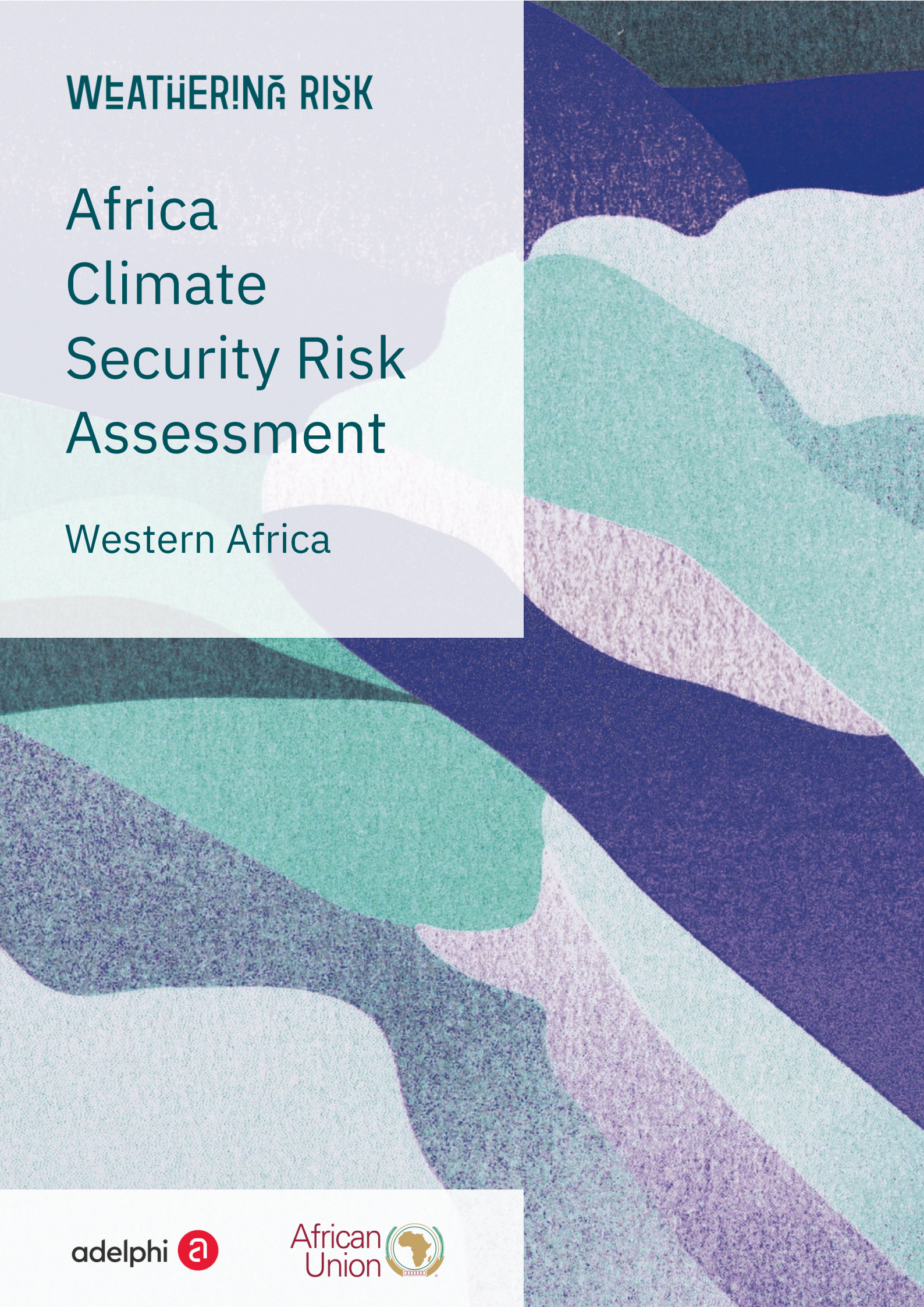
WEATHERING RISK

Africa Climate Security Risk Assessment

Western Africa



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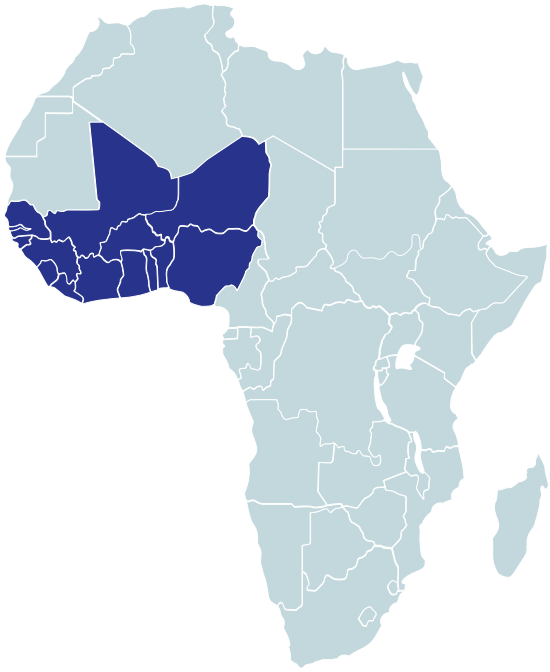


Summary

KEY CLIMATE IMPACTS

Temperature: Climate change has led to an increase in temperatures over Western Africa of between 1°C and 3°C since the 1970s. Temperatures are projected to rise with high certainty by between 0.6°C and 3.1°C by 2080 compared to the year 2000. Temperature rises will affect the entire region, although they will be less intense along the coast. In line with rising mean annual temperatures, the annual number of very hot days is also projected to increase with high certainty.

