (IDMC) criticizes that this figure “refers mostly to people displaced by political violence related to elections between 1992 and 2008” (IDMC, 2015a:29) or to “ethnic, political and land-related violence since the 1990s” (IDMC, n.d.). The figure does neither reflect how many of those IDPs settled again and re-established their livelihoods nor new displacement since 2008, and nor people who took refuge outside camps (IDMC, 2015a:29 and 84).

Another estimate by the United Nations High Commissioner for Refugees (UNHCR) of the total IDP stock as of January 2013, counting 412,000 IDPs, is criticized for similar shortcomings (IDMC, 2014c:6). Looking at annual new displacement of newly displaced persons, OCHA reports that 50,000 have been displaced in 2011; 112,000 in 2012; 55,000 in 2013 and more than 220,000 in 2014 (OCHA, 2012, 2014a and 2014b). According to OCHA, the high figure of 2014 is largely attributable to intercommunity clashes (IDMC, 2015a:84), which however is likely to be related to the general elections of 2013 and political realignment thereafter. Conflict-induced displacement can also be ascribed to unresolved historical land claims by different communities related to the processes of dispossession described above, and partly by competition for resources. Political incitement is often an excuse rather than the reason for instigating violence (Chelanga, Ndege and Singo, 2009; Kagwanja, 2002).

In Kenya, a clear link exists between elections and violent outbursts resulting in large-scale evictions, in particular since the introduction of the multiparty system at the beginning of the 1990s. At the time, Kenya was experiencing economic difficulties occasioned by Structural Adjustment Programmes and international economic sanctions that rekindled old fears about land ownership and political

⁸ Interview with Refugee Consortium of Kenya, Nairobi, 31 July 2014 by Jeanette Schade.

control. The logical step was to influence voting outcomes by forcefully evicting certain communities from some regions. As Table 2 shows, this type of “election battle” persisted as a strategy and could still be observed during the recent elections when about 34,000 people were displaced in the Tana Delta and 180 died (OCHA, 2013). The land-tenure conflicts are largely inherited from the past as the locations of displacement indicate. Thus, during the 2007/2008 election period, around 630,000 of the 663,921 IDPs had been generated in Nyanza, Rift Valley, Western, and Central provinces, and over 400,000 alone in the Rift Valley (Kamungi, 2013:4). The 2007/2008 post-election violence was the most serious event of this kind ever in Kenya with its consequences felt until today. The current stock of IDPs still relates to it to a large extent. However, for the violence during the 2012/2013 elections, not only the past but also the recently introduced system of devolved government has to be taken into account. On the one hand, it benefits the county level in terms of financial means and decision-making power. On the other hand, “the risk of election-related violence has also been devolved” (Schrepfer and Caterina, 2014:12).

Table 2: Election-related displacement, 1992–2007

Election year	1992	1997	2002	2007
IDPs	300,000	150,000	20,000	663,921

Source: Kamungi, 2013:13.

Frequently, people displaced by political violence are left unattended by Kenyan governments. This was different for 2007/2008 election violence. When the Kenya National Reconciliation Agreement (KNDR) was signed in March 2008, the first priority for the coalition government was to resettle the IDPs (Kamungi, 2013:6). These have been more encompassing relocation programmes with new settlements emerging in Rumuti/Laikipia, Nakuru, Trans Nzoia and Keringet/Rift Valley. Despite efforts to restore livelihood success is mixed. In Keringet, the working age population left due to lacking job opportunities, leaving the children, old and weak behind. In Trans Nzoia, conflicts emerged with local communities in the context of the devolution of government and related elections. In Rumuti, the resettled were faced with human-wildlife conflicts.⁹ However, only about half of 2007/2008 IDPs had been covered by resettlement schemes and the other half was left unregistered, integrated IDPs, with no support (IOM, 2015:82). By February 2014, about 90 per cent of the IDPs had returned, though difficulties in accessing education and health care persist (IDMC, 2014c:7).

⁹ Interview with Refugee Consortium of Kenya, Nairobi, 31 July 2014 by Jeanette Schade.

Political and ethnicized violence is usually linked to land-tenure issues and thus access to natural resources, in particular pasture and land. Ethnicized conflicts over control of local resources usually take the form of farmer-pastoralist conflicts or intra-pastoralist conflicts between different clans. An example of large-scale displacement due to resource conflict not linked directly to election issues is the displacement of 12,000 members of the Pokomo and Orma tribes in August 2012 in the Tana River district (NRC and IDMC, 2012), the 55,000 people displaced in 2013 in Moyale and Marsabit counties (OCHA, 2013) or, more recently, the eviction of about 1,400 people in the Tana Delta in August 2015 (Gari, 2015). However, also in such cases, tensions about harvest versus pasture or accusations about land degradation usually intermingle with political and economic interests over land (KNCHR, 2012). The same applies to current, extremely violent, manifestations of allegedly “traditional” cattle raiding between pastoralist groups (Greiner, 2013).

Development-induced displacement

Development projects often drastically change the control and use of land, which has previously been owned by individuals, communities or institutions, by transferring rights to different organizations, such as the government, mining companies and other entities. Infrastructural development including highways, bridges, railways, irrigation canals schemes, multipurpose dams, power generation facilities and airports require large plots of land that, in most cases, are used or even controlled by the communities (Terminski, 2013). Already in 1983, the Kiambere hydroelectric power dam displaced 737 families consisting of 6,500 people (Mburugu, 1994). The Turkwell dam displaced 800 people (Renshaw et al., 1998), the Dominion farms in Yala swamp in Siaya County has displaced 500 families (FIAN, 2010), Sondu Miriu Hydroelectric Power Plant completed in 2007 displaced over 1,000 families who were resettled (Africa Water Network, 1999). Yet this was considered one of the most people-friendly hydroelectric power projects in Kenya as it did not involve constructing a dam.

It is a reality that development projects increase to satisfy economic and social needs of Kenya’s growing population. Vision 2030, the current national development policy document, sets out 124 flagship projects, some of which imply development-based evictions on a larger scale. Particularly, the energy and transport sector projects seem to have major implications. Among others, the Tana River Integrated Sugar Project, a flagship project for biofuel production, is supposed to cover about 33,000 ha and will displace an estimated 25,000 people once it is operational (Schade, 2011:53). Geothermal expansion in the Rift Valley required the involuntary resettlement of about 150 families (about 1,200 persons) from four different villages into one new one (Schade and Obergassel, 2014) to pave the way for Olkaria IV. New explorations started close to the new village, and there exist concerns about health issues that may trigger the need to relocate

the village again (Inspection Panel, 2015:10). The overall “geothermal fever” also triggered the violent eviction of about 2,000 people from Narasha in 2013 who, however, returned and now hope for a proper relocation scheme (Wairimu, 2013; World Bank, 2014b:6).

The SGR (see subsection 1.2.e. Transportation infrastructure) affects about 2,000 landowners in coastal counties alone who will be recouped from the 9 billion Kenyan shillings (KSh) the Treasury set aside for compensating landowner for the compulsory acquisition of around 11,000 acres of land required for constructing the SGR (Nyassy, 2014; Ringa, 2014). But not all persons affected are landowners, among them 162 fisherfolks living at Hodi Beach who had been evicted (Beja, 2015). The LAPSET Corridor runs through Lamu, Tana River, Garissa, Isiolo and Turkana counties and in addition to its transport components (see subsection 1.2.e. Transportation infrastructure) includes the new Lamu Port, an oil pipeline, oil refineries in Lamu and Isiolo, three resort cities close to the project airports, and hydropower generation along Tana River (High Grand Falls). LAPSET is estimated to affect over 15 million people both positively and negatively. Estimates on overall required compulsory displacement are so far not available, although the implementation of several components already begun. Concerns have been raised that particularly marginalized indigenous communities along the corridor will be affected, which includes the Awer and Sanye hunter gatherers, the Orma, Wardei, Samburi, Borana and Turkana pastoralists and pastoral-fisher communities, such as the Elmolo (Sena, 2012:3). It is, however, known that the construction of Lamu Port already led to evictions of 300 households (IDMC, 2014b). According to Integrated Regional Information Networks (IRIN) Africa, the Ministry of Lands estimates that about 60,000 people will be displaced by the port alone (IRIN, 2012), and an additional 1,000 families may need to be resettled along the corridor itself (IDMC, 2014c:5). Major concerns exist about corruption and illicit land deals, inadequate information, lack of environmental and social impact assessments, inadequate compensation and benefit sharing, and interference with coastal settlement schemes (Sena, 2013; IDMC, 2014b).

Displacement due to conservation activities

Conservation programmes (currently an emotive issue in Kenya), creation of game parks, as well as preserving delicate ecological areas are known to induce displacement. By the year 2011, 7,017 people were forcefully evicted from protected lands (Kamungi, 2013). The violent evictions of people from Mau forest in Narok County and Embubut forest in Elgeyo-Marakwet County in 2014 has raised both national and international controversies. This includes complaints submitted by affected minorities, the Edoroi and the Ogiek, against Kenya to the African Commission on Peoples and Human Rights both having been ruled in favour of the minorities and the latter being the first case on indigenous issues transferred to

the respective Court (Human Rights Watch, 2010; Sing'Oei and Young, 2013:375). Also the restoration of Mau escapement and Cherangani water catchment areas have already displaced about 10,000 families (Amnesty International et al., 2007). At the same time and due to pressure on land, there is an encroachment in national parks, forest reserves, public utility land and water collection areas. As in the case of LAPSET and the Boni Dondori reserve or the SGR and the Tsavo National Park, such encroachment is frequently related to development activities (Sena, 2012:11; MTI, 2014b:8).

Displacement due to natural disasters

Due to climate variability in Kenya, displacement in the context of natural disasters is a common feature. The two types of natural disaster triggering the majority of displaced people are floods and droughts. Reliable figures are, however, hard to get. Data provided on “homeless” people by one of the most important global databases on natural disasters, the Emergency Events Database (EM-DAT) of CRED, is relatively meagre. This is related to a general lack of reporting on IDPs as well as due to problems of data gathering. Whereas flood victims are usually assisted (and counted) in temporary emergency shelters, displacement in the context of droughts is more complex, and hence data collection is more difficult and “anecdotal” (Ginetti and Franck, 2014:9). Data on “affected people” is more widely available. EM-DAT records a total of more than 58.6 million people affected by natural disasters in Kenya since 1964 of which the great majority, 48.8 million, is due to droughts and only about 3 million due to floods (CRED, 2016).

The most drought-affected counties are those mainly populated by pastoralists, namely Baringo, Laikipia, Turkana, Samburu, Narok, Kajiado, Marsabit, Isiolo, Mandera, Garissa, Wajir, Tana River, Kilifi, Kwale and Taita Taveta (IDMC, 2014c:4). Drought-related displacement is therefore frequently associated with pastoralist displacement, which is “intrinsically linked to the loss of livestock, their primary source of subsistence, and the loss of access to land, resources and markets” (IDMC, 2014c:5). Hence, drought is one factor among others triggering such displacement, which may take the form of local sedentarization and rural–urban migration. Sedentarization in turn also triggers increased settlement along rivers leading to increased vulnerability of displaced pastoralists to floods (CARE International, 2013). Data on such displacement of pastoralists is scarce, which might in part be due to an observed “tendency in Kenya to consider that these groups are not displaced, since they are by definition mobile” (OHCHR, 2012:16). Loss of livestock is an indicator often used to measure the severity of pastoralist displacement during drought that can be as high as 70 to 90 per cent (see Table 3).

Table 3: Anecdotal data on livestock loss during droughts in Kenya

Period (and spatial specification)	Loss of livestock
1991–1992 (Northern Kenya)	70% loss of livestock
1999–2001	30% loss of cattle; 30% loss of shoats; 18% loss of camel
2004–2006	70% loss of livestock in some pastoral communities
2005 (Mandera and Marsabit)	30–40% loss of cattle and shoats; 10–15% loss of camels
12/2005–3/2006	40% of cattle, 27% of sheep, 17% of goats
2009 (United Republic of Tanzania and Kenya)	Maasai lost 70–90% of livestock

Sources: Huho et al., 2010:780.

Displacement due to floods occurs in both ASALs and highly fertile areas of Kenya. In particular, ASALs with major rivers and deltas, such as the Tana River and the Sabaki River, are regularly affected by seasonal flooding, but which at times turn into severe flooding due to heavy rainfall. The floods of 2013, for example, displaced close to 180,300 people, most of them living in the ASALs along the coast (Kwale, Taita Taveta, Kilifi, Tana River and Lamu counties) (IDMC, 2014b:13), but also in other ASALs (Isiolo, Marsabit and Garbatulla counties) and in counties of the Rift Valley (IDMC, 2014a:60). Non-ASALs typically affected by floods are the high productive areas in the west of Kenya around Lake Victoria; in 2012, over 97,000 people were displaced in Homabay, Kisumu, Suba and Busia counties (IDMC, 2012:28).

Mudslides also affect displacement, which usually produce relatively small numbers of displaced people. The greatest number of victims of mudslides is reported for 2010, although no precise figure is given, but which in 2014 still stood at 4,200 displaced and suffering from protected displacement (IDMC, 2015b:96).

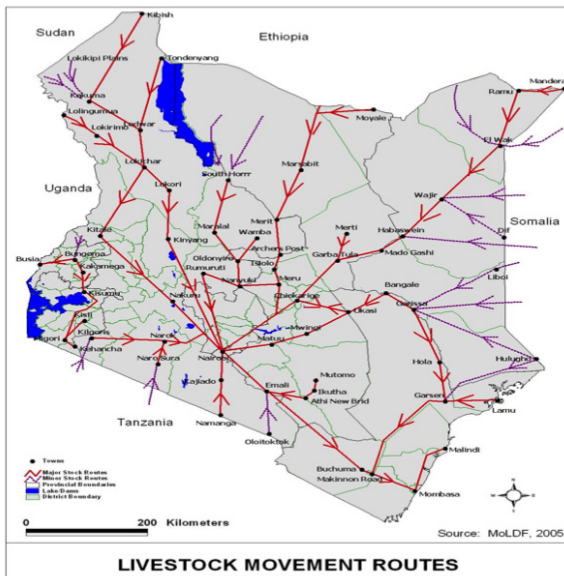
1.3.c. Pastoralist mobility

Pastoralists in Kenya developed traditionally well-organized seasonal migration patterns over the years. Their livelihood system requires periodic mobility in order to access water and grazing lands, as pastoralism highly depends on natural forage (IDMC, 2014b). This arrangement was promoted by intercommunity cooperation across different territories (Nuur, Andrews and Roba, 2012). The distances covered through livestock mobility vary depending on the environment, the type of livestock and the pastoralist tribe, factors that are partly interrelated (McCabe,

2004). For example, in the north, the Turkana and Rendile keep mainly camels and long-distance livestock mobility is prevailing, whereas in south-western parts, the Maasai mainly keep cattle and short- to medium-distance transhumance is dominating (Huho et al., 2011:780). Also the Samburu, Kalenjin, Orma and Somali herders mainly keep cattle. Goats, sheep and shoats typically serve to diversify the composition of herds.

Livestock mobility is a common strategy of resource management in arid areas and regarded as being part of the identity and lifestyle of (semi-) nomadic pastoralists. Livestock mobility is, however, neither the only nor necessarily the first strategy to cope with challenging environments, because the animals cannot graze while walking and lose weight. Other pastoralist strategies to cope with dry spells and droughts, often combined with migration, may include grazing in the early morning, establishment of feed reserves, separating livestock to areas of different ecological zones, feeding livestock with tree twigs and branches, hiring pasture and digging shallow wells on riverbeds and forming alliances with neighbours in carrying out these activities (Huho et al., 2011:783). Again, the preference for certain strategies might differ depending on the tribe and livestock. Whereas the Turkana pastoralists prefer to cover even longer distances with their herds to reach safe grazing grounds, the Maasai tend to sell their livestock before a drought to obtain better prices (IOM, 2010a:30).

Map 6: Pastoral migration in Kenya



Source: Evans Makokha, Ministry of Agriculture, Livestock and Fisheries.

Pastoralist migration takes place regardless of the political and administrative boundaries including national borders (Markakis, 2004). For example, the Maasais live in Kenya and the United Republic of Tanzania, the Pokot also live in Uganda and Kenya (Mkutu, 2003). Gabra and Boran pastoralists exist in Ethiopia, as well as in Kenya. The Somali pastoralists on their part live in several countries within the region. The cross-border and internal migratory routes of the pastoralists were well known and respected. However, changing land ownership and use, fencing, conflicts and the breakdown of customary land management is increasingly impeding access to grazing areas and water points (Greiner, Alvarez and Becker, 2013:1478). In Turkana, for instance, 63 per cent of the land area is earmarked for resource exploitation since the discovery of oil and gas in the early 2010s (Schrepfer and Caterina, 2014:27). That one of the resort cities along the LAPSSET corridor will be built in the midst of a drought fall-back zone of pastoralists is another example.¹⁰ Restriction of grazing rights and diminishing grazing land are causes of resource-based conflicts, and the ethnicization of territory can be observed as a result of increasing resource pressure (UNEP, 2009).

In addition to the above-mentioned resource base and election-related conflicts, human security in pastoralist areas is infringed due to cattle raiding (particularly since its politicization and the proliferation of small arms), human rights violations, border politics and by the activities of militaries and militant groups as one of the effects of the conflict in Somalia (Ginnetti and Franck, 2014:15; Sheekh, Atta-Asamoah and Sharamo, 2012). Insecurity is also one of the reasons for the high poverty rates in the pastoralist-dominated ASALs, as well as its economic marginalization and isolation since the colonial period. However, it should be noted that not all pastoralists are poor. Table 4 on income sources from an IOM survey indicates that the degree of income diversification and food aid dependency can vary greatly between pastoralist areas.

Table 4: Varying degrees of income diversification and food security

Livelihood options/ Sources of income	North-Eastern (%)	Turkana (%)	Maasai (%)
Livestock keeping	29	39	66
Casual employment	43	27	24
Hawking and small business	14	1	3
Dependent on food aid	14	33	7

Source: IOM, 2010: 27; (North-Eastern, n=226; Turkana, n=191; Maasai area, n=207).

¹⁰ Consultation at IOM's Kenya Policymaker Capacity-building Workshop on Migration, Environment, Climate Change, 12 August 2015.

Further, there exist great disparities in economic well-being among pastoralists of the same area. This also impacts upon mobility patterns. On the one hand, the combination of several stress factors, in particular insecurity and droughts, leads to high dropout rates among pastoralists, who are then either forced to become locally sedentary or migrate to urban areas in search for job opportunities in the low-skilled sector. In contrast, better-off pastoralist households might send selected members to urban centres for educational purposes and better jobs.¹¹ As a study on Namibia shows, better-off pastoralist households may hire dropouts (or others) to take care of their herds to substitute for the labour force lost due to sons studying elsewhere (Greiner, 2011:615). Both dropout and opt-out, however, contributes to the increasing trend of urbanization.

I.3.d. Internal migration and urbanization

Internal migration has been defined as “movement for settlement within and across a country’s regional administrative boundaries” (NCPD, 2013:202). This movement can be short-term or long-term, and different directional flows between rural and urban areas can be distinguished (rural–rural, rural–urban, urban–rural and urban–urban). There is still a dearth of empirical research on internal migration in Kenya (NCPD, 2013). In addition, although census data include information about internal moves, these numbers might not reflect the complete panorama of internal migration in Kenya because people often do not report their internal moves to authorities, and because internal displacement is a sensitive issue and the number of IDPs is likely to be underreported in official statistics (IOM, 2015).

Census data distinguish between “recent migrants”, referring to those who have changed their residence at least once over the past year and “lifetime migrants” whose place of current residence is different from their place of birth. These data show that Nairobi has both the highest share of recent in-migrants (30.5%) and recent outmigrants (18.9%). Rift Valley (23.7% share of in-migration and 16.5% of outmigration) and Central Province (16.6% share of in-migration and 13.7% of outmigration) are also both important regions of origin and destination of short-term internal migrants. With 18 per cent share of recent outmigrants, Eastern Province is also an important origin area of internal short-term migrants. Nairobi (39.7%) and Rift Valley (25.5%) hold the highest share of lifetime in-migrants, while Central Province (20.8%), Eastern Province (19.1%), Western Province (18.6%) and Nyanza (18%) are the major regions of origin for long-term internal migrants (NCPD, 2013).

11 Schrepfer and Caterina (2014:11) distinguish between those who drop out and those who opt out to indicate the different degrees of agency involved in pastoralist migration to urban areas.

The report *Kenya Population Situation Analysis* highlights three characteristics of internal migration in Kenya (ibid., 205–206):

- (a) Nairobi (well-developed, good infrastructure and services), Central (comparatively well-developed), Coast (tourism and the port city of Mombasa) and Rift Valley (agricultural area) provinces are the most important regions of in-migration, while Eastern, Nyanza, North-Eastern and Western provinces are the most important regions of outmigration;
- (b) Migration patterns have remained relatively stable since independence (see section 1.3), suggesting that there have been no major changes regarding the development of certain regions; and
- (c) Women are increasingly migrating – also independently – as a consequence of better education, greater participation in the labour market and general social and economic empowerment.

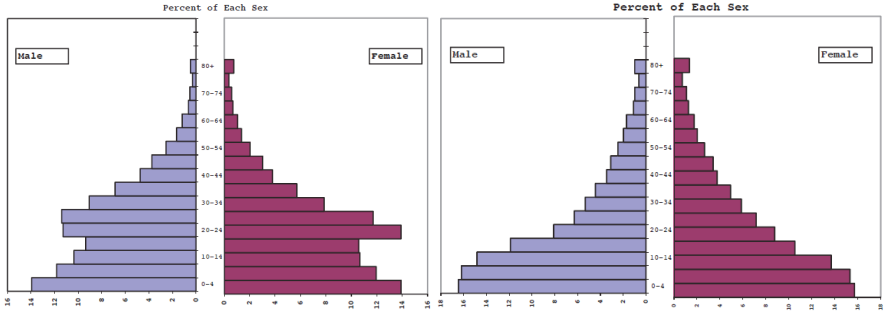
Migration from overpopulated areas into the sparsely populated ASALs has been observed (Government of Kenya, 2004:22). However, as in most of sub-Saharan Africa, rural–urban migration is considered the most important form of internal migration in Kenya. This is confirmed by census data showing that the capital attracts in-migrants from all regions in Kenya and shows a net gain of lifelong migrants (NCPD, 2013). Nevertheless, research has also shown that there are migration flows both into and out of urban areas, particularly among young people in Nairobi. The search for education opportunities has been identified as the major driver of internal migration in Kenya. Also, internal migration with the purpose of finding better employment opportunities has been demonstrated to be selective according to the level of education, particularly in the case of female internal migrants. Migrants tend to be more highly educated and younger than people who do not move internally (Ginsburg et al., 2014). Rural–urban migration is normally discussed in terms of pull factors in urban areas and push factors in rural areas (Rempel, 1981; Macharia, 2003; Oucho, 2007). Economies in rural areas are based on natural resources including land, water resources and pasture. Although rapid urbanization is a global reality, in Kenya, poor returns on farming, livestock, fishing and other related economic activities act as push factors to urban migration (Gray, 2011). This is compounded by unemployment, conflicts and poor social services. The pull factors in urban areas include employment opportunities, better living standards and social services especially in education and health, as well as more opportunities outside the formal sectors.

According to Okeke, five major cities – Nairobi, Mombasa, Kisumu, Nakuru and Eldoret – are Kenya’s main engines of economic growth, accounting for about 70 per cent of GDP (Okeke, 2014:21). The high degree of economic activity is already an indicator for their pulling capacity. More than 10 per cent of the population is, according to KNBS 2009 census, living in the two major cities, the capital Nairobi (3.14 million) and Mombasa at the coast (0.94 million) (KNBS, 2014a:8). Other important junctions of urbanization are the city of Kisumu (0.39 million) and several municipalities and towns with 200,000 to 300,000 inhabitants namely Eldoret, Ruiru, Kikuyu and Kangundo.

At independence, only 8 per cent of the population lived in urban areas (Okeke, 2014:20). The urban population in Kenya increased from 19.4 per cent in 1999 to 21 per cent up in 2009 (KNBS, 2010). The UN estimates that the annual urban population growth rate averaged 4.4 per cent between 2005 and 2010, will decline to 4.25 per cent over the period 2010–2020 and to 3.9 per cent during the succeeding decade (United Nations, Department of Economic and Social Affairs, Population Division (UN DESA), 2014). It is projected that by 2030, 21.7 million Kenyans out of 66.3 million will be living in urban areas, which is 32.8 per cent of the national population (UN DESA, 2014). It is, however, difficult to accurately state what percentage of the urban population has migrated from rural areas and what percentage is born in urban areas or to make respective projections. If not planned for, the current challenges associated with urbanization will in any case also aggravate. Uncollected refuse, informal settlements, urban poverty, street families, insecurity and traffic congestion are likely to worsen. Provision of important social services will become more difficult. Environmental conditions in urban areas are affected by pollution from industrial waste, spread of diseases, contamination of water supply and continued annexation of agricultural land for settlement (Nganyu, 2011).

Rural–urban migration also has effects on the areas of origin of migrants, particularly by depriving rural areas of the active labour force. As Kinuthia (2003) demonstrates, employment opportunity is one of the foremost drivers of rural–urban migration. Outmigration to urban areas can also serve as a diversification of income strategies in case of crop production failures due to environmental and climatic factors, such as droughts and floods. As a consequence of internal migration, population characteristics in both regions of origin and regions of destination change. Figure 3 demonstrates that this leads to different age structures in urban and rural areas, which is at least partly due to the selectivity of rural–urban migration, meaning that it is predominantly the working age population who leaves with the elderly and children staying behind.

Figure 3: Population pyramid of urban (left) and rural (right) Kenya compared as of 2009



Source: KNBS, 2010:25–26.

Already existing social inequalities between different regions in Kenya (KNBS and SID, 2013) might thus become reinforced by internal migration. Accordingly, there exists considerable policy interest in slowing down urbanization processes and instead promoting the growth of small- and medium-sized centers, and fostering urban development. Yet, due to the lack of a comprehensive policy framework to address internal migration, there is a need to integrate internal migration into local, regional and national development policies or alternatively develop a policy framework on internal migration. Furthermore, more reliable data are needed to understand the complex dynamics of internal migration and adequately inform respective policies (NCPD, 2013).

1.3.e. Cross-border migration

In addition to the above-mentioned cross-border mobility of pastoralists, there exist two other major types of cross-border migration: (a) documented international migration for labour, business, educational and recreational purposes; and (b) refugee movements.

The 2009 National Census puts the international migrant population in Kenya at about 350,000 excluding refugees and asylum-seekers. The single most important region of origin is East Africa, which accounts for 60 per cent of all immigrants in 2009. About half of those originate from the East African Community partner States (KNBS, 2012 cited in IOM, 2015:21). According to UN DESA data, the international migrant stock has increased exponentially over the past 25 years, in particular in the 1990s: from about 160,000 in 1990 to 955,000 in 2013, with the most important increase having occurred between 1990 and 2000 from 160,000 to 755,000. UN DESA data includes refugees. It is estimated that the number of the latter during the same period rose from 13,500 to 215,000. Between 1995

and 2010, immigrants represented about 2.1 per cent on average of the total population (UN DESA, 2013a). Thus, immigration is small in relative terms.

Several factors attract immigrants to the country. Kenya is a regional humanitarian hub for international organizations, such as the United Nations and non-governmental organizations operating in Kenya itself and neighbouring countries. In particular, Nairobi is a vibrant urban centre in the region with an expanding information technology (IT), service and start-up sector. Receiving education in one of Kenya's universities attracts students mostly from African countries (IOM, 2015:34–35). In addition, projected economic growth in the country and regional integration add to the reasons for in-migration (Oucho et al., 2013).

However, in terms of regional integration, Kenyan emigration is the dominant type of mobility. This is due to the high educational standards of the workforce that the Kenyan labour market could however not absorb after 1984 (Oucho et al., 2013). World Bank Migration Data and the Global Migrant Origin Database by the University of Sussex show an increase in emigration trends from Kenya. In 1960, only 59,275 people left Kenya. By 2000, the number of Kenyans outside Kenya stood at 540,202. This figure is estimated to have been 1,063,036 by 2007 (Kinuthia, 2013). The large majority of Kenyan emigrants reside in other African countries, led by Uganda and the United Republic of Tanzania. Men represent a larger share among both Kenyan emigrants and internal migrants (57% and 61% respectively), whereas Kenyan emigrants to Europe are composed of more women than men (KNBS 2009 census, cited in IOM, 2015:53).

The number of refugees gradually outnumbered the number of other documented international migration. In 2013, Kenya hosted the largest refugee and asylum-seeker population in Africa and the sixth largest worldwide. According to UNHCR (2014), refugees, asylum-seekers and stateless persons in Kenya represented a total of 607,120 persons. Their number now thus amounts to more than 60 per cent of all immigrants (UN DESA, 2013b). Forced migration is thus the most important type of international mobility in Kenya. Main countries of origin are Somalia, South Sudan, Ethiopia and the Democratic Republic of the Congo, thus mostly neighbouring States.

The hosting of hundreds of thousands of refugees in the most arid parts of the country has been criticized as insensitive towards refugees and destructive to the environment. A study by UNEP (2009) demonstrated how the Dadaab refugee camp – the largest refugee camp in the world – has adversely degraded the shrubland of the area since 1991. Economic impact, in contrast, is positive. A study commissioned by the Governments of Kenya, Norway and Denmark in 2010 found

that business within the camps generated a turnover of about USD 25 million, bringing taxes to the Kenyan State; and that host communities earned about USD 1.8 million from selling livestock to the refugees (Hujale, 2016). Positive and negative impacts can partly be attributed to the high number of refugees in one camp. The Dadaab refugee camp alone hosted approximately 474,000 persons in August 2012, which decreased to 408,000 persons in December 2013 (including through resettlement) – but still amounting to almost 70 per cent of all refugees in Kenya in 2013 (UNHCR, 2014). The remaining refugee populations are hosted in the Kakuma refugee camp to the north-west of the country and a smaller number in small transit camps and the capital Nairobi.¹²

The existence of so-called urban refugees is the result of refugees' response strategies to cope with overcrowded camps and adverse living conditions. In 2011, urban refugees in Nairobi was estimated to amount to 100,000 persons of whom about the half hold a Mandate Refugee Certificate by UNHCR (Refugee Consortium of Kenya, 2014:77). Mobility of refugees (such as required for educational or medical purposes) mainly takes two forms: (a) refugees can obtain an official movement pass issued by responsible authorities; or (b) they approach illegal means such as paying human traffickers and bribing police officers (Refugee Consortium of Kenya, 2014:73). Somali ascendants make up the majority of refugees in Kenya (UNHCR, 2015).

12 The number of refugees changes almost every day and inconsistencies in numbers are a constant feature, especially for those residing in urban areas that are under-recorded for several reasons.

Table 5: Numbers, provenience and current location of refugees in Kenya as of January 2016

Country of origin	Dadaab	Kakuma	Alinjugur	Nairobi	Total	Percentage
Somalia	208,741	54,886	122,663	32,623	418,913	71
South Sudan	1,277	93,413	32	1,043	95,765	16
Ethiopia	11,399	7,595	3,094	8,385	30,473	5
Democratic Republic of the Congo	187	9,861	154	14,536	24,738	4
Sudan	74	10,023	–	169	10,226	2
Burundi	138	6,804	70	1,300	8,312	1
Uganda	67	1,158	12	670	1,907	0.3
Eritrea	18	126	–	1,481	1,625	0.3
Rwanda	20	615	14	960	1,609	0.3
Other	17	69	3	184	273	0.05
Total	221,938	184,550	126,042	61,351	593,881	
Percentage	37	31	21	10		

Source: UNHCR, 2015.

For a long time, the Government of Kenya was fairly ambivalent towards refugees in the sense that those residing in camps were not considered the direct responsibility of the government (Odhiambo-Abuya, 2004; Nyaoro, 2009). The rise of terrorism in the region has caused a change in thinking, and the government is now actively engaging in the registration and status determination of refugees.¹³ On the one hand, the government pursues an encampment policy, which in April 2014 resulted to 4,000 people being arrested, 2,000 being relocated to camps, and 360 people flown out to Somalia (Usalama Operation, mainly targeting the Somali refugee population). On the other hand, authorities are also increasingly involved in the management of refugee camps and enabled refugees to access land and social services, including education (UNHCR, 2014). According to UNHCR (2014), resettlement efforts to third countries and voluntary repatriation and return of Somali refugees have been increasing over the past years.

¹³ Interview with Refugee Consortium of Kenya, 31 July 2014 and Regional Mixed Migration Secretariat, 30 July 2014 in Nairobi by Jeanette Schade.