Precipitation*: Although precipitation projections are highly uncertain, scenarios suggest an overall stagnation or decrease in precipitation in the near future, with a trend of lower rainfall in the west and higher rainfall in the east. Heavy precipitation events are expected to become more intense in Western Africa. At the same time, the number of days with heavy precipitation is expected to increase.

Flooding*: The proportion of people in Western African exposed to flooding has grown substantially in recent decades, with the proportion of people exposed to flooding having increased by over 50 per cent in many countries between 2000 and 2015. With the projected increase in occurrence and intensity of heavy rainfall events – combined with longer and more intense periods of drought, and rapid population growth – the risk of urban and river flooding in Western Africa is expected to increase, and affect more and more people.

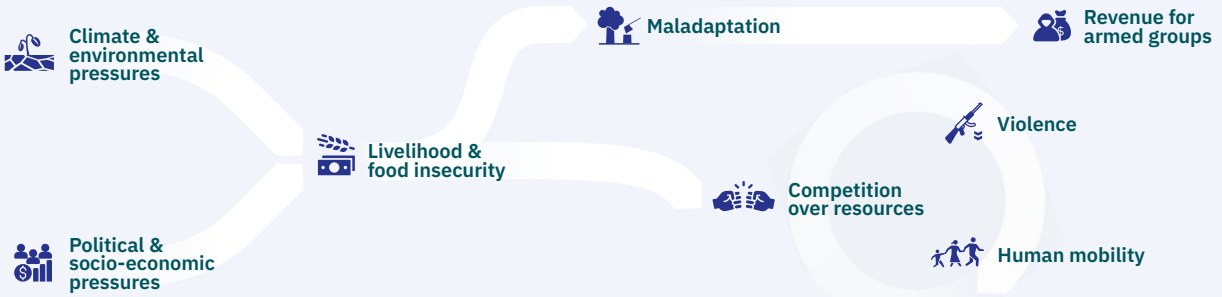
Droughts*: The Sahel droughts of the 1970s and 1980s were some of the most significant climate anomalies of the 20th century. With a 40 per cent decrease in long-term average rainfall in the 1980s, these droughts had dire impacts on the population. Despite the recent recovery in the overall amount of precipitation, high interannual fluctuations between dry and wet phases remain recurrent. Climate projections, especially under a high-emissions scenario, point to an increase in meteorological droughts and rainfall deficits across large areas of Western Africa.

Sea level rise: Sea levels along the Western African coast have been rising at rates above the global average and have contributed to substantial shoreline erosion along some coasts. Under a low emissions scenario, sea level rise is projected to be 10 cm by 2030 and 34 cm by 2080, compared to the year 2000. Under a medium-to-high emissions scenario, the long-term rise will be significantly higher (40 cm). Consequently, by 2030, depending on future population growth in the region, between 43.6 million and 47.2 million people living in low elevation coastal zones will be exposed to sea level rise, making them highly vulnerable to frequent and severe flooding, and erosion. This increases the risks of drought and saline intrusion, which undermine agricultural productivity.

* Climate projections with high uncertainty need to be interpreted with great caution. Please refer to the Annex for an explanation of uncertainty in climate projections.

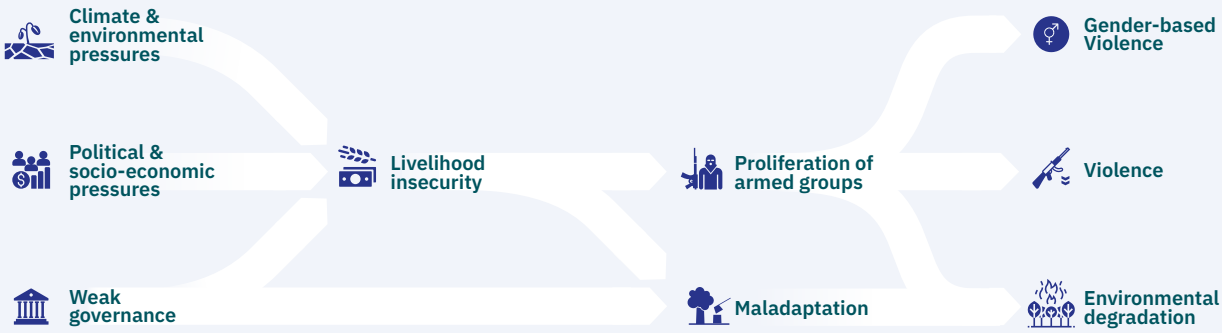
CLIMATE SECURITY PATHWAYS IN WESTERN AFRICA