I.3.f. Internal and international remittances

Remittances from both international and internal migrants top up household income, diversify income sources, and thus insure against risks associated with income loss from the dominant livelihood source. Remittances may also be very helpful during humanitarian crises (Savage and Harvey, 2007). They are thus useful sources of support for households during crop failures, livestock deaths and risks associated with environmental change (Eriksen et al., 2005). They might also be used for more long-term adaptation, such as by investing into drought-resistant crops and livestock or by shifting to non-agricultural livelihood options.

The amount of international remittances received in Kenya gradually grew over the past years (IOM, 2010b). According to the World Bank, there was a continued increase from USD 570 million in 2006 to USD 1,481 million in 2014 with a slightly dropping growth rate between 2008 and 2009 (World Bank, 2015b). International remittances may come from outside or inside Africa, and add to remittances mobilized within the country. There exists evidence that international migration is usually pursued by better-off households, whereas poorer households can usually not afford it but may engage in internal migration. It is thus not surprising that remittances from international and internal migration are used differently according to household dominant needs. Differences in remittances' use can even be observed between those received from within Africa or outside Africa as pertinent costs of migration also differ. Thus, a World Bank study, based on data from the Africa Migration Project (survey conducted in 2009), found that domestic remittances are largely spent for food (29.7%), educational purposes (20.5%) and business (13.0%), whereas remittances from within Africa are mainly used for constructing houses (27.5%), education (22.9%) and then food (14.5%). In contrast, remittances spent from outside Africa are more diverse but predominantly for (productive) investment into land, livestock, agricultural equipment and agriculture more generally (24.2%), followed by food (12.8%) and then house construction (11.2%) (World Bank, 2011:64). However, taking together all forms of long-term investment (namely purchase of land, house construction, investment in business and farming, agricultural equipment) reveals that 55 per cent of all remittances from outside Africa (mainly member countries of the Organisation for Economic Co-operation and Development) are spent for investment purposes in Kenya, as well as 47 per cent of all remittances from within Africa (World Bank, 2011:154). Kenyan diaspora sends an average of USD 4,050 annually, which is relatively high compared to some sub-Saharan African countries (Kinuthia, 2013).

Urban–rural remittance has been a common phenomenon in Kenya; however, internal remittances have greatly been assisted by the novel mobile money transfer in Kenya (Oucho et al., 2014; ACP, 2014). An earlier study indicated that

about 73 per cent of all transfers in Kenya were urban to rural (Oucho, 1996:109). However, this may have changed owing to new developments of information and communications technology and decentralized cash transfers. Buku and Meredith (2013) argue that Safaricom's M-Pesa¹⁴ reflects the "dualist system" of Kenyan migrants who have urban and rural connections. The transfers increasingly go not only to urban areas for school fees but also towards the transition of young migrants into urban life (Buku and Meredith, 2013:380). M-Pesa transfers about USD 4.98 billion every year, which is almost 17 per cent of Kenya's GDP (USD 265 million), and up to 2009 Safaricom had transferred almost USD 1.4 trillion in total, which is more than any other mobile money transfer in the world (IOM, 2015). While it is difficult to separate the rural and urban transfers and how the money is used, the authors acknowledge the importance of M-Pesa transfers for most households in Kenya (Buku and Meredith, 2013).

Remittances are, however, not limited to monetary transfers from the migrant to its household of origin. Material remittances may also take the form of in-kind remittances, and they can flow into both directions. For example, it is estimated that about 30 per cent of the diaspora send material goods back home (Kinuthia, 2013). Reverse remittances from the household to the migrant usually serve the purpose to establish the migrant at his/her destination or better finance the education of children elsewhere if such education is not available at the place of origin (Schade et al., 2015). The latter might enable a long-term shift to non-agriculture based livelihoods. Further, not all remittances are material. So called social remittances (Levitt, 1998) include, inter alia, the transfer of skills, knowledge and social practices. They might help improving living conditions at the place of origin, for instance by introducing new and environmentally sound agricultural techniques as the example of Machakos County in Kenya demonstrates (Greiner and Sakdapolrak, 2013; Tiffen, Mortimore and Gichuki, 1994).

¹⁴ M-Pesa is a mobile phone-based money transfer, a financial service first launched in Kenya in 2007.

II



**KEY CHALLENGES:
THE MIGRATION,
ENVIRONMENT AND
CLIMATE CHANGE NEXUS**

II. KEY CHALLENGES: THE MIGRATION, ENVIRONMENT AND CLIMATE CHANGE NEXUS

II.1. Environmental challenges

II.1.a. Environmental and climate change in Kenya

The meaning of environmental change can be very broad. Some scholars (see for example, Jacobson, 1988; Lonergan, 1995) understand it to include, for example, changes of the living environment as a direct and intended consequence of implementing confined development projects that may require development-based evictions. For the purpose of this report, environmental change is, however, understood as being limited to “changes in the physical and biogeochemical environment, over a large scale, either caused naturally or influenced by human activities (including industrial accidents), either through fast-onset or slow-onset events [, and it] includes both environmental degradation and climate change” (Foresight, 2011, cited in IOM, 2014:21). The following section will thus concentrate on natural phenomena and human activities with an impact on the environment and ecosystem services without being an intended result.

Some more clarification is also needed with respect to weather-related phenomena and climate change. Extreme weather events, such as storm surges, heat waves and too much or too little rain, are deviations from the normal but might still constitute a normal deviation, meaning that it cannot automatically be attributed to global warming. This is very important for the Kenyan context, as weather extremes are a common feature of the country’s climate. Before detailing on sudden and slow-onset changes of the environment and their consequences, the following subsection will therefore introduce into weather extremes in Kenya (see also Schade, 2011).

II.1.b. Weather extremes in Kenya: The normal, abnormal and global warming

Looking back as far as the end of the 1920s, Kenya suffered at least one major flood and one major drought each decade (Charania, 2005:11). These weather anomalies are due to the El Niño Southern Oscillation (ENSO) and the Indian Ocean Dipole (IOD) phenomena. The IOD is related to surface sea temperature anomalies

of the Indian Ocean and accordingly changing evaporation patterns and winds. It seems that IOD and ENSO often coincide with each other (Rourke, 2011:41–44). For example, positive IOD and warm ENSO events occurred together in 1982 and 1994, and in 1997/98, they led to one of the most severe floods that Kenya ever experienced (World Bank, 2006:169).

Both phenomena have two possible manifestations. ENSO is a global phenomenon and has a warm episode (El Niño) and a cool episode (La Niña). For the north of equatorial East Africa, in particular Ethiopia as well as North Kenya, El Niño is associated with droughts from July to September. For the south of equatorial East Africa, it is by contrast generally associated with rainfall far above normal and subsequent floods during the short rains, from October to December. During La Niña, the opposite occurs, meaning abnormally wet conditions during July to September for the south of equatorial East Africa, and rainfalls below normal during October to December for the north of the region (Rourke, 2011:37). The negative mode of the IOD is characterized by evaporation rates over the Indian Ocean below normal and reduced rainfall over East Africa. The positive mode of the IOD is associated with evaporation rates over the Indian Ocean above normal and increased rainfall over East Africa (for more information, see Zablon and Gallo, 2009; Hastenrath, 1995 and 2000; and Mapande and Reason, 2005).

It is the increase in weather anomalies and their intensity that is regarded as the most obvious manifestation of global climate change in Kenya (UNEP, 2009; Mutai and Ochola, 2011). Looking back as far as 1968, according to EM-DAT, Kenya suffered a total of 101 natural disasters (droughts, floods and related epidemics) with a total of 58.66 million people being affected and 6,509 deaths (CREG, 2016). The great majority of these events occurred over the past two and a half decades. This century alone has seen 72 events, and in the 1990s, a total of 19 events occurred, whereas the 1980s saw only 3 disasters (CREG, 2016). Obviously, Kenya's recent peculiar climate conditions show greater variability than before. Improved data gathering might partly contribute to this rising trend as well.

This increased variability is due to the regional impacts of global warming. The surface temperature averages over East Africa show a clear warming tendency as of the end of the 1970s. According to the Government of Kenya, the minimum temperature in Kenya has since the 1960s generally risen by 0.7–2.0°C and the maximum temperature by 0.2–1.3°C, depending on the region and the season (Government of Kenya, 2010:9). Temperatures in Western Kenya rose by 0.5°C between 1981 and 2004. In the ASAL parts of Kenya, temperature went up by 1.5°C over the same period (UNEP, 2009). Kenya's average annual temperature is estimated to have increased by 1°C between 1960 and 2003 (McSweeney et

al., 2010). In Kenya, an increase in temperature has generally resulted in reduced precipitation, shorter rainy seasons and longer dry seasons. This contributes to slow-onset degradation and desertification of the natural environment. At the same time, sudden-onset events such as flooding have increased as well (Mutai and Ochola 2011:49; SEI, 2009). Both are accelerated by human interference.

Table 6 below gives an overview on types, occurrence and victims of main natural disasters in Kenya since 1968 according to the EM-DAT database. The most prevailing disasters are floods (48), epidemics (32) and droughts (14). Most of the deaths (4,856) are due to epidemics, which are a frequent consequence of preceding floods or droughts. Droughts account for most of the affected people (48.8 million).

Table 6: Natural disasters and related figures on victims in Kenya, 1964–2015 (December)

Disaster subgroup	Disaster type	Occurrence	Total deaths	Affected	Homeless	Total affected
Biological	Epidemic	32	4,856	6,881,995	0	6,881,995
Climatological	Drought	14	196	48,800,000	0	48,800,000
Geophysical	Earthquake	2	1	0	0	0
Hydrological	Flood	48	1,350	2,969,894	6,200	2,976,123
Hydrological	Landslide	4	56	0	0	26
Meteorological	Storm	1	50	0	0	0
Total		101	6,509	58,651,889	6,200	58,661,603

Source: CRED, 2016 (generated from EM-DAT table on disaster subgroups, Kenya).

II.2. Sudden-onset events

II.2.a. Floods

The worst floods Kenya experienced occurred in 1961 and in 1997 and 1998 (AEA Group, 2008:22). Since 1964, Kenya experienced another 48 flood events (CRED, 2016). Of these, 34 have been riverine floods causing more than 1,000 deaths and close to 2 million people affected, of which 6,000 become homeless. The 1997/98 El Niño related floods alone affected almost 1 million people, damages to infrastructure amounted to costs of USD 0.8–1.2 billion (Obasi, 2005). Related cholera outbreaks have been recorded for Nyanza, Western, Coast, Eastern and North-Eastern provinces (NEMA, 2010:54). Riverine floods constitute the majority of floods and have the greatest impact. In contrast, there have been only six

identified flash floods. Their total impact over time in terms of deaths, displaced and affected people is lower, but the rate of deaths per event is higher than those of riverine floods. The majority of recorded floods (41 of 48) occurred since the beginning of the millennium, which may reflect both improved recording, as well as an increase in flood events.

Table 7: Flood subtypes and related victims, Kenya, 1964–2015 (December)

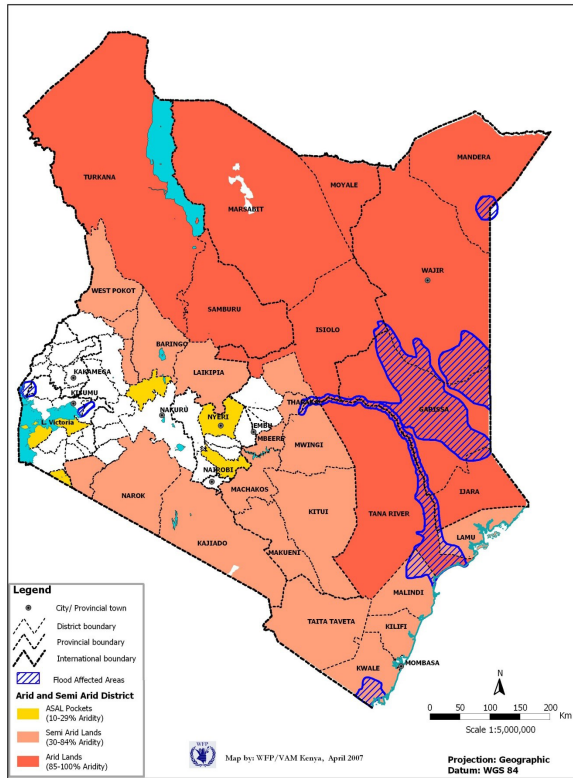
Flood subtype	Occurrence	Total deaths	Affected	Homeless	Total affected
Unspecified flood	7	228	961,000	200	961,200
Flash flood	7	113	49,500	0	49,500
Riverine flood	34	1009	1,959,394	6000	1,965,423

Source: CRED, 2016 (generated from EM-DAT table on disaster subtypes per year, Kenya).

Riverine floods are typically caused by precipitation over a large area. The character of such floods and their consequences can be greatly influenced by human activities. For example, floods in the lower Tana River basin area are modified by upstream dam management, in particular of the Masinga Dam and the Kiambere Dam (Schade, 2011:36). The seasonal flooding important for non-irrigated local agriculture as well as for the regeneration of the groundwater table and the riverine forests has decreased in its duration by more than 80 per cent (Maingi and Marsh, 2002). In contrast, the dams have a positive impact on mitigating severe flooding due to weather anomalies (Arnold et al., 2006:169); a capacity that is decreasing due to the increasing siltation of the dams (UNEP, 2009:74). Kisumu County experiences floods along the Nyando river basin that affects Nyando and Nyakach (UNEP, 2009; Ochola, 2009).

Flash floods, in contrast, are basically characterized by torrential rain lasting over a short duration in a relatively small area (Government of Kenya, 2010). Flash floods in Kenya tend to occur in semi-arid areas, such as Turkana, Marsabit, Makueni and Narok counties as demonstrated in Map 7.

Map 7: Flood hazard areas in Kenya



Source: World Food Programme/VAM Kenya, 2007 as seen on the Logistics Capacity Assessment homepage.¹⁵

II.2.b. Landslides

A landslide is any kind of moderate to rapid, downward movement of soil with a free face controlled by gravity. It can be the portion of the slope or the slope itself and may consist of mud, debris or rocks (CRED, n.d.). Landslides can be triggered by natural causes or human activities. Triggers include increased groundwater volume, loss of vegetative cover including deforestation, volcanic eruptions and earthquakes, or cultivation and construction of infrastructure and settlements on hilly, risk-prone areas. Intensified precipitation and runoff water increase the risk of landslides. In Kenya, three regions have been cited as prone to landslides. These are Rift Valley, Central Province especially Murang’a County and Western Kenya

15 Logistics Capacity Assessment (LCA) homepage, tool of World Food Programme. Available from <http://dlca.logcluster.org/display/public/DLCA/1.1+Kenya+Humanitarian+Background;jsessionid=6D9860D159155DBA6FA433399DD5631D>

especially Kakamega County. Although these areas have a history of landslides, the latest landslides in Muranga and Kakamega counties were attributed to human activity that includes deforestation, construction and increased cultivation on slopes (Rop, 2010; Ngecu, Nyamai and Erima, 2004). These regions are characterized by high population density with people being agriculturally oriented in terms of livelihood.

EM-DAT reports four landslides in Kenya in 2002, 2007, 2008 and 2010. The 2007 landslide in Kakamega killed 5 people, injured 67 people while 13 families were evacuated (Rop, 2010). This deviates from EM-DAT records that report 20 deaths but only 6 people affected for 2007 mudslide (CRED, 2016). There was also concomitant destruction of crops, houses and other livelihood assets. In 2002, landslides caused the deaths of 5 and 10 people respectively, in Murang'a and Meru districts and according to EM-DAT, a total of 16 deaths. According to IDMC, the landslides of 2010 displaced more than 4,000 people (IDMC, 2015b:96) and are thus among the most severe ones.

Landslides occurred in the 1990s and late 1980s and destroyed property worth millions of Kenyan shillings in some parts of Central and Rift Valley Provinces, including coffee, tea plantations and domestic animals (Ngecu and Mathu, 1999). In Murang'a County, landslides in the last 20 years caused the loss of over 1 million m³ of soil in an area of 30 km². The losses caused by landslides also have a major negative impact on infrastructure, such as power transmission, water supplies and irrigation facilities (UNDP, 2012:40).

II.2.c. Earthquakes and volcanic eruptions

African continental plate is fairly stable, and any tectonic movement does not cause adverse effects. However, Kenya is seismically active, and the last hundred years earthquakes as strong as 7.1 on the Richter scale have been recorded (Mulwa et al., 2014). In 2007, several earth tremors were recorded in Kenya that caused some degree of panic (IRIN, 2007; Ngunjiri, 2007). Moreover, in the last two years, unusual ground cracks affecting road surfaces have been reported in parts of Rift Valley. The Rift Valley is also recognized for considerable volcanic-related activities. Dormant volcanic sites, such as Mount Longonot near Naivasha and Menengai crater, are known to have shown signs of volcanic activities in the recent past. The last known volcanic eruption in 1921 was recorded in Barrier (Rift Valley) (Simiyu et al., 2000). The last recorded earthquake in Kenya was reported in 2012 for Nairobi and measured 4.6 magnitudes on the Richter scale, but caused no damage. In 2004, an earthquake in the Indian Ocean caused a tsunami, but only one death was reported (CRED, 2016).

II.2.d. Wildfires

In 2010, it was estimated that 3,000 ha of State forests were lost to fires either accidentally or due to malicious arson (NEMA, 2010:104). Forest areas, such as Mt Kenya region, Mau forest and Abaredare ranges have experienced wildfire a number of times in the last decade. More common though are fire outbreaks in urban areas (Ngayu, 2011). The informal settlements with high population density and highly flammable structures including wooden houses, cardboard and tarpaulin dwellings bear the brunt of such fires (Nabutola, 2012). The situation is worsened by the fact that such places cannot be accessed by firefighting equipment. The expansion of informal settlements is caused by rapid urban growth due to both immigration and natural growth, and the difficulties policymakers and law enforcers have in managing informal urban settlements. The country has suffered about 10 fire outbreaks in informal settlements (Sinai, Gikomba, Mkuru all in Nairobi city, settlements in Thika town, Kibuye market in Kisumu) in the last five years (IDMC, 2012; Nabutola, 2012).

II.3. Slow-onset events

II.3.a. Drought

Drought is the hazard type with the greatest number of Kenyans being affected, and frequency has increased considerably due to temperature increases especially in the dry parts of the country. The recorded incidences of severe droughts in the last three decades occurred in 1975, when widespread drought affected 16,000 people, in 1977 with 20,000 people affected, and in 1980 when 40,000 people experienced the effects of prolonged drought. Over 200,000 people were affected by drought in 1983/84. In 1991/92, in arid and semi-arid districts of North-Eastern Kenya, the Rift Valley, Eastern and Coastal Provinces, 1.5 million people were affected by drought. From 1969 to 2004, 165 had died due to drought, while 16,312,600 people have been affected. Studies indicate that counties including Turkana, Kitui, Garrissa and Tana River experience erratic rainfall and prolonged drought in the recent past 9 of the 14 droughts reported since 1964 have occurred since the beginning of the 1990s (CRED, 2016). This also means increased evaporation of inland water surfaces, as well as salinization of some of the water sources, which impacts negatively upon coping capacities (UNEP, 2009).

Widespread drought affected 1.4 million people in 1995/96 and in 1999/2000 above-mentioned La Niña related drought exposed close to 4.7 million people to famine (Government of Kenya, 2010). In 2004, 3 million people were in dire need of relief aid for eight months from August 2004 to March 2005 due to widespread drought. The effects of droughts especially in ASALs in Kenya have been massive. Droughts have caused heavy losses of livestock, crop failures and death of human beings. During years 2008 to 2011, the cost of drought for Kenya was USD 12.1 billion (SEI, 2009).

Patterns vary according to regions. Though it is predominantly the north and north-east that suffers frequent droughts, other parts of Kenya can become affected. Indeed, one of the most severe droughts occurred in Western and Central Kenya in 1999, which was La Niña related, and affected 23 million people.¹⁶ The worst droughts in Northern and Eastern Kenya were presumably that of 2005/6 with 3.5 million people affected and the consecutive droughts from 2008 to 2011, which affected close to 12 million people (2008: 3.8 million; 2010: 4.3 million; 2011: 3.75 million) (CRED, 2015). The recent drought in early 2014 affected 1.6 million people in pastoral and marginalized zones throughout the country (IFRC, 2014:1). The numbers of people affected is thereby not only related to the duration and spatial extension of a drought but also to the population density of an affected area.

Table 8: People affected by drought in Kenya, 1964–2015 (December)

Year	Occurrence	Total number of affected people
1965	1	260,000
1971	1	150,000
1979	1	40,000
1984	1	600,000
1991	1	2,700,000
1994	1	1,200,000
1997	1	1,600,000
1999	1	23,000,000
2004	1	2,300,000
2005	1	3,500,000
2008	1	3,800,000
2011	2	8,050,000
2014	1	1,600,000
Total	14	48,800,000

Source: CRED, 2016 (generated from EM-DAT table on disaster subtypes per year, Kenya).

¹⁶ The number of 23 million affected people was verified with CRED to rule out any potential bug in the data. In fact, the 1999 drought affected about two thirds of Kenya's land mass and half of its districts (22) including 12 pastoralist districts (IRIN, 2000). The high number of affected people may hence be explained by the fact that also 10 non-pastoralist districts had been suffering and that these are more densely populated. These included districts in the marginal agricultural areas of Eastern, Coast and Rift Valley provinces, as well as high-rainfall areas such as the Central province. UN estimates as of 2001, however, mention only about 4 million affected people (Aklilu and Wekesa, 2002:1), which is much closer to the estimate of the Government of Kenya of 4.7 million people exposed to famine (Government of Kenya, 2010).

Although droughts occur in Kenya, climate change will increase their effects. The Intergovernmental Panel on Climate Change (IPCC, 2014) projects at the global level that drought stress will reduce crop productivity causing national food insecurity. The latest drought in 1999–2001 cost the Government of Kenya and development partners USD 340 million (MOSSP, 2009). Climate variation is the main cause of droughts (Government of Kenya, 2010; Morel, 2010). In Kenya, the drought cycles have become shorter, more frequent and intense due to global climate change and environmental degradation (Mateshe, 2011; Government of Kenya, 2010). As the cycle becomes shorter, more and more people get affected and the impact gets even more severe.

Counties prone to drought include Baringo, Laikipia, Turkana, Samburu, Narok and Kajiado in Rift Valley, Marsabit and Isiolo in Eastern province, Mandera, Garissa and Wajir in North-Eastern and Tana River, Kilifi, Kwale and Taita-taveta in Coast Province (UNEP, 2009). Most of these counties experience dry weather conditions, causing pressure on the existing pastures and water resources on which the communities depend for their livelihoods.

II.3.b. Desertification

The United Nations Convention to Combat Desertification defines desertification as land degradation in arid and semi-arid and dry sub-humid areas resulting from various factors including climatic variations and human activities (Government of Kenya, 2002). The stress on ecological conditions in dry lands is exacerbated by frequent droughts, flash floods and the influx of people from the overpopulated high potential areas into grassland. Overgrazing, subdivision of land and soil erosion worsen the situation, conditions that are all present in ASALs in Kenya (UNDP, 2013).

Land degradation is manifested through soil erosion, loss of habitat, water shortage, increase of siltation bodies, reduction of biodiversity and changes to ecosystems. It is estimated that 22.7 per cent of the land area in Kenya faces severe to very severe threats of desertification. Bai et al. (2008) state that 104,994 km² area was degraded between 1981 and 2003, affecting 11.8 million people (36 per cent of the population). Studies of 2008 conclude that severe land degradation increased within only three years from 23 per cent in 1997 to 30 per cent in 2000 (Muchena, 2008; Bai et al., 2008).

Generally, land degradation and desertification entails a reduction in crop and pasture productivity closely linked to poverty and food insecurity (UNDP, 2013). All these have economic consequences. For example, desertification is affecting tourism because pastures in national parks are being reduced, thereby affecting

wildlife (Government of Kenya, 2002). The Government of Kenya has established the National Action Programme to coordinate efforts in combating desertification.

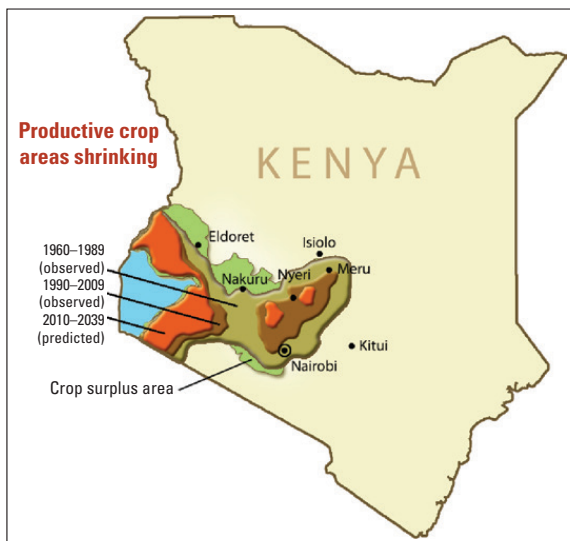
II.3.c. Land and forest degradation

Land degradation is defined as the “long term loss of ecosystem function and productivity caused by disturbances from which land cannot recover” (Bai et al., 2008). Changes in land cover determine the quality of soil as its biochemistry alters (Hartemink, Veldkamp and Bai, 2008).

Land degradation occurs in three ways in Kenya. First, much of the agriculture practised in Kenya is subsistence in nature and the heritage system triggered a rapid subdivision of agricultural land. Smaller pieces of land are prone to overuse, thereby reducing their productivity. Second, subsistence agriculture degrades land due to unsustainable methods of crop production. UNEP also indicates that widespread soil erosion in parts of Kenya is attributed to agricultural activities (UNEP, 2009). Third, there is stiff competition between agricultural activities and human settlement including urbanization (ibid.). The new Constitution stipulates several provisions addressing these problems. It requests inter alia to prescribe minimum and maximum acreage land that an individual can own (Art. 159), to increase Kenya’s tree cover to at least 10 per cent of the land mass and pursue sustainable resource exploitation more generally (Art. 69). Implementing laws and policies are, however, still incomplete.

Map 8 on shrinking productive crop areas indicates that medium- and high-potential areas are also being affected by desertification. It captures average location of the 500-mm rainfall isohyets for the years 1960–1989 (light brown), 1990–2009 (dark brown), which shows how the productive crop areas has shrunk and the predicted further shrinking (orange) of what will remain for crop production by 2039. The green in the background shows the main crop surplus region of Kenya.

Map 8: Observed and projected shrinking of productive crop areas



Source: USAID FEWS NET, 2010.

UNEP estimates that over the last 100 years, Kenya has lost all but 1.7 per cent of its forests and 70 per cent of its mangroves (UNEP, 2001; UNEP, 2009:115). The deforestation rate was extreme during the first half of the 1970s (16–18% annually) and ranged around 6 per cent during most of the 1980s (FAO, 2010:229). Today's total forest cover is 6 per cent of the total land area, of which less than one third are primary forests (FAO, 2010:224, 250). The high degree of deforestation threatens water resources and the resilience of soils. Most of the existing forests are located around the five water towers of Kenya, where they serve as critical water catchments that help to filter rainwater and recharge groundwater levels (UNEP, 2009:4). Plant transpiration moreover informs cloud formation and wind patterns, and thus local precipitation (NEMA, 2009a:53). However, the same zones are also characterized by high agricultural activity, and forests are under permanent threat. Timber harvesting and charcoal burning threaten the major water towers in the country because they rapidly and widely reduce the vegetative cover (Kagwanja, 2002).

II.3.d. Soil erosion and declining soil fertility

Given that only about 16 per cent of land in Kenya is arable and only a smaller portion produces the seasonal cereals of maize and wheat that serve as Kenyan staple food, there is great pressure to produce adequate amount of cereals to reduce food insecurity. A number of processes account for declining soil fertility. First is precipitation that erodes the topsoil when there is little or no vegetative cover. Therefore, sloping areas with reduced vegetative cover are highly prone to soil erosion (Rop, 2010). Soil erosion has been experienced in Kenya since colonial times, and people were forced to dig terraces along the slopes to prevent it. Soil erosion caused by wind is also common in Kenya. It is more pronounced in arid and semi-arid areas where topsoils are swept away by strong winds, thus reducing land productivity. This may in turn lead to people moving away in search of more productive land. Soil erosion is largely attributed to human activities, including overgrazing and poor farming practices.

Soil erosion in Kerio Valley



Source: Kibet, 2013.

Declining soil fertility and increased use of chemical fertilizers have been reported in areas with high rainfall. Because of declining fertility, farmers are forced to use even more fertilizers than before leading to more land degradation by altering soil composition. For example, it is claimed that soil fertility in Trans Nzoia and Uasin Gishu counties have gone down due to overuse of fertilizer. This has increased the cost of production of cereals and also partly contributed to rural–urban migration especially among young people who do not consider agriculture as a future source of livelihood (Sambu, 2010).

II.3.e. Sea-level rise and coastal erosion

One of the most often mentioned impacts of climate change is sea-level rise. It is believed that 15,000 years ago, the Kenyan coast sea level was 100 m below the current level. During the following interglacial period, the sea level rose beyond where it is now (Ballot et al., 2006). A study (Mahongo, 2009) on mean sea level (MSL) of the Indian Ocean produced surprising results. For the southern coast of Africa, sea level seems to rise; yet for the northern part, the level seems to decline. The results are based on observation data from the existing stations measuring MSL along the coast: Lamu B and Mombasa in Kenya, and stations in the United Republic of Tanzania close to the Kenyan border at Tanga, Zanzibar and Dar-Es-Salaam. The decline shows similar rates for Lamu B and Zanzibar stations (-3.62 to -3.64 mm per year), a very high rate for Dar es Salaam (-11.44 mm per year) and a very low declining rate of -0.58 mm per year for Tanga (Table 9). Only Mombasa shows a slightly rising trend (see Table 9). The trends are likely to reflect decadal fluctuations due to ENSO episodes (Mahongo, 2009:153).

Table 9: Span of data and MSL trends for Western Indian Ocean Stations

Station	Country	Location of the station	Span of data	Years of data	Gap (years)	Trend (mm/year)
Mombasa*	Kenya	04 04 S 39 39 E	1932–2001	23	47	+ 0.83
Lamu	Kenya	02 16 S 40 54 E	1989–1989	1	–	–
Lamu B	Kenya	02 16 S 04 54 E	1995–2003	9	–	-3.62
Zanzibar*	United Republic of Tanzania	06 09 S 39 11 E	1984–2004	21	–	- 3.64
Tanga	United Republic of Tanzania	05 04 S 39 06 E	1962–1996	5	–	-0.58
Dar es Salaam	United Republic of Tanzania	06 49 S 39 17 E	1986–1990	5	–	-11.44

Source: Mahongo, 2009:153f. Original source of data: Permanent Service for Mean Sea Level (PSMSL) Monthly Revised Local Reference and PSMSL Monthly Metric Data (www.pol.ac.uk/psmsl).

However, it is estimated that the sea level will rise by 1–2 mm per year for the next hundred years (Awuor, Orindi and Adwera, 2008). The Government of Kenya fears that if a long-term rising trend emerges after the current declining trend, 30 centimetres would be enough to submerge about 17 per cent of Mombasa

city or 4,600 ha of the land area (Government of Kenya, 2010:10). This will affect human settlements along the coast. Particularly at risk are the islands along the coast including Mombasa, Lamu and Manda islands. A rise in sea levels will result in coastal flooding and increased salinization of fresh water and agricultural land (Awuor, Orindi and Adwera, 2008).

Sea-level rise is associated with stronger sea currents and waves, which are considered major forces of coastal erosion and related loss of sediment in some places and accretion in others (Komar, 1998). But, sea-level rise is not yet a major problem in Kenya. In addition, coastal erosion has not yet received much attention in Kenya partly because of the geological composition of the Kenyan coastline, which is not predisposed to heavy erosion and storms. However, in the integrated coastal zone management action plan for Kenya 2011–2015 (ICZM) (NEMA, 2011b), NEMA acknowledges that coastal erosion is one of the threats to economic activities in the coastal region. Some studies indicate that there is beach erosion in the area of Mombasa that is partially caused by human activities (Mwakumanya, Munyao and Ucakuwun, 2009; Komar, 1998). More generally, currently existing destruction of coastal (and marine) habitat is mainly attributed to “unsustainable exploitation, poor land use practices, encroachment and unplanned and unregulated human settlement and urban development” (NEMA, 2010:143) and not to sea-level rise.