Pathway 1: Livelihood and food insecurity driving conflicts over natural resources



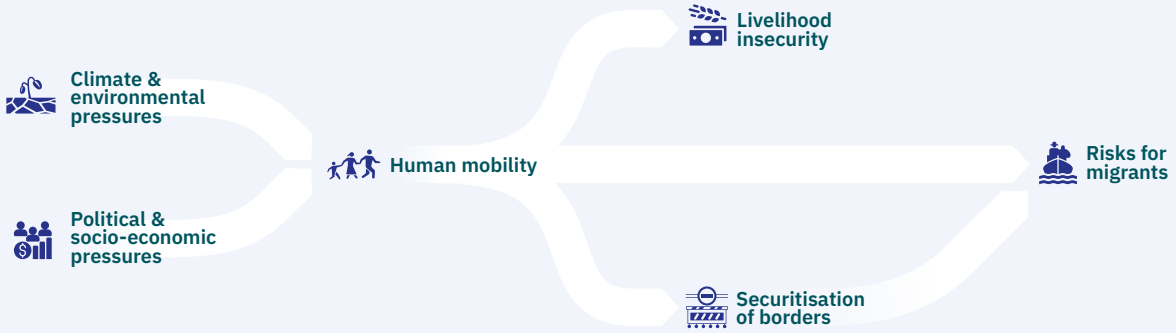
Climate change contributes significantly to increased livelihood and food insecurity among communities across Western Africa, particularly those directly dependent on natural resources, such as farmers, fishers and pastoralists. These changes exacerbate competition within and between different livelihood groups over water, land, fisheries and forestry, which if poorly managed can quickly turn violent.

Pathway 2: Climate change driving the profileration of armed groups and violent extremism



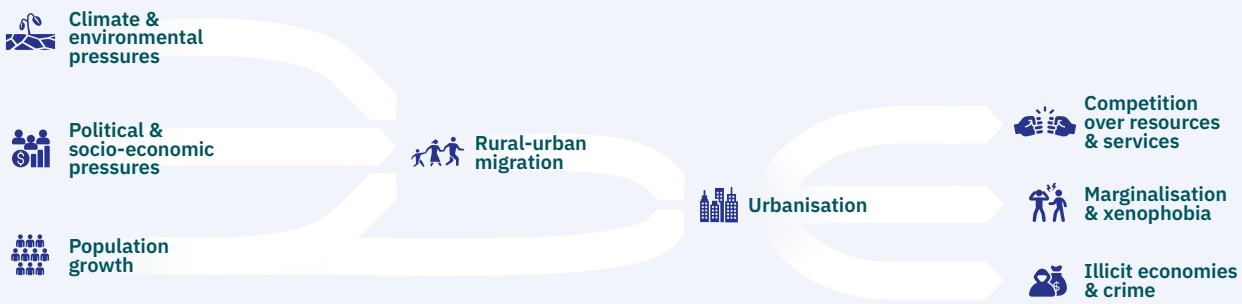
The direct and indirect effects of climate change create conditions in which some groups in Western Africa, particularly young people, are more likely to engage in illicit and criminal activities as coping mechanisms. In addition, lacking or harmful responses to climate-related security risks can fuel societal grievances, increasing the vulnerability of affected people to recruitment into armed groups and violent extremism. At the same time, the proliferation of armed groups in Western Africa directly and indirectly causes environmental degradation, for example, through their involvement in extractive industries, and by hampering the implementation of environmental policies, conservation efforts and climate action.

Pathway 3: Climate-induced changes in migration patterns can increase insecurity and conflict



Human mobility has traditionally been one of the main strategies for people in Western Africa to adapt to the effects of climate change and environmental pressures, often with success. However, climate change impacts, particularly extreme weather events can cause sudden and unplanned changes in human mobility that increase people's vulnerability, contribute to severe demographic pressures in certain geographic areas and heighten the risk of conflict. This can be observed across the spectrum of different forms of mobility, including displacement, seasonal migration and transhumance, rural-urban movements, and regional and international migration.

Pathway 4: Western African cities as hotspots of climate security risks



Climate change is driving rural-urban migration in Western Africa, contributing to rapid rates of urbanisation in the region's cities, leading to severe demographic pressures that increase the risk of rural poverty, poor public services, infrastructure constraints, urban crime and insecurity. Coastal cities, which already face specific risks in terms of rising sea levels, flooding and erosion, and dwindling fish stocks, are particularly vulnerable.