II.3.f. Glacial retreat and related impacts

The glaciers of Mount Kenya and other ranges are melting fast; smaller glaciers have even disappeared already. For example, in 2009, only 11 of the 18 glaciers of Mt Kenya still existed, and the ice cover at the summit has been reduced by two thirds (UNEP, 2009:16). The retreat of glaciers in East Africa started already in the 1880s, but seems to have accelerated since the 1970s.

It is thus believed that global warming is responsible for the glacial retreat. The glaciers of Mt Kenya are an important water tower for the country (IPCC, 2007). As long as glaciers are melting, river flows of the permanent Tana and Nzoia River still experience increased water support during the dry seasons. As soon as the volume of melt reduces or recedes, water flow is feared to decline considerably (NEMA, 2009b:57). Glacial retreat thus would affect the availability and volume of fresh water for irrigation and domestic use.

II.3.g. Loss of biodiversity

Kenya has over 35,000 species of flora, fauna and micro-organism (NEMA, 2013). The continued existence of these species however is tied to environmental protection, climate change and sensitive and sustainable human mobility and settlement. Some of the causes of loss of biodiversity include the following:

(a) poaching; (b) deforestation; (c) environmental pollution; and (d) land degradation (see section 2.3.c).

Poaching targets some of the endangered animal species, such as elephants, rhinos, leopards and rare snakes (UNEP, 2009:26–29). Recently, this has gained a lot of publicity with the Kenya Wildlife service, claiming that about 900 elephants have been killed this year alone for their tusks.

The second cause of loss of biodiversity is linked to deforestation. The indigenous forests in Kenya are known to have been homes of thousands of animal and plant species, some of them very rare. However, the clearance of such forests such as the Mau, Embubut in Elgeyo Marakwet county, as well as part of Kakamega forest is a serious threat to Kenya biodiversity because of the destruction of the natural habitat (UNEP, 2009).

The third factor is environmental pollution, especially water and air pollution in the country. It is a fact that Kenyan sewage treatment and disposal especially in urban areas and cities has been very poor. NEMA, for example, has documented factories and sewage treatment plants that discharge raw sewage into water sources such as Lake Victoria. UNEP details some of the areas in Kenya where biodiversity is under great threat as a consequence of human settlement and related activities (2009).

Much attention goes to the dying of mangroves, in particular, in the areas of Mombasa and Lamu. For Mwache Creek, a peri-urban mangrove forest in Mombasa, the dieback of about 500 ha of mangrove forest is reported (NEMA, 2009b).

II.4. Vulnerability mapping

Vulnerability is defined as “the propensity or predisposition to be adversely affected. Vulnerability encompasses a variety of concepts and elements including sensitivity and susceptibility to capacity to cope and adapt” (Parry et al., 2012). Exposure on the other hand refers to the presence of people, livelihoods, species or ecosystems, environmental functions, services and resources or economic, social or cultural assets in places and settings that could be adversely affected (Parry et al., 2012). This means that under the same environmental conditions, different groups of people are likely to become affected in different ways. People who are economically, politically and culturally marginalized are more vulnerable to climate change and also some adaptation and mitigation responses. Vulnerability is therefore a product of socioeconomic and income inequalities that may be exacerbated by the effects of environmental and climate change. Discrimination

on the basis of ethnicity, class, gender and disability may heighten vulnerability (Christiaensen and Subbarao, 2004). The vulnerability of people in poor regions of the world, and of marginalized groups within different societies, has been widely discussed in relation to environmental shocks and stresses, and particularly in the context of climate change (IPCC, 2014; Yamin, Rahman and Huq, 2005).

However, people's vulnerability does not only depend on the degree and nature of the risks they face and on the likelihood of the occurrence of shocks and stresses in certain regions, but to a large extent also on their lack of capacity to minimize risks and respond to natural hazards. In line with the reasoning of the United Nations International Strategy for Disaster Reduction (UN/ISDR), the Hyogo Framework for Action (UN/ISDR, 2005) and its follow-up agreement, the Sendai Framework for Disaster Risk Reduction (UN/ISDR, 2015), argue that disasters are not natural but a result of insufficient or inadequate preparation to the risks of natural hazards. Vulnerability to natural hazards thus needs to be understood in the context of economic and political structures of power that influence factors, such as levels of income, safety of housing and workspaces, education, access to resources and health (Ginnetti and Franck, 2014).

Yet, it is important to stress that poor people are vulnerable not only to the consequences of climate change or other environmental stressors but also to a variety of societal, economic and political developments. Examples of these developments include the decrease in international tourism to Kenya and subsequent job losses, as well as reforms related to land rights and the access to resources.

In response to these underlying conditions and structural developments, access to adequate social protection for large parts of the society is an important prerequisite for the reduction of poverty in general, but also for the reduction of vulnerability in the context of increasingly frequent and severe environmental and societal stressors. The concept of (formal) social protection refers to "public actions taken in response to levels of vulnerability, risks, and deprivation, which are deemed socially unacceptable within a given polity and society" (Conway, De Haan and Norton, 2010:5). Social protection is generally perceived as consisting of three components: (a) social assistance provided for the poor; (b) social insurance reducing risk for the most vulnerable to poverty and exploitation (Devereux and Getu, 2013); and (c) labour and other market regulations that provide a legal framework for protecting the rights of workers (Niño-Zarazúa et al., 2012).

Research in Kenya and sub-Saharan Africa in general has shown that formal social protection so far does not exist on a large scale. The coverage of social insurance is largely restricted to those in formal employment, which is less than

10 per cent of the labour force in most countries (ibid.). Accordingly, in 2005 in Kenya, almost 80 per cent of the population did not benefit from any form of formal social protection (World Bank, 2005). This suggests that different dynamics and combinations of formal and less formal strategies are combined to ensure people's social protection. Thus, social protection is provided by a diverse mix of mechanisms involving different actors, such as governments, the private sector, development and donor agencies, religious groups and local institutions at the community level.

Concurrently, people make use of a combination of different in situ strategies in response to livelihood stressors and as a way to adapt to future and ongoing environmental and climate change. In addition, in Kenya – as in many parts of the developing world – migration plays an important role as an alternative means of diversifying household income, thereby spreading the risk of income failure (Stark and Bloom, 1985; Massey et al., 1993; Boyle, Halfacree and Robinson, 1998). While in some cases, environmental and climate change can entail forced displacement and relocation, in other cases, particularly internal but potentially also international migration can be considered an adaptation strategy. On the other hand, migration can also have effects on the environment and consequently on people's livelihoods at migrants' destinations in both rural and urban settings. Accordingly, the following sections first address the environmental vulnerability of different economic sectors and in a second step the livelihoods, which are the most important sources of income for the majority of the Kenyan population. Sections 2.4.c and 2.4.d then address the potential effects of environmental stressors, as well as the effects of environmentally induced migration on vulnerability, respectively.

II.4.a. Environmental vulnerability of different economic sectors

With a particular focus on vulnerability in the context of future and ongoing environmental and climate change, several economic sectors can be identified as being particularly vulnerable. While the link between local environmental stressors such as droughts and heavy rainfall on agricultural activities is somehow obvious, other economic activities might become indirectly affected by climatic and environmental changes. The following sections will analyse the climate sensitivity of the most important economic sectors that provide employment opportunities in Kenya and the most relevant related impacts on society.

While smallholder and subsistence farming accounted for about 75 per cent of the total agricultural production in 2010 (Salami et al., 2010) Kenya also relies heavily on rain-fed **crop farming**. Agriculture contributes by 26 per cent directly and 27 per cent indirectly to the GDP (KIPPRA, 2013) and accounts for 50 per cent of export

revenues. According to national statistics, more than 15 per cent of all formally employed wage earners in Kenya work in commercial farming, which makes it – together with the educational sector – one of the most important sources of formal employment (KNBS, 2014c). The share of agricultural workers in both the formal and the informal sector taken together is much higher and estimated at between 60 per cent and 75 per cent of the active labour force by different institutions (Kenya Agriculture Research Institute, 2012; ILO, 2009). The most important cash crops in Kenya include tea and coffee, which are mainly cultivated in highly elevated areas, as well as fresh produce from the horticulture sector. Crop farming depends on a predictable amount of rainfall, fertile soil and insulation from pests and diseases. Erratic rainfall, declining soil fertility and the spread of invasive species reduce the quality and quantity of crop yields. For instance, in 2013, insufficient rainfall in combination with unfavourable export prices lowered the sector's annual growth to 2.9 per cent in comparison to 4.2 per cent in 2012 (KNBS, 2014c). Due to its importance as an income-generating strategy for a large proportion of the Kenyan population, reduced agricultural productivity undermines the overall economic stability in the country and increases food insecurity for the entire population, including subsistence farmers, large-scale producers, food processors and consumers in general (ibid.). There is movement from dryer areas towards wetlands and commercial irrigation areas due to the failing of rain-fed agriculture under the conditions of a changing climate (UNEP, 2009). For instance, this mobility is already experienced in the flower industry in Naivasha and other irrigation projects in the West.¹⁷

Fishing is an important livelihood activity around Lake Victoria, Lake Turkana and in the coastal region. However, overfishing, pollution and the introduction of non-indigenous species are reducing the fish and, therefore, presenting a threat to many people's livelihoods. The government is encouraging fish farming. It has been noted that along the coast, people who are not familiar with sustainable fishing practices are migrating to engage in the fishing industry. Therefore, some of the methods used for fishing may deplete fish resources or endanger other forms of life. Increases in temperature and prolonged droughts lead to dried fishing ponds, forcing fisherfolks to migrate to other water reservoirs and lakes. There is continuous migration of fisherfolks along Lake Victoria in search of fish because of overfishing in parts of the lake.¹⁸

National economic data consider **tourism** under the general heading of the service industry. Yet, tourism as an economic activity is singled out here because it actually dominates the service industry and depends to a large extent on environmental and climatic conditions. Tourism accounts for 10 per cent of the

17 Interview with Agricultural Officer, Nairobi, 30 July 2014 by Jeanette Schade.

18 Interview with Fishery Officer, Nairobi, 30 July 2014 by Jeanette Schade.

Kenyan GDP (Government of Kenya, 2010). The Government has used the benefits from tourism to enlist local populations in environmental conservation efforts. The tourist sector also acts as an important driver of labour migration, especially to the Kenyan coast. As Kenya attracts tourists to a large extent with its game parks and natural reserves, environmental change climate change poses a threat to tourism as it triggers loss of habitat for wildlife, coastal erosion and flooding (KIPPRA, 2013).¹⁹

The effects of climate change can be expected to also impact on Kenya's **infrastructure and energy production**. Over 50 per cent of the electricity in Kenya is generated through hydropower, which is sensitive to fluctuations in water supply during droughts (SEI, 2009). Also, electricity supply lines, water pipes and communication channels might become interrupted, and road networks, railway lines and air transport are prone to damage or inaccessibility during bad weather and after natural hazards (Parry et al., 2012). Furthermore, the spread of climate change related diseases will put more pressure on already strained health sector and may affect more people (NEMA, 2013; IPCC, 2014). Environmental change can also affect the supply of fresh water in the form of salinization, evaporation and pollution, in turn impeding the access to safe drinking water, which is already limited for large parts of the population (Parry et al., 2012; UNEP, 2009). This creates conditions that make it more likely that people are inclined to migrate, though not all of them might have the capabilities to do so.

II.4.b. Vulnerability of livelihoods

While people whose livelihoods are not based on formal employment are generally more vulnerable to societal stressors due to their lack of formal social protection, exposure to environmental and climatic stressors is likely to add to this vulnerability.

Variability in rainfall as a result of changes in temperature affects both agriculture and livestock keeping. Communities or individuals with limited resources face seasonal crop failures, income losses and livelihood collapses. The mainstay of Kenya's economy is rain-fed agriculture, which is sensitive to increasing temperatures, droughts and floods. Rain-fed agriculture accounts for 95 per cent of all the agricultural activities in the country. Reduced agricultural productivity is therefore a threat to food security in the whole country. Increasing temperatures are also likely to affect the growing of major crops in the country and threaten the livelihoods of farmers and processors (Government of Kenya, 2012b).

¹⁹ However, currently it is the threat of terrorism that resulted in declined tourism. In addition, the decline of tourism from Europe, with a share of tourist arrivals of more than 40 per cent in 2012 can – to some extent – be explained by the economic downturn in some of the most important source countries, particularly Italy (KIPPRA, 2013).

Much of the Northern Kenya region is classified as ASAL and has suffered from repeated droughts that have disproportionately impacted pastoralists and other vulnerable groups (Mude et al., 2009). Communities in these regions have developed adaptive strategies to respond to droughts (UNDP, 2013a). Yet, in the past, the longer and predictable cycle of droughts allowed farmers to recover and pastoralists to rebuild their livestock before the next drought. This has changed because drought cycles have become shorter and seasonal weather patterns have become less predictable. The incidence of droughts and the number of affected people has, therefore, significantly increased over the past four decades (Government of Kenya, 2010). For instance, the drought in 2008 affected 1.4 million people, and in 2009 and 2010, 10 million people were at risk of hunger after harvests failed due to drought (Mateshe, 2011). The Government of Kenya has acknowledged the need for policies that can guide the development of ASALs (Government of Kenya, 2002). ASAL areas that lack physical capital, such as infrastructure, schools, health facilities and clean water need special attention if their exposure to climate change has to be reduced (Government of Kenya, 2010).

About 95 per cent of agricultural production in Kenya depends on rainfall, and much of the food production is assured by small-scale farmers engaged in **subsistence farming** (NEMA, 2013; Parry et al., 2012). Therefore, communities or individuals with limited resources face seasonal crop failures, income losses and livelihood collapses as a consequence of changing temperature and precipitation patterns. In Kenya, where large parts of the rural population rely on rain-fed subsistence agriculture, efforts exist to inform people about better ways of farming and better crop choices in the context of changing precipitation and temperature patterns. Based on seasonal weather forecasts provided by the Kenya Meteorological Department, farmers can make informed choices on the most beneficial seeds to plant, time to plant, depth and spacing of seeds. In the past, farmers based these choices on average historical climate conditions, which have shifted in the past years.

Pastoralism is widely practiced in the ASAL regions including the Masaai counties of Kajiado and Narok, Turkana, Kitui county, Wajir, Garissa and the Tana River areas (Markakis, 2004). The exact number of pastoralists in Kenya is difficult to estimate, and the importance of pastoralism varies in different regions of Kenya. In ASAL areas, 90 per cent of the population depend on livestock (FEWS NET, 2013). Pastoralists have developed a variety of responses to these adverse environmental conditions, such as varying degrees of mobility (FAO, 2001), livestock species diversity, reciprocity regarding the use of resources and social safety nets (IOM, 2010a). While environmental and climatic stressors are thus not uncommon and in the past communities were able to estimate the risk of droughts based on local knowledge and experience, this has become increasingly difficult in the context

of climatic changes. This results in increased livestock losses and difficulties to restock. It is estimated, for example, that during the 1991/1992 drought, 70 per cent of livestock has been lost in Northern Kenya; during the 1999/2001 drought, 30 per cent of cattle and shoats in Kenya have died; during the 2004/2006 droughts, some communities experienced livestock losses up to 70 per cent; and during the 2009 drought, the Maasai of Kenya and the United Republic of Tanzania lost 70 to 90 per cent of their livestock (Huho et al., 2011:780).

Research on the effects of natural disasters on livelihoods and migration in Kenya has so far mainly focused on pastoralists, which is why we go into more detail here. The increase in natural disasters, particularly in their frequency, worsened the economic situation of many pastoralists. A survey by CARE International in Garissa county revealed that 90 per cent of interviewed households have been affected by natural disasters, mainly drought. This triggered concentration of settlements along rivers and water points, which makes the population more vulnerable to floods (CARE International, 2013). Traditionally, pastoralists who lost all livestock are no longer regarded as pastoralists but as poor. Previously, such a situation was attributed to (self-inflicted) bad herd management and “drop-out” (Anderson and Broch-Due, 1999). This process is sometimes called “pastoralist displacement” (Schrepfer and Caterina, 2014:17) due to (external) natural disasters, and associated with loss of livelihood, impoverishment, and sedentarization due to lack of alternatives and despair. This is closely connected to existing socioeconomic problems, such as prostitution and increasing drug abuse of young people (May and McCabe, 2004). These developments should also be considered in the context of increasing levels of insecurity and conflicts. One common way of addressing these threats to security is the use of social networks by moving livestock with family members and friends, the collective management of herds, and the spread of livestock in different regions (IOM, 2010a).