Context

GEOGRAPHY

The Western Africa region as defined by the African Union includes Benin, Burkina Faso, Cabo Verde, Côte d'Ivoire, the Gambia, Ghana, Guinea, Guinea-Bissau, Liberia, Mali, Niger, Nigeria, Senegal, Sierra Leone and Togo.[16] The 15 countries of the region encompass a range of climate zones. The northern areas of Mali and Niger are predominantly arid, as are the northernmost regions of Senegal. Most areas of Senegal, the Gambia, northern Guinea Bissau, southern Mali, Burkina Faso, southern Niger and northern Nigeria are semi-arid. Further south, sub-humid tropical weather dominates across Guinea, Sierra Leone, northern Ghana, Togo, Benin and southern Nigeria. Finally, large areas of Liberia, as well as the southern regions of Côte D'Ivoire, Ghana and the very south of Nigeria have a humid tropical climate (Binder 2023). Several large rivers intersect these belts, including Senegal, the Gambia, Volta and Niger rivers, as well as Lake Chad. Except for the Cabo Verde Islands, every country in the region shares at least one river, lake or basin with its neighbours (CILSS 2016).

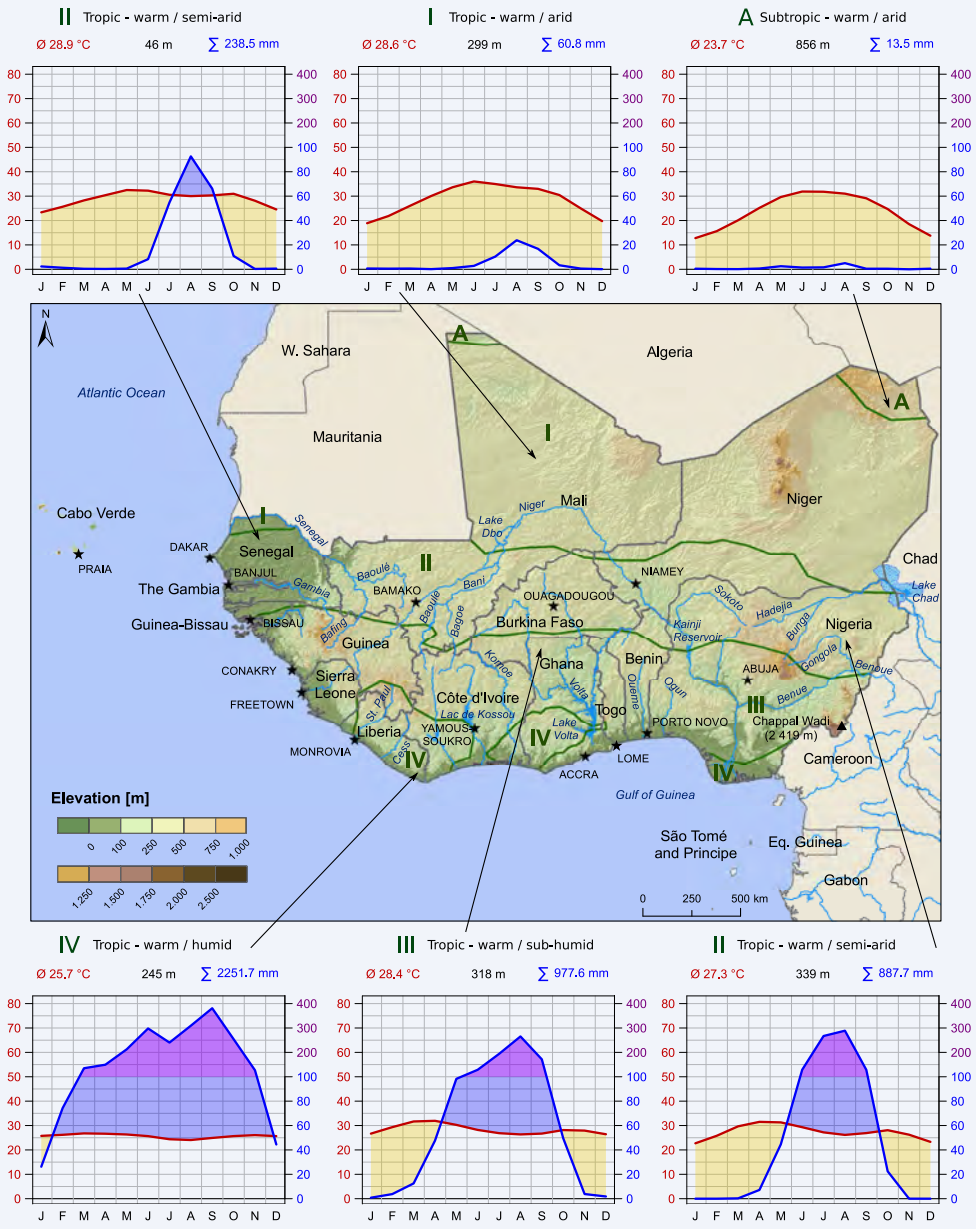


Figure 10: Topographic map of Western Africa with existing precipitation regimes and agroecological zones (Binder 2022c)

16 This report uses the African Union's classification system for geographic regions (https://au.int/en/member_states/countryprofiles2).