Owing to these changing circumstances, some traditional pastoralists such as the Turkana have started farming practices, which require some form of sedentarization, and also fishing in Lake Turkana.²⁰ In general, there is a tendency towards increasing income diversification among pastoralists in North-Eastern province and in the Turkana region (Catley et al., 2013). There, only 29 per cent and 39 per cent of pastoralists respectively reported livestock keeping as their most important source of income, although it remains the preferential form of livelihood. In contrast, in the Maasai region, about two third of the pastoralists depended on livestock keeping as the major income-generating strategy. Income diversification strategies include casual employment, charcoal burning, selling house construction materials, and dependency on relief aid from the Government of Kenya and/or development agencies (IOM, 2010a).

20 Interview with Fishery Officer, Nairobi, 30 July 2014 by Jeanette Schade.

Kenya's urban areas are characterized by their high level of inequality. Almost half of the country's urban population live in poverty and many belong to the poorest people of Kenyan society, struggling to meet their daily food needs. In Nairobi alone, there are more than 2 million slum dwellers. Nairobi's informal settlements thereby only cover 5 per cent of the city's settlement area but host an estimated 60 per cent of its population (Nairobi City Water and Sewerage Company Ltd. and Athi Water Services Board, 2009:10). A survey conducted among migrants in the various slum areas of Nairobi (year of arrival: 26% before, 74% after 1990) revealed that 44 per cent of the interviewed considered environmental changes a major reason for their move to the city (Kinuthia-Njenga and Blanco, 2009). Inhabitants of these slums, however, face an overproportional risk of diseases, including HIV but also diarrhoea and respiratory infections, and the risk of child mortality is above the national average. Many of these diseases are linked to deteriorated environmental conditions, such as air and water pollution. These circumstances are compounded by the higher level of violence and crime in poor urban areas and the weaker social networks – compared to rural areas – where people can rely on (Scheumer-Cross and Taylor, 2009). Environmental and climate change is likely to also increase the vulnerability of urban dwellers, particularly in coastal cities with the risk of rising sea levels, floods and storms (Foresight, 2011), as well as in (informal) settlements on slopes that are prone to mudslides (see below).

II.4.c. Potential effects of migration on vulnerability

Different forms of migration can in turn also impact on people's vulnerability in different regions. In times of drought, crop failure and famine, there is evidence of people moving towards forest and protected areas in search of grazing lands, harvesting forest products and benefiting from the cooler environment provided by the forest (Gray, 2011). Land degradation, shrinking agricultural land and urban development has led to encroachment of forest reserves and other protected areas, such as Mt Kenya, Mau water tower and Mt Elgon areas. The settlement of thousands of people in Mau forest was informed by the need to move away from degraded agricultural lands to virgin areas (Amnesty International et al., 2007). Resorting to protected areas makes people vulnerable to forced evictions and leaves them without adequate infrastructure. Moreover, it frequently perpetuates environmental degradation.

Transhumance poses several challenges.²¹ The first challenge is that due to climate change, pastoralists move with their herds further than before and stay longer, making it difficult to vaccinate animals. The routes are also more diverse, creating new conflicts. In the Tana Basin, pastoralists are regularly advancing onto agricultural land as the delta also serves as fallback zone for pastoralists during

²¹ Interview with Ministry of Agriculture, Nairobi, 30 July 2014 by Jeanette Schade.

droughts leading to periodic conflicts. In Kitui, Somali herders choose to stay and pay for grazing rights for their animals that ousts local semi-nomadic pastoralists (Eriksen and Lind, 2009). Pastoralists also increasingly move towards cities in search of opportunities for income generation. Many of them therefore have joined the urban poor population (IOM, 2010a). There is also sedenterization along main roads where relief food and water trucking is provided. This is experienced along the Garissa–Mandera road.

Outmigration from environmentally affected areas might also impact on those left behind in these areas, particularly women and children. Migration of male members of the family in search for better opportunities leaves women with more responsibility, and yet in times of disasters, cultural constraints prevent women from making certain decisions usually taken by (male) household heads (Kimani and Kombo, 2010). Women and girls are most vulnerable to climatic and environmental change because of their household responsibilities, dependencies on weather-sensitive livelihoods and their economic marginalization (Parry et al., 2012). Women especially in rural areas spend 3–5.25 hours fetching water and about 5 hours collecting firewood (AFDB, 2007). They are forced to walk long distances to fetch firewood for energy (Nampinga, 2008). Such responsibilities may be aggravated by absence of the male members of the household. Although women manage 40 per cent of smallholder farms and provide 80 per cent of labour for agricultural production, they own less than 5 per cent of this land (AFDB, 2007). Women have very limited access and control over land. They are therefore unlikely to implement agricultural strategies that can reduce their vulnerability in the absence of men. This implies that crop and livestock failures due to climatic changes are felt most by women (Parry et al., 2012). In addition, resource-based conflicts affect women and children more as they rely on others for protection and survival.

The environment may not only be a factor in leaving a certain area due to environmental degradation, soil erosion and recurrent floods, among others, but also impact internal migrants at destination. They may move into hazardous areas, such as flood plains or the tops of hills potentially affected by landslides after heavy rains (Foresight, 2011). As indicated earlier, the majority of poor people live in urban slums, which mean they are most vulnerable to environmentally related disasters. Among the urban poor are female-headed households, orphans and the unemployed, including recent in-migrants, who have little access to resources that can mitigate the effects of flooding, landslides or even fires. As it is traditionally the men who migrates, consequently male outmigrants can equally be faced with increased vulnerability in the context of environmentally induced migration as women remain at the places of origin. Moreover, recent studies show that levels of male and female migration increasingly converge.

On the other hand, migration can also offer opportunities in the context of environmental change. The link between international migration and development has been documented in Kenya (Kinuthia and Akinyoade, 2012). Although most internal and international migration cannot directly be attributed to the environment and climate change, it offers opportunities of coping with effects of these environmental changes. During drought and famine, the Kenyan diaspora consistently contributes to the national effort in providing relief services. For example, in 2011, 3.75 million Kenyans faced starvation and the government declared national disaster. A joint initiative raised over 1 billion KSh, with most of the funds being attributed to the Kenyan diaspora. Families with individuals in the diaspora tend to fare better in coping with effects of environmental disasters occasioned by climate change (Drummond and Crawford, 2014).

III

PROSPECTS FOR EVIDENCE-BASED POLICYMAKING



III. PROSPECTS FOR EVIDENCE-BASED POLICYMAKING

Environmental migration as a newly emerging field of concern for policymaking is based on the evidence that increasing numbers of people are affected by environmental and climate changes in a way that impact upon migration patterns, either forced or voluntary. People diversify household incomes by migration of selected household members who leave to search for labour elsewhere, and remittances may be used to cover basic needs or allow for long-term investments, which may enhance in situ adaptation. In the African context, semi-nomadic pastoralists may change their migratory patterns (longer distances and duration, drop-out and sedentarization) and may need assistance to maintain livestock migration as a coping strategy. Other people may need to be resettled because they live in high-risk zones that are not habitable any longer; or people already have been displaced by natural disasters and need assistance either to return and rebuild their livelihoods or be relocated permanently.

The need for action is reflected in the concluding document of the 2010 United Nations Climate Change Conference in Cancun, which states that “measures to enhance understanding, coordination and cooperation with regard to climate change induced displacement, migration and planned relocation” (UNFCCC, 2011, para. 14[f]) should be undertaken. This chapter analyses laws and policies that: (a) help mitigate the effects that environmental change has on displacement and forced migration; (b) foster the resilience of those vulnerable groups most at risk to prevent forced migration; and (c) supportive and take advantage of migration as an adaptation strategy. It is taken into account that both the effects of natural and man-made environmental changes interact with each other. The section will review existing and upcoming Kenyan legislation relevant to environmental migration along the following structure:²² (1) migration in climate policies; (2) relevant provisions of the Constitution of Kenya; (3) disaster response policies; (4) internal displacement and planned relocation; (5) urbanization/housing and settlement planning; (6) population planning; (7) protection of vulnerable groups and stabilization of livelihoods; and (8) remittances and development.

22 The following legal and policy analysis is partly based on Schade, forthcoming.

III.1. Analysis of relevant existing and pending policy frameworks

III.1.a. Migration in climate policies

Migration as adaptation to environmental and climate change is neither comprehensively considered within the climate policy frameworks of Kenya nor is it entirely ignored. The National Climate Change Action Plan (NCCAP) 2013–2017 (Government of Kenya, 2013a) is most pronounced on the topic. It recognizes the role of migration in several instances. It characterizes pastoralism as “inherently adaptive” due to its “recourse to mobility” (Government of Kenya, 2013a:48) and in Box 5.2 (Government of Kenya, 2013a:52f), summarizes the nexuses between drought/desertification and migration recognizing among others that reduced herd sizes trigger migration of pastoralists to urban centres for wage employment. Further, it states that the dense population in the high potential areas generates migration towards the slum areas of cities and towns and, in turn, the migration of slum dwellers to unsuitable semi-arid areas for cropping that likely leads to further degradation. The NCCAP explicitly sets forth a two-pronged research agenda on migration and climate change. First, “research is needed to assess migration as an adjustment or coping mechanism for climate variability, and [second] to identify alternatives to allow people to remain in their communities” (Government of Kenya, 2013a:38). However, documents accompanying the NCCAP may consider migration in their risk and vulnerability analysis (Government of Kenya, 2012b and 2012c), but when it comes to action planning, neither migration nor displacement, urbanization and settlement planning are mentioned anymore (Government of Kenya, 2012d and 2012e). Further, climate mitigation policies do not yet take into account that they may trigger development-based evictions that increase people’s vulnerability to other stressors including climate change. The proposed Climate Change Bill 2014 (Ottichilo, 2014), the main purpose of which is setting out mechanisms for the funding and coordination of mitigation and adaptation measures, generally, does not specify eligible actions.

III.1.b. Relevant provisions of the Constitution of Kenya

The new constitution, adopted on 10 August 2010, enshrines a Bill of Rights (Chapter IV), which is meant to serve as a framework for the social, economic and cultural policies of Kenya, seeking social justice and fulfilment of all rights. The right bearer in most cases is “each individual” (Art. 19), which classifies them as universal human rights independent of citizenship. Core economic and social rights are firmly entrenched in the constitution under Art. 43, which stipulates, inter alia, the right to the “highest attainable standard of health”, the right to “accessible and adequate housing”, the right to “adequate food of acceptable quality”, and the right to “clean and safe water”. The fulfilment of all mentioned rights is intrinsically

linked to a healthy environment. The “right to a clean and healthy environment” is stipulated in Art. 42 and extends to “future generations”. It is complemented by “obligations related to the environment”, the latter being further elaborated in Chapter V on Land and Environment. Other rights relevant for migration as adaptation are, inter alia, the freedom of movement and residence (Art. 39), which allows for free movement within Kenya and the right to leave Kenya for every person, but restricts the “right to enter, remain in and reside anywhere in Kenya” to citizens. Property rights, a precondition for adequate compensation, are protected in Art. 40.

Chapter V on Land and Environment is another groundbreaking part of the constitution as it stipulates new land and resource use policies. The new land law is based on principles such as “security of land right” and “sustainable and productive management” (Art. 60). It also replaced the previous categories of government and trust land by the new categories of public and community land. However, in all cases, including the third category of private land, the State maintains the power to “regulate the use of any land [...] in the interest of [...] public safety [...] public health, or land use planning” (Art. 66) if needed. According to Art. 69(1), the State shall further: (a) ensure sustainable resource use and exploitation, and “the equitable sharing of the accruing benefits”; and (b) “establish systems of environmental impact assessment, environmental audit and monitoring of the environment”.

The mentioned principles and provisions are conducive to disaster risk reduction (DRR), planned relocation and sustainable settlement policies in several ways. The principle of security of tenure addresses the widespread phenomenon of squatters who tend to inhabit unsuitable and risk-prone sites, in particular in urban areas. This may include the issuing of title deeds. It is known in environmental migration research that in particular, land ownership increases the proclivity to stay and facilitates private engagement in in-situ adaptation (Gray and Mueller, 2012). The prospect of title deeds is also an important incentive to accept measures to relocate and to re-establish livelihoods at new sites. Art. 69(1)(f), in addition, supports continuous monitoring efforts of risk-prone human settlements to determine needs for in-situ measures or relocation respectively. Art. 63(2)(d) enables the State to set out adequate land for new settlements independent of the land category such land may belong to, while Art. 40 on property rights and the new category of community land foster adequate compensation if other than public land is taken for such purposes. The constitution encourages compensation even for “occupants in good faith [...] who may not hold title to the land” (Art. 40(4)). The same applies to land set aside for larger development and infrastructure measures, including climate change mitigation (such as renewable energy production) and adaptation actions (for instance, building of sea walls

or expansion of mangrove forests). Art. 69(1)(a), moreover, provides for benefit sharing with communities in case of natural resource exploitation, which can be an important precondition to economically survive and improve living conditions despite loss of community resources.

The provisions of the constitution, however, partly lack implementation. Thus, by the time of writing, the Community Land Bill and the Natural Resources (Benefit Sharing) Bill of 2014 (Zani, 2014) still await adoption. The Environmental Management and Co-ordination Amendment Act of 2015, adjusting, *inter alia*, the Environmental Management and Coordination Act of 1999 to the requirements of the devolved government has only been passed in June 2015. The Act is equally relevant to the regulation of resource exploitation, as well as to environmental monitoring and impact assessment generally. Finally, the Evictions and Resettlement Procedures Bill, first introduced in Parliament in 2012, experienced a metamorphosis from a stand-alone bill covering forced eviction and resettlement, including squatters and unlawful occupiers of land, to becoming part of the omnibus Land Law (Amendment) Bill, 2015. The amendment (sec. 152F) focuses on evictions and does not consider anymore resettlement, and has in this respect been outstripped by the Act on the Prevention, Protection and Assistance to Internally Displaced Persons and Affected Communities of 2012.

III.1.c. Disaster response policies

Disaster risk reduction, prevention, preparedness and management are core to prevent displacement caused by natural and other environmental changes. Currently, responsibilities for disaster response are spread along different national-level ministries and authorities, and additionally shared between the national and the county-level.²³ For example, prevention of and response to floods fall under the Ministry of Environment, Water and Natural Resources, whereas in case of droughts, the National Drought Management Authority (NDMA) is responsible. NDMA is also in charge of implementing the Ending Drought Emergencies in Kenya program (Government of Kenya, 2012b). The operational lead in disaster management it shares with the National Disaster Operation Centre, which had been established in 1998 in the context of El Niño-related disastrous rainfalls. Their division of labour, however, is to be clearly defined. Other relevant institutions include the Kenya Food Security Meeting, the Kenya Food Security Group, the Arid Lands Resource Management Project on the management level, the National Disaster Coordinating Committee as the executive arm of the cabinet, and the National Disaster Executive Committee as the highest disaster management decision-making body (MOSSP, 2009:34–36, 42). The main emphasis so far was put on early warning, short-term relief, and management. The lead ministry, the

²³ Consultation at IOM's Kenya Policymaker Capacity-Building Workshop on Migration, Environment, Climate Change, 12 August 2015.

Ministry of State for Special Planning – in charge of coordinating and supervising disaster response since 2004 (Presidential Circular 1/2004) – was dissolved after the 2013 elections and responsibilities were transferred to the Directorate of Special Programmes under the Ministry of Devolution and Planning (IDMC, 2015c:40).

Before the 2013 elections, the Ministry of State for Special Programmes (MOSSP) (Presidential Circular 1/2008), had been mandated to formulate and coordinate a comprehensive disaster management policy, including the establishment of an institutional framework for effective implementation, to address the fragmented nature of disaster response in Kenya (IFRC, 2012). This resulted in a 2009 draft, and in 2010 the Final Draft National Policy for Disaster Management, both of which comprise also disaster preparedness, prevention, and disaster risk reduction activities, the latter aiming at long-term development. The draft policy of 2009 seeks to establish a National Disaster Management Agency for the day-to-day national management of all types of disasters (IDMC, 2015c:41). The final draft policy of 2010, in contrast, does not mention establishment of National Disaster Management Agency but puts comparable emphasis on the institutional structures at the county level (MOSSP, 2010). It was developed by the then established Kenya National Platform for Disaster Risk Reduction (NPDRR), a multi-stakeholder platform chaired by the MOSSP (2010:8). Policy tasks include inter alia resettlement of IDPs and refugees, and climate change adaptation (IFRC, 2012:31, 43). The policy also seeks to harmonize existing but scattered funding for disaster response (MOSSP, 2009; IOM, 2015:135).