Western Africa's forests vary in quantity and quality. For example, Liberia and Guinea Bissau are densely forested, with 79.1 per cent and 70.4 per cent forest cover, respectively, as of 2021. In contrast, Niger is sparsely forested, with less than five per cent forest cover as of 2018 (Uzu et al. 2022). The tropical forests on the coast are especially biodiverse, particularly the Guinean forests of the West Africa Biodiversity Hotspot, which stretches from Guinea and Sierra Leone eastwards to the Sanaga River in Cameroon, and is home to a wide number of endemic plant, bird, mammal and fish species (CEPF 2015). The forests provide key ecosystem services to local populations and are vital carbon sinks for the region. Despite this, deforestation has been widespread, with a nine per cent decline in forest cover throughout coastal Western Africa between 2010 and 2018. This has had the added impact of releasing 575 million tonnes of sequestered carbon (RSPB 2023). The region's minor timber industry means deforestation mostly takes the form of slash-and-burn conversion to agricultural land use (CILSS 2016). Western Africa also hosts dry forests particularly in the semi-arid savannahs between the tropical coast and the Sahel. Besides their crucial importance for local populations and animals, these forests are key in the fight against desertification (Chidumayo and Gumbo 2010).

SOCIOECONOMIC CONTEXT

Western Africa has experienced a surge in economic growth since the early 1990s, with the region's combined GDP rising from USD 105 billion in 2000 to more than USD 659 billion in 2020. The three largest economies in the region – Nigeria, Ghana and Côte d'Ivoire – accounted for one-quarter of Africa's GDP in 2020 with Nigeria making up two-thirds of Western Africa's GDP (African Development Bank 2021). This means there is a huge disparity in terms of economic development within Western Africa, with countries such as Guinea-Bissau, Liberia and Sierra Leone being among the poorest in the world (Mullan and Davies 2021). While regional trade could harmonise the region's economies, Europe and North America account for nearly three-quarters of total exports (African Development Bank 2019). Despite holding an estimated a third of Africa's gas and oil reserves, and significant hydroelectric potential, electrification rates in Western Africa remain low, with an estimated regional rate of 53 per cent in 2019 (World Bank 2021e).

Most Western African countries find themselves performing low in terms of human development, with countries such as Niger, Mali, Guinea and Burkina Faso all among the 10 lowest scoring countries in the world (UNDP 2022a). In terms of gender inequality, many Western African countries score generally low, with Mali, Benin, Guinea and Niger among the worst performers globally. However, some countries perform better in certain sub-indexes. For example, Liberia is the best performing country globally in terms of gender parity in economic participation and opportunity. In contrast, Senegal, Mali and Benin exhibit the least gender parity in this sub-index at the continental level. Finally, Cabo Verde scores among the best countries in the world with regard to gender parity in terms of health and survival. Nigeria, the Gambia and Sierra Leone are among the lowest performing countries globally in terms of political empowerment (WEF 2023).

POLITICAL INTEGRATION

Integration in Western Africa is well advanced. The main regional organisation is the ECOWAS, providing a range of cooperation avenues including economic and monetary integration, freedom of movement for people, peacekeeping, cultural exchanges, and health care. All Western African countries are members of the Community of Sahel-Saharan States (CEN-SAD), with Mali, Burkina Faso and Niger among the founding members. The CEN-SAD includes arid countries from Western, Northern, Eastern and Central Africa. Despite the CEN-SAD emphasising regional security as a key area for deepened cooperation among member states, few concrete activities have been undertaken, and no clear linkages with climate and environmental security have been drawn.

After a series of military coups and attempted coups in recent years, including in Mali (2021), Guinea (2021), Burkina Faso (2022), Niger (2023), and Gabon (2023), political integration and cooperation in the region has been under severe pressure. The new governments in Niger, Mali, and Burkina Faso formed the so-called Alliance of Sahel States, primarily a security pact against Islamist terrorism but with political, economic, and monetary ambitions, drawing from popular discontent with perceived neo-colonial foreign influence and lack of development (Reuters 2023; Yabi 2023; Kongo 2024). ECOWAS imposed heavy economic sanctions unless civilian-led government is implemented and threatened military intervention against Niger, with the three Alliance members subsequently quitting ECOWAS (Melly 2023). This bifurcation is shifting intra-regional and geopolitical relations, narrowing space for political dialogue and compromise.

DEMOGRAPHICS AND MOBILITY

In 2021, the population of Western Africa was 414 million (UN DESA 2022a) and was growing rapidly at an estimated rate of 2.75 per cent a year (CILSS 2016), as a result of high fertility rates across many countries in the region (Walther 2021). The free movement zone established by the ECOWAS in 1979 – enabling citizens of member states to freely enter, stay, settle and work in any other member state – facilitated the free movement of people (OECD Sahel and West Africa Club 2006), despite perennial issues such as road disrepair, insecurity and corruption (African Development Bank 2019). For Western Africa, migration is largely a regional phenomenon, with nearly two-thirds of migrants remaining within the region, primarily in Côte d'Ivoire, Nigeria and Burkina Faso (IOM Global Migration Data Analysis Centre 2021).