The Ministry of Devolution and Planning (MDP) states in its most recent strategic plan that it has, in the meanwhile, enacted the Disaster Management Policy (MDP, 2014:15), though others are of different opinion (IDMC, 2015c:41), and no such policy can be found online. However, in line with the 2010 final draft policy, a County Disaster Management Bill was introduced in October 2014. Efforts on the legislative level to shape disaster management are, however, similarly fragmented and outcomes open. Certain developments in fact may curtail establishing a harmonized structure for disaster response. Thus, the 2012 National Policy for the Sustainable Development of Northern Kenya and other Arid Lands announced to establish a National Drought and Disaster Contingency Fund (MDONK, 2012:24). Further, a National Drought Management Authority Bill, 2013 has been drafted to firmly establish NDMA and its mandate for droughts, including a source of funding of its own (National Drought Management Authority Fund, sec. 16). In fact, disaster response remains institutionally scattered and its funding ad hoc. Finance of disaster risk management taps into other funding mechanisms such as the Constituency Development Fund, the Local Authority Transfer Fund, the Youth Enterprise Development Fund and the Women Development Fund. Finally,

most funding is still used for immediate response as opposed to long-term risk reduction (Matioli, 2015:12f).

III.1.d. Disaster-related displacement and planned relocation

Planned relocation in the aftermath of displacement or as a precautionary measure is an important component of DRR and its “durable solution” approach. There are currently two core legal tools to deal with matters of IDPs, those displaced due to natural disasters included: (a) 2012 Land Act; and (b) Prevention, Protection and Assistance to Internally Displaced Persons and Affected Communities Act (IDP Act). The IDP Act was enacted in 2012 and domesticates the UN Guiding Principles on Internal Displacement (GPID) of 1998 and the 2006 Great Lakes Protocol on Protection and Assistance to Internally Displaced Persons (GLP) (para. 3). Additionally, it draws from the African Union Convention for the Protection and Assistance of Internally Displaced Persons in Africa (also known as the Kampala Convention; African Union, 2009) and the UN Basic Principles and Guidelines on Development-Based Evictions and Displacement (Kothari, 2007).²⁴ The IDP Act addresses situations of displacement due to political violence, natural disasters and development projects. In Part II, it sets out a rights-based and participatory approach (paras. 4 and 8(3)) and highlights the need for special attention to communities “with a special dependency on and attachment to their lands” (para. 8(1)). Its provisions cover the prevention of (para. 5) and the protection from displacement (para. 6), including preparedness measures (para. 7), as well as the assistance and protection during and after displacement with a focus on durable solutions that includes “resettling elsewhere” (paras. 8 and 9). Planned relocation is, however, treated as a response measure only, whereas appropriate prevention actions following from the mandatory monitoring of risk-prone sites are not specified (para. 5).

In part III, the IDP Act defines State duties and establishes necessary institutions to implement the Act, such as restructuring and unifying existing funding and a coordinating and management committee for IDP affairs (the National Consultative Coordination Committee on Internal Displaced Persons (NCCC-IDP), functional since January 2015), which is also in charge of registering IDPs (paras. 12 and 13). A national policy on IDPs is supposed to accompany the Act and further clarify, among others, institutional arrangements and responsibilities (for an extended analysis, see IDMC, 2015c:39–45). Similar to the national policy on disaster management, the MDP states that it has enacted such policy, whereas others hold a different opinion (MDP, 2014:15; IDMC, 2015c:45).

²⁴ Interview with Kenya National Commission on Human Rights, 17 March 2015 by Jeanette Schade and Jane Hofbauer.

The challenge to permanently resettle persons affected by or prone to natural disasters is also addressed by the Land Act of 2012. It provides for carrying out resettlement programmes including the “provision of access to land to squatters, persons displaced by natural causes, development projects, conservation, internal conflicts or other such causes that may lead to movement and displacement” (para. 134), financed by the stipulated Land Settlement Fund (para. 135) administered by the National Land Commission. As the Land Act is also concerned with squatters, it has a wider reach than the IDP Act. It is particularly relevant to solve the problem of long-lasting and protracted displacement in Kenya in the context of landlessness. As landless people often tend to occupy risk-prone sites due to lack of alternatives, the Land Act is also a core tool for preventive relocation in the context of environmental change. The humanitarian sector, however, tends to overlook it.

III.1.e. Development and conservation-based displacement and planned relocation

The IDP Act has a section of its own on development and displacement (Part V). It addresses situations where the Government of Kenya wants to vacate land for development or conservation purposes. The Act provides that the Government “shall abstain” from displacement and relocation. Exceptions are cases of “overriding public interest” where “no feasible alternative” exists. In such cases, the Government of Kenya shall provide the affected population with durable solutions (see above). If displacement and planned relocation cannot be avoided, the stipulated procedures request the following: (a) demonstrate and justify that alternatives are not feasible and displacement is unavoidable; (b) seek “free and informed consent” of the affected persons; (c) hold “public hearings” and ensure “effective participation” in planning and managing the resettlement; and (d) ensure access to “effective remedies”. Further, the Government of Kenya shall ensure that displacement is carried out “respectful of human rights” including “protection of community land” and “special needs” of vulnerable groups (Part V, para. 4).

These provisions constitute an enormous improvement compared to the practice of evictions in the past (see 1.3.b. on Development-induced displacement). The Act thus again feeds into the Land Act, which since 2012 regulates, among others, the compulsory acquisition of land for public purpose interests (Part VIII).²⁵ The IDP Act, however, does not detail on the problem of squatting populations and “unlawful occupation” of land, which is a major challenge in determining, for example, eligibility of affected persons for compensation or even eligibility

²⁵ The Land Act substitutes the Government Land Act and the Land Acquisition Act (both repealed), which had contributed massively to the squatter problem in Kenya.

to resettlement as a form of durable solution. The Land Act covers this gap by stipulating that all persons whose interest in that land has been determined shall receive full and prompt compensation; and formulates procedures for determining and effecting compensation (paras. 111–117). Para. 155(4) further specifies in detail the procedures how to determine “unlawful occupation”, which includes considering whether a “person has reasonable belief” that the occupation is lawful, length of occupation, use made of the land, number of dependants and distance to source of livelihood, type of the environment and potential conflicts with public interests. Generally, it can be said that the Land Act takes a viewpoint on “squatters” and IDPs of all kinds that aims at sustainable solutions, and takes into account that unlawful occupation is frequently the result of past unlawful evictions.

Two potential shortcomings of the legal framework regulating planned relocation might be mentioned. First, neither the Land Act nor the IDP Act quantify or specify the nature of appropriate compensation. In fact, the IDP Act does not even mention compensation (though the annexed GPID and the GLP do), but provides for assistance to rebuild livelihoods, which is not necessarily the same. Second, both do not explicitly address situations where land is already used for public interest purposes and has been encroached afterwards (in case of protected areas often by previous indigenous occupants). Existing sectorial policies and legislations governing management of designated protected areas or transport corridors do not yet provide for guidance to be followed by the respective authorities in charge (such as the Kenyan Wildlife Service).

The shortcomings were originally addressed by the above-mentioned Eviction and Resettlement Procedures Bill. The bill took a very comprehensive approach to evictions and resettlement, including matters of compensation. In contrast, the amendment substituting it deals with evictions in situations of unlawful occupation only. The amendment (sec. 152F) makes no reference to sec. 155(4) of the Land Act of 2012 and reads as “applying to cases where the unlawfulness of occupation is established, with the aim to strengthen authorities in carrying out such evictions smoothly”.²⁶ Though sec. 152F generally states that eviction shall be “in accordance with this Act”, this may trigger inconsistencies in the handling of evictions/resettlement and may spoil efforts to get to durable solution to the problem of squatting and landlessness in Kenya. As mentioned above, tenure security and land property is a major incentive for in-situ adaptation rather than migration. Failing to provide durable solutions to informal settlers means losing an important opportunity to prevent environmental displacement and migration.²⁷

26 The Land Law (Amendment) Bill, 2015, however, does not change sec. 155 in substance.

27 For a detailed analysis of the relationship between land regulations and environmental migration in Kenya, see Schade, 2016.

III.1.f. Urbanization and housing and settlement planning

Another effort to address unlawful occupation, and thus the threat of displacement, is para. 160(2)(e) of the Land Act, 2012. It is particularly relevant to urban settings. It facilitates the regularization of existing squatter settlements erected on public and community land, as well as negotiations between squatters and private landowners. This is also meant to facilitate investment into upgrading and development activities. The policy aspirations behind that might be best formulated by the National Environment Policy of 2013 (Government of Kenya, 2013b:31):

Sustainable human settlement involves creating the conditions under which people in both rural and urban settings can enjoy healthy, productive and well integrated lifestyles. This should ensure that people live in safe, healthy and dignified conditions, with relatively easy access to amenities.

This is complemented by the Draft National Urban Development Policy of 2012 (Ministry of Local Government, 2012), which is however a draft only and not yet adopted. It addresses many of the environmental challenges mentioned in this report, such as degradation, resource depletion and loss of biodiversity. Particularly relevant for environmental migration are on the one hand those sections dedicated to the improvement of environmental conditions and social services in informal settlements to make their occupants less vulnerable. Further, the draft policy allows for relocation of households from hazard-prone areas, “such as flood plains, steep slopes, and fault lines, thereby exposing residents to various risks”, as well as for relocation from other environmentally sensitive areas (Ministry of Local Government, 2012:46). Identified major obstacles to both slum upgrading and relocation are land tenure issues, such as fragmented tenure regimes, absent landowners and speculative land hoarding on the one hand and lack of information on land (such as land identification system and land banks) on the other hand (Ministry of Local Government, 2012:43).

In practice, the Ministry of Land, Housing and Urban Development (MLHUD) runs the World Bank supported Kenya Informal Settlements Improvement Project (KISIP), which covers both small villages of few families and settlements of up to 120,000 persons (MLHUD, 2014a:viii; 2014b:38).²⁸ In total, about half a million people are supposed to benefit. In cases where resettlement is required, the Operational Policy 4.12 of the World Bank is applied, because – according to the project’s Resettlement Policy Framework (RPF) – Kenyan law does not provide

²⁸ The settlement scheme covers 14 counties and 15 towns/cities, namely Eldoret, Embu, Garissa, Kakamega, Kericho, Kisumu, Kitui, Machakos, Malindi, Mombasa, Nairobi, Naivasha, Nakuru, Nyeri and Thika (MLHUD, 2014:24).

for a legal basis to compensate squatters (MLHUD, 2014b:10). Neither does the document refer to the Land Act para. 155(4). This might indicate that further education of authorities is needed, which are entrusted with tasks such as eviction, resettlement and formalization of informal tenure patterns.

The question of human settlement in rural as well as in urban areas, and the removal and relocation of the same for other purposes is linked to overarching questions of land-use change and land-use planning. To facilitate better land-use planning, including urban planning, NEMA already in 2011 published the Integrated National Land use Guidelines (NEMA, 2011a). The guidelines state, inter alia, that human settlement on slopes above 55 per cent contour and thus prone to landslides should be discouraged by the authorities in charge, as well as settlement in flood-prone plains. They also address the pressure on agricultural land, water reserves and forests due to urban expansion by limiting urban gardening/agriculture and recommending the creation of buffer zones (NEMA, 2011a:20, 28).

III.1.g. Population planning

The challenge of settlement planning is closely related to sustainable population planning. The National Population Policy for Sustainable Development in Sessional Paper No.1 of 2000 guided the country's population programme until 2010. During this decade, the population growth rate at least stabilized at about 2.9 per cent. The Population Policy for National Development 2012 regards the integration of population indicators into development planning and environmental management paramount. To reconcile population pressure with environmental sustainability, it calls for integrating environmental impact assessments consistently into development planning and to integrate demographic factors, such as population growth and migration into resource management approaches. It stresses that current data and data collection on both internal and international migration is inadequate to support policy formulation and implementation of programmes. "There is therefore a need to enhance generation of migration data and information" (Government of Kenya, 2012f:3).

To some extent, this request is considered within the pending Physical Planning Bill, 2015. The contents of local physical development plans and of respective survey reports are defined to include information on migration. Further, local renewal and redevelopment plans are requested to include a relocation plan (Physical Planning Bill, 2015, third schedule).

III.1.h. Protection of vulnerable groups and stabilization of livelihoods

As the NCCAP sets forth, the pressure to migrate should be mitigated by strengthening the resilience of groups vulnerable to environmental and climate changes. One specific group, the pastoralists, is addressed with a series of policies. Since 1996, Kenya runs the World Bank supported Aridlands Resource Management Project (ALRMP) and since 2007, the Kenya Adaptation to Climate Change in Arid and Semi-Arid Lands (KACCAL) project (ILRI, 2007). In 2009, an Indigenous Peoples Planning Framework to target also hunter and gatherer communities in the ASALs was drafted by the Ministry of State for Development of Northern Kenya and Other Arid Lands (MDONK) to supplement the KACCAL project (MDONK, 2009). In October 2012, Sessional Paper No. 8, the National Policy for the Sustainable Development of Northern Kenya and other Arid Lands, was adopted (MDONK, 2012). It domesticates the African Union Policy Framework for Pastoralism in Africa of 2010 (African Union, 2010). Further, it reinforces constitutional provisions on equality (para. 27) and aims to end the unequal treatment and economic, social and political marginalization of the north by taking into account the “unique characteristics [...] including mobility, low population density, and pastoralism’s distinct institutional arrangements” and recognizing them as full citizens who enjoy the same basic rights as the rest of the population (MDONK, 2012). It should further be mentioned that Kenya is part of the Steering Group of the Nansen Initiative and endorsed the Agenda for the Protection of Cross-Border Displaced Persons in the Context of Disasters and Climate Change (Protection Agenda), which developed solutions to disaster related cross-border displacement, which is a typical pattern of pastoralist situations during droughts (Kolmannskog, 2010). It, inter alia, recommends implementing schemes that facilitate secure cross-border transhumance such as the Security in Mobility Initiative for East Africa by OCHA and IOM (Nansen Initiative, 2014:23; OCHA and IOM, 2010). Providing security for mobility again links up to Sessional Paper No. 8, which calls for strengthening traditional conflict resolution mechanisms flanked by a national policy to address the spread of violence in the north.

At the same time, the north is also the target for major investments into resource exploitation and (transport) infrastructure summarized in the Vision 2030 Strategy for Northern Kenya and other Arid Lands as provided by the then Ministry of Planning and National Development (Government of Kenya, 2007). Sessional Paper No. 8 is supposed to be integrated in the preparation of the second Vision 2030 Medium Term Plan. However, it might come the other way round. A draft for a revised version of the national policy for the ASALs was published in 2015 and puts major emphasis on economic development including LAPSET, large-scale irrigation and development of renewable resources (MDP, 2015:31). The increased investments into the development of the north are both an opportunity and a

challenge. On the one hand, jobs and other chances for economic development are created. On the other hand, it is not necessarily the pastoralists who will profit from these opportunities. On the contrary, the implied changes in land use are likely to restrict their access to grazing land, water points and livestock routes further and thus to impair their livelihood, in particular as benefit sharing is left unaddressed. This might not only lead to further displacement but also to increased conflicts.

One piece of legislation currently drafted with the aim to mitigate at least the negative impacts of natural resource exploitation is the Natural Resources (Benefit Sharing) Bill of 2014. If passed, it has a high potential to make people, including pastoralists, less vulnerable to development-related environmental changes. The Bill stipulates procedures and institutions for benefit sharing from natural resource exploitation with its high potential for infringement of the human well-being of local populations. Benefit-sharing agreements between operators on the one hand and counties and local communities on the other hand would become obligatory and be monitored by a benefit-sharing authority (Sec. 1). The Bill also defines revenue-sharing ratios (Sec. 26(1) and (3)) and covers the exploitation of a broad range of resources (petroleum, natural gas, minerals, forest resources, water resources, wildlife resources and fishery (Sec. 3(1)). The Bill partly competes with the provisions of the Mining Bill 2014, which in contrast reserves all royalties accruing from mining to the State (Mining Bill 2014, sec. 159) and instead elaborates on the maintenance of grazing and cultivation rights (sec. 126) and compensation rights if maintenance cannot be achieved (sec. 127f).

Benefit sharing and participation in other types of development investment, such as the LAPSET resort cities, in contrast, is potentially addressed by the Community Land Bill of 2015. This draft legislation provides for participatory decision mechanisms and benefit sharing (Sec. 37) for communities affected by – usually large-scale and State-driven – development projects on community land. It potentially could, for example, prevent situations where pastoralists are deprived of drought fallback zones as currently happens with the LAPSET resort cities (see 1.3.c. Pastoralist mobility). Sec. 37, however, is contested by vested interests and might be cut down. Losing this section would be a lost opportunity to foster communities’ resilience also towards natural environmental changes.