PEACE AND SECURITY

Over the past two decades, the occurrence of large-scale civil wars in Western Africa have decreased. However, there has been a significant increase in recurrent coups, election violence, intercommunal violence, extremism and criminal activities (IOM Global Migration Data Analysis Centre 2021). Insecurity has surged in many areas of the region. Notable hotspots include areas of the Central Sahel and the Lake Chad Basin. Since 2015, casualties in these areas have soared, as armed groups have targeted civilians, and battle regional and international counterinsurgency and counterterrorism operations, as well as community-level self-defence groups. In 2019, civilian deaths in the region rose by a staggering 1.87 per cent compared to 2016, with civilian deaths linked to militias increasing by 8.50 per cent in just four years from 2015 to 2019 (Krieger 2022).

Western Africa is home to several ECOWAS-led military operations and regional security initiatives. In 2023, active missions included the ECOWAS Intervention in the Gambia (launched in 2017) and the ECOWAS Stabilization Support Mission in Guinea-Biseau (launched in 2022). The Accra Initiative was launched in 2017, and covers Benin, Bukina Faso, Côte d'Ivoire, Ghana and Togo. It aims to prevent the spillover of terrorism from the Sahel, and to address transnational organised crime and violent extremism in member states' border areas. The Multi-National Joint Task Force is a combined force active around the Lake Chad Basin, and composed of troops in Benin, Cameroon, Chad, Niger and Nigeria. Another key element of Western Africa's security architecture is the G5 Sahel, an institutional framework between the five Sahel countries of Burkina Faso, Chad, Mali, Mauritania and Niger. It was founded in 2014 with a seat in Mauritania, and coordinates development policies and security matters (Allen 2023) (see Sahel box).

In 2023, with more than a third of ECOWAS member states being led by military factions following coups, the weakening of ECOWAS could derail cooperative efforts around international security, including the G5 Sahel. This poses a threat to cross-border security, and could worsen existing humanitarian crises, food insecurity, transnational crime and environmental hazards (Dan Suleiman 2023).

Climate change and impacts[17,18]

AIR TEMPERATURE

Climate change has led to an increase in temperatures across Western Africa by between 1°C and 3°C since the 1970s, with the highest temperature rises across the Sahel and Sahara regions (Binder 2022c). In addition, Western Africa has experienced a rise in the frequency of very hot days. Between 1961 and 2014, the frequency of very hot days (over 35°C) increased by one to nine days per decade. Hot nights have also increased in frequency, while the number of cold nights has declined. Along with rising air temperatures, heatwaves have increased in intensity, duration and extent, compared to the last two decades of the 20th century (IPCC 2022).

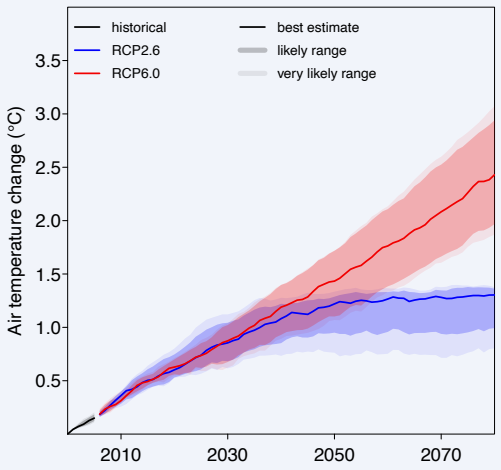


Figure 11: Air temperature in Western Africa (Binder 2022c)

17 Please refer to the Annex for guidance on how to read the plots and for an explanation of the concept of uncertainty in climate projections.
18 The summary of the key climate impacts in this section is based on: Binder L. 2022. Climate Change in West Africa. Berlin: Potsdam Institute for Climate Impact Research.