Another approach to stabilize livelihoods of vulnerable and poor people is Kenya’s social protection scheme. Social protection in Kenya is defined as “policies and actions, including legislative measures, that enhance the capacity of and opportunities for the poor and vulnerable to improve and sustain their lives, livelihoods, and welfare, that enable income-earners and their dependents to maintain a reasonable level of income through decent work, and that ensure

access to affordable healthcare, social security, and social assistance” (MGCSO, 2011:V). According to the draft National Social Protection Scheme 2009–2014, the government allocated USD 2.27 million for the years 2008 to 2012 to finance social protection. The strategy thereby builds on other related government strategy documents, namely the Poverty Reduction Strategy Paper of 2001, the Economic Recovery Strategy for Wealth and Employment Creation (ERS) of 2003 and Vision 2030. In 2013, the Social Assistance Act has been adopted. Also the Hunger and Safety Net Programme deserves to be mentioned. The advantage of broadly accessible social protection and poverty eradication schemes is that they, depending on their design, have the potential to foster the capabilities of both non-migrants and migrants and thus improve human agency more generally.

III.1.i. Labour migration, remittances and development

It is only for few years that the Government of Kenya began considering international migration as an important source for development in its policymaking, and these, according to IOM, still lack mainstreaming into Kenya’s general development agenda, urban policies and even more so into its disaster management and adaptation planning (IOM, 2015:119, 160, 163). Nevertheless, important steps have been made. In 2010, the Draft National Labour Migration Policy has been published, which addresses international labour migration or more precisely the export of Kenyan labour. It still awaits approval by the Cabinet and the Parliament. Further, in 2013, a process has been started to develop a policy addressing the development potential of the Kenyan diaspora community, which in 2015 resulted in the National Diaspora Policy, the first policy of this type ever in Kenya. Internal migration, however, keeps being unaddressed as a source for development and poverty alleviation.

According to an IOM analysis (2015:113–116), these policies advance the consideration of international migration as a component of development in a series of aspects. Among others, the Draft National Labour Migration Policy facilitates (secure) labour migration abroad through the following: (a) providing information on labour markets and job opportunities; (b) registering foreign employment agencies and combating human trafficking; (c) making social security portable; and (d) addressing concerns of return and reintegration. The Kenya National Diaspora Policy complements the efforts to facilitate labour migration abroad by ensuring that emigrants stay committed to their country of origin and that their migration will benefit Kenya. Among others, it aims at encouraging the Kenyan diaspora to form umbrella associations and establish mechanisms for dialogue and cooperation with them; at providing opportunities to get engaged into national development (such as investment opportunities); and, in turn, to improve protection of the diaspora abroad and the coordination and

administration of diaspora issues. Objectives for the future to maximize the impact of Kenyan emigrants for development are thus, inter alia: (a) adequate consular services to and protection of Kenyans abroad; (b) reducing the transfer costs of remittances; (c) enabling social remittances (such as making use of migrant skills); and (d) other issues already mentioned in this paragraph. All this is and has to be accompanied by institutional and capacity development and data collection. As a first step, a diaspora web portal has been launched in autumn 2014, which allows for (voluntary) registration of Kenyan diaspora members. Kenyan Diaspora is particularly lobbying for bilateral labour agreements with main destination countries in the Middle East to protect Kenyan worker migrants from exploitation (Muthoni, 2015).

III.2. Starting points for further research and policy development

Migration is, in many cases, a response strategy to cope or adapt to environmental and climatic changes. Migration outcomes for migrants and their families can be positive or, negative or negligible, depending on the circumstances under which migration takes place. In line with the NCCAP, policies should therefore aim at both improving the living conditions and resilience of communities of origin of (potential) migrants, thus enabling them to adapt locally (in situ) to environmental and climate change, as well as improving the circumstances of migration in order to maximize the benefits and minimize the harms for migrants and their families, including enhancing the resilience of areas of destination. As the report shows, the Kenyan population is severely affected by droughts, as well as floods due to the climatic conditions in Kenya. The impact of natural disasters is strongly interrelated with man-made environmental changes that may interfere with coping strategies traditionally applied and with natural resource-based livelihoods more generally. In fact, a large portion of the Kenyan population still depends on agrarian livelihoods particularly susceptible to natural and man-made environmental changes. Thus, the importance of migration as a response to environmental and climatic stressors in combination with other societal developments is likely to grow in the future. Therefore, future policies should explicitly acknowledge this topic. There is a need for a coherent approach at local, national, regional and global policy levels and in different policy areas, including environmental, climate change and migration policies, as well as policies in the areas of urbanization, housing, resettlement and relocation planning, disaster risk reduction and disaster response, development, as well as population planning. Based on above policy analysis, the report would like to highlight some valuable starting points for initiating further research-based policy development. Taking into consideration the amplitude of existing and pending regulations already available in relevant policy fields, the suggestion is made that a cross-sectoral approach suits the Kenyan context better than a single, new policy approach.

III.2.a. Improving resilience of communities of origin and of destination of (potential) migrants

Interference with the resilience of communities in areas susceptible to natural environmental changes including climate change should be avoided. In case of the ASALs, for example, this implies to minimize encroachment with drought fallback zones of pastoralists or avoid and mitigate impacts of large-scale irrigation programmes on small-scale farmers. If impacts cannot be avoided, benefit sharing with communities affected by large-scale investments for economic development such as transport corridors, energy production and alike, should be assured to provide them with alternative sources for livelihood. Kenyan decision-makers should therefore speed up the **adoption of pending bills** that secure participation of and benefit sharing with communities in development-related environmental changes, in particular the **Community Land Bill and the Natural Resources (Benefit Sharing) Bill**. Such an approach would also address the challenge of so-called trapped populations who are even too poor and marginalized to move away from affected areas. Enacting the Community Land Bill would further secure access to land for rural communities, pastoralists and farmers alike, who live on such land, and protect it from unregulated conversion into private land. Finally, **policy coherence in climate policymaking** should be adhered to, meaning that policies to mitigate and adapt to climate change should explicitly avoid and mitigate development-based evictions.

Continue the development of coherent policies for DRR and disaster response. Strengthening DRR means shifting from the still-dominating emphasis on disaster management to engaging actively in disaster prevention and search for durable solutions such as safe return. At the same time, disaster management and immediate response to IDPs equally require institutional reform and should be intrinsically linked to DRR measures. Harmonizing the currently fragmented institutional approach and establishing a unified source of funding could also attract external donors. It may also ease certain administrative challenges, such as registering affected persons and assessing needs for durable solutions. As floods and droughts in Kenya are spread unequal geographically such restructuring should consider the unequal economic strengths of the respective regions if appropriate.

Enhancing resilience of pastoralists through migration as an adaptation strategy. This could entail facilitating livestock mobility by providing for watering ponds along established routes and by allowing for secure cross-border mobility arrangements. The Security in Mobility Initiative for East Africa by OCHA, Institute of Security Studies (ISS), UNEP and IOM mentioned above already moves into this direction and is in line with existing African Union and Kenyan policies on pastoralists. Securing

mobility of livestock prevents pastoralist drop-out and livelihood displacement, thus preventing desperate sedentarization and unmanaged urbanization. Achieving security in mobility hence also means to strengthen traditional systems of governance and conflict resolution, which should be accompanied by a National Peace Building and Conflict Management Policy as recommended by the National Policy for the Sustainable Development of Northern Kenya and other Arid Lands.

As regards small-scale farmers and pastoralists more generally, **tenure security and land ownership** is known to work as an incentive for people to stay and engage into **autonomous in situ adaptation**, such as drought-resistant crops and livestock. The same may apply to the inhabitants of informal urban settlements who may engage in measures to prevent mudslides. Implementing the laws and policies pertinent to the Constitution's provision to enhance tenure security in Kenya is thus paramount. Measures to increase tenure security and access to livelihood securing natural resources should take into account customary land use and historical land injustice to avoid feeding into existing resource-based tensions and violent conflicts related to resource scarcity.

Urban planning is becoming a major challenge taking the rapid urbanization in Kenya into account. The number of people living in informal settlements that lack sufficient and adequate housing and infrastructure is on the rise, particularly in big cities as well as rural areas along roads and rivers. Such settlements, which are also the main destinations of migrants from areas affected by environmental change, are often located in risk-prone (for instance river banks) and environmentally degraded areas not suitable for settlement. People living there should either benefit from the implementation of stipulated programmes to **formalize and upgrade informal settlements**. If the environment is not secure and permanently habitable, inhabitants should be resettled into adequate designated areas. As the greatest number of poor people lives in the big cities, special emphasis should be put on those vulnerable populations, long-term residents as well as newly arriving people.

III.2.b. Planned relocation as a form of State-sponsored adaptation

Planned relocation can be a necessary measure for settlements in high-risk zones to address their high potential for the need for environmental migration and trapping populations who are unable to move. It can also be a necessary measure for destination areas if migrants settle in high-risk zones there. Planned relocation is known to frequently impair livelihoods of the resettled people if not done properly and with substantial funding. Therefore, it should be treated as an option of last resort. Planned relocations should comply with certain requirements, inter alia: (a) based on sound environmental/risk assessments to establish whether

it is indeed necessary and cannot be avoided by implementing measures to adapt locally (in situ) to environmental changes instead; (b) seek consent and participation of affected populations and host communities; and (c) ensure the reestablishment and improvement of livelihoods and social services. Existing Kenyan legislation is quite advanced on a normative level but still **requires clarification on institutional responsibilities and effective implementation**. First, the responsibilities of the mandate holders identified in the IDP Act and the Land Act 2012 with respect to natural disaster IDPs, the identification of resettlement land, and matters of compensation require clarification. Second, the adoption of an **Eviction and Resettlement Procedures Bill** complementing (or amending) both acts should further determine institutional responsibilities, State duties and rights of affected persons. Third, as the example of the KISIP shows, authorities in charge are seemingly not aware that the IDP Act and certain sections of the Land Act 2012 are relevant to their work. **Training on existing legislation of all authorities** that are permanently or occasionally engaged in matters of planned relocation and forced evictions is necessary. This may include authorities in charge of disaster response, urban development and certain sectorial policies.

Existing legislation developed only recently and is still fragmented. Hence, it is not yet clear whether the now existing framework in practice will effectively address provisions of the Constitution, such as overall improvement of tenure security and the fulfilment of basic social rights, including those of squatters and IDPs. Fears to attract opportunists should be countered by well-managed registries for IDPs and squatters.

III.2.c. Taking advantage of migration as adaptation

Kenya has recently also adopted policies to enhance the engagement of the Kenyan diaspora and support its citizens to search for labour abroad. This is an important step to take advantage of the monetary and social remittances that benefit communities of origin and Kenya more generally. Kenya should build upon those recent initiatives to **mobilize diaspora engagement by channelling and subsidizing international remittances towards both local investments** that, inter alia, allow for adaptation to local environmental changes and immediate response after disasters with an aim to enhance durable solutions. However, existing policies do not yet **cover the potential of internal remittances for risk aversion, food security and education**. Special attention should be given to reverse remittances (international and internal) in the context of education. Parents often support their children to migrate for better education that might serve to shift the entire source of livelihood on another (non-agricultural) basis, which is less susceptible to environmental and climatic changes.

III.2.d. Need for further evidence and coordination

To progressively adapt existing and pending policies to Kenyan requirements, continuous research is needed. **Research for evidence-based policies and legislation** should take into account the views and capacities of the affected, as well as the data needs of policymakers and practitioners. The established **IDP registry** in the context of the IDP Act and similar administrative procedures in case of urban settlement programmes may partly be tailored to and used for this purpose. But this may not be enough.

In particular, assessments and **mapping of ecological zones** in origin and destination areas is needed and of the vulnerable populations living there. To capture the positive and negative impacts of migration and the use of remittances, preferably longitudinal studies such as **household panel surveys** should be established that cover migrant and non-migrant households in areas of origin and destination. Household panel surveys would be particularly useful to improve evidence of both the use of remittances for coping with and adapting to environmental challenges and the outcomes. Particularly with respect to internal migration, this would narrow the existing data gap for evidence-based policymaking. The (non-longitudinal) MECLEP survey could be used as a starting point to build upon.

Such data collection efforts would also feed into the current population policy, which calls for integrating environmental impact assessments consistently into development planning and to **integrate demographic factors into resource management approaches**. At the local level, this seems to be addressed by the pending Physical Planning Bill, 2015. However, the sections on national- and county-level planning do not explicitly mention migration as a demographic factor nor does the bill mention climate change or adaptation planning. The meaning of (environmental) migration to physical planning and of the latter to adaptation may need more emphasis in the bill.

Kenya should also take advantage of its recent experiences in **planned relocation** of IDPs and urban dwellers by continuously **monitoring its short-, medium- and long-term outcomes**, and using lessons learned to improve existing practice and policies of planned relocation. Knowledge exchange between the respective institutions in charge should be organized covering their experience in re-establishing livelihoods, the role of (un)favourable variables, such as access to labour markets and social services or tenure security, and institutional cooperation and coordination.

A common platform for inter-agency and interministerial coordination and cooperation should be created to streamline existing and future knowledge on migration as adaptation (including relocation) into the planning of migration and adaptation to environmental and climatic changes. Such platform should facilitate profound exchange with experts and engaged civil society. The technical working group formed to guide the MECLEP project in Kenya is composed of relevant ministries and government agencies and can provide a useful starting point. Policy fields that particularly require mainstreaming migration as an adaptation strategy are climate policies, migration policies and DRR, as well as land and resource-use policies more generally including urban planning, land-use planning, benefit sharing, and development and conservation policies, all of which should be designed in a spirit to prevent displacement and offer sustainable solutions to existing IDPs, as well as voluntary migrants.

IV

CONCLUSION



IV. CONCLUSION

The main objective of this study is to review the existing data and literature on migration environmental and climate change in Kenya with the aim to identify knowledge gaps that need further interrogation. This would ultimately contribute to policy formulation that would integrate environmental and climate change related migration into national policies and development plans in a cohesive way.

The desk review reveals that there is evidence of migration linked to climate and environmental change in Kenya. Rise in temperature by 1°C degree in some parts for the last 30 years have been recorded, erratic rainfall, frequent droughts and flooding reinforce the reality of climate change and interacts strongly with man-made environmental changes and degradation. The deepening of climate and environmental change is adversely affecting vulnerable groups in Kenya due to their reliance on natural resource-based livelihoods.

The linkages between migration and environmental change are manifold. Owing to loss of soil fertility, population pressure and increasingly restricted access to land people are moving into forested and less productive areas contributing to the reduction of forest cover and further land degradation in Kenya. Increased resource scarcity often intermingles with historical land conflicts, especially in the Rift Valley, and leads to cycles of violence and displacement. Natural hazards, such as floods, droughts and mudslides, further contribute to impoverishment, displacement and destruction of livelihoods.

Reduced agricultural productivity and continued displacement in search of livelihood contribute to rural poverty among small-scale farmers and pastoralists alike and is also a main force behind rural–urban migration and settling along risk-prone sites. Due to this, urban population growth exceeds the current pace of urban planning, development and service delivery. This in turn contributes to informal settlements in urban areas characterized by congestion, lack of clean water, non-existent sanitation, urban pollution, poor housing and exposure to environmental hazards. Indeed, the majority of poor Kenyans live in these forms of settlement.

The international community is concerned with the need to integrate migration and displacement into policies relevant for urban planning, land-use planning, poverty reduction, disaster risk reduction, sustainable solutions for displaced and landless persons, and protection of the rights and agency of vulnerable groups including migrants. In Kenya, many laws and policies to address these issues

have advanced over the past five years, but at the same time many still lack enactment, partly due to the complexity of the issue, as well as powerful vested interests. Future policies and laws addressing migration in the context of climate and environmental change should be designed in a spirit to be implemented to prevent displacement and offer sustainable solutions to existing IDPs, as well as voluntary migrants. To support such policy development, more research is needed on the interlinkages between migration and environmental change, positive and negative ones. This may involve studies based on vulnerable districts or counties in Kenya and how people migrate in times of extreme climate variability as a form of adaptation. The potential for both national and regional studies, such as those led by the MECLEP project, will be useful in guiding policy formulation, as well as mapping out areas and directions for further research.

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ASSESSING THE EVIDENCE:

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