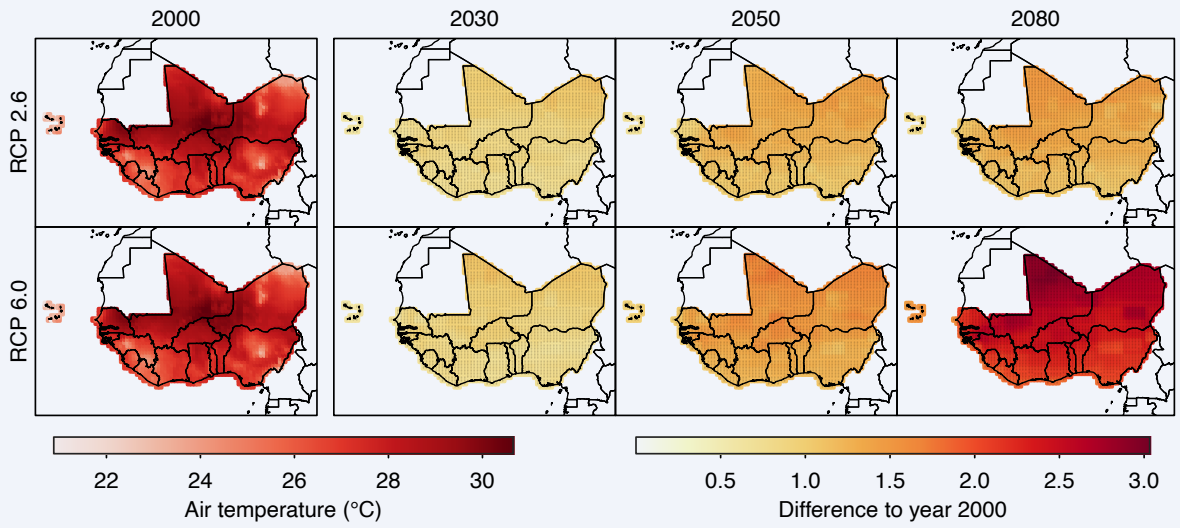


Figure 12: Regional air temperature projections for Western Africa for different GHG emissions scenarios (Binder 2022c)

Depending on the climate change scenario, temperatures across Western Africa are projected to rise with high certainty by between 0.6°C and 3.1°C by 2080 compared to 2000. Temperature rises will affect the entire region, but will be less intense along the coast. The median climate model predicts a temperature increase over Western Africa of approximately 0.85°C by 2030 and 1.3°C by 2080 under the low emissions scenario. Under the medium-to-high emissions scenario, air temperature will increase by between 0.6°C and 1°C by 2030, and by between 1.9°C and 3.1°C by 2080 (very likely range). The median climate model predicts temperature increases of 0.9°C by 2030 and 2.4°C by 2080 (Binder 2022c).

In line with rising mean annual temperatures, the annual number of very hot days (i.e. days with a daily maximum temperature of above 35°C) is projected to increase with high certainty. Around the year 2000, there were on average 194 very hot days per year, with a maximum of 283 very hot days per year in Senegal. The coastlines were much less affected than the Sahel zone further north. Under the low emissions scenario, projections point towards an average annual increase of between 22 and 37 very hot days by 2030 and 2080, respectively, with varying distributions. Very hot days will rise substantially more under a medium-to-high emissions scenario, where the average annual increase will be 28 days by 2030 and 73 days by 2080. In the long run, the increase will be very high in almost all southern regions, with up to 52 additional very hot days per year projected by 2030 and 131 days by 2080. This rise will be substantially smaller in the northern Sahelian zone, although it will still amount to at least nine additional very hot days per year by 2030 and 27 days by 2080 in the north of Niger (Binder 2022c).

PRECIPITATION

Western Africa experienced a decreasing trend in precipitation between 1960 and 1980. At the same time, precipitation variability sharply increased during the same period (Pausata et al. 2020; IPCC 2022). During the 1970s and 1980s, the region was recurrently hit by severe droughts with devastating socioeconomic impacts. Declining precipitation trends ended around 1990 and a trend towards wetter conditions began in the mid-1990s. However, cumulative precipitation amounts have to date not returned to the level of the 1960s and heavy precipitation events are making a greater contribution to the total increase in precipitation (IPCC 2018; Binder 2022c).

Rainfall projections are much less certain than temperature projections. The scenarios suggest an overall stagnation or decrease in precipitation in the near future, though with a trend of lower rainfall in the west and higher rainfall in the east (see Figure 13). However, projections are highly uncertain. Rainfall events are also expected to rise in intensity, depending on warming, but again with limited certainty as to the extent of this rise

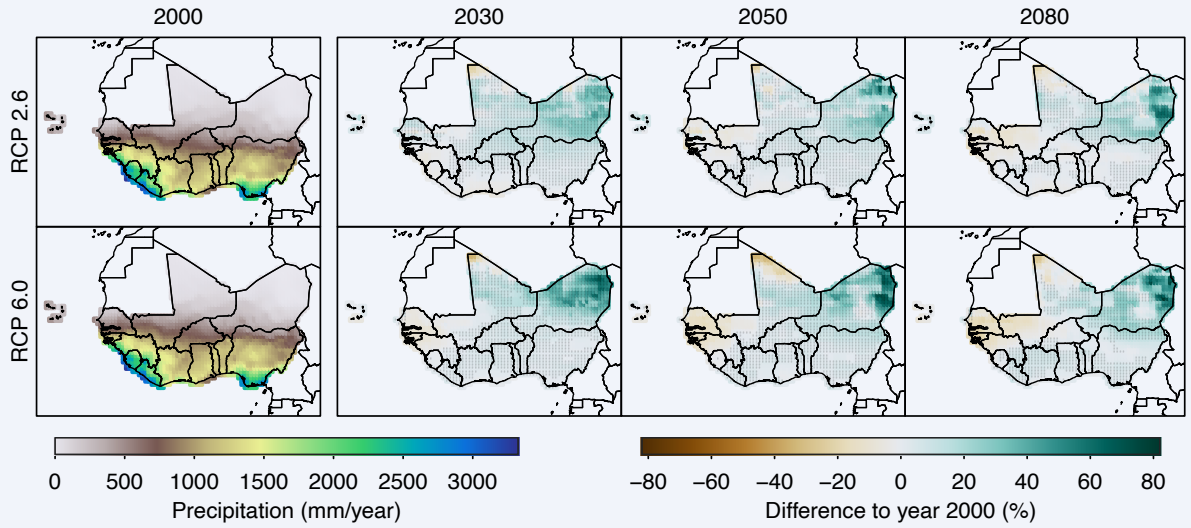


Figure 13: Regional projections of the annual mean rainfall for Western Africa for different GHG emissions scenarios, compared to the year 2000 (Binder 2022c)

(Seneviratne et al. 2021). The impacts of climate change on torrential rain and river flows in Western Africa are uncertain, but research suggests an increase across eastern areas of the region (Rameshwaran 2021; GFDRR 2022). Drought projections are similarly highly uncertain, although the scenarios suggest longer droughts in western areas of the region under a high-emissions scenario (Binder 2022c).

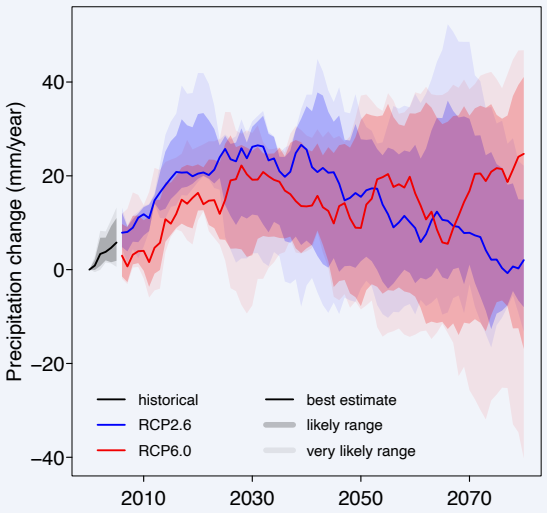


Figure 14: Precipitation in Western Africa (Binder 2022c)

Heavy precipitation events increased in intensity over the Central Sahel region from 17 per cent between 1970 and 1990 to 21 per cent between 2001 and 2010, as well as over the Gulf of Guinea (IPCC 2018). However, a lack of available data and scientific agreement make it difficult to attribute past heavy precipitation events to climate change (Seneviratne et al. 2021). In response to global warming, heavy precipitation events are expected to become more intense in Western Africa – as in many parts of the world – due to the increased water vapour holding capacity of a warmer atmosphere. At the same time, the number of days with heavy precipitation is expected to increase (Seneviratne et al. 2021). Under a 2°C scenario, multi-model median projections suggest an increase in heavy precipitation days by 15 per cent compared to the pre-industrial period. This number increases to 30 per cent (best estimate) under a 4°C scenario (Seneviratne et al. 2021).

FLOODING

Precipitation variability and land use patterns strongly impact flooding risks across Western Africa. During the drought of the 1970s and 1980s, flows in the major river systems declined by 20–60 per cent. This was not only due to a decrease in precipitation but also due to an increase in water use. Since 1990, as rains have recovered, the flows of some rivers, including the Niger, have also recovered (IPCC 2018). This has resulted in more frequent and intense flooding in the Sahel region (Nka et al. 2015). The propor-

tion of people exposed to flooding has also grown substantially, with the number of people in many Western African countries exposed to flooding increasing by over 50 per cent between 2000 and 2015 (IPCC 2022). According to ThinkHazard, the risk of future urban flooding is high for all countries of Western Africa, except Togo, which has a medium hazard level (GFDRR 2022).[19] With more extreme precipitation events, as is projected for Western Africa, increased runoff and flooding from precipitation are expected to also increase (IPCC 2018).

The increasing intensity of heavy rainfall events and increased flooding risks in the eastern Sahel, combined with longer drought durations and rapid population growth are likely to exacerbate water stress. A previous assessment of climate risks in the Sahel projected that per capita water availability would decrease by 76 per cent by 2080 compared to 2000 in both the low-to-medium and high emissions scenarios (OSCDS and UNHCR 2022). This suggests that, although projections vary throughout the region, water security will decrease overall. Water insecurity will likely also accelerate the spread of diseases, as heavy rain events and flooding exacerbate the risks of malaria, diarrhoea, and other vector-borne and communicable diseases (Binder 2022c).

DROUGHTS

The Sahel droughts of the 1970s and 1980s were some of the most significant climate anomalies of the 20th century. With a 40 per cent decrease in long-term average rainfall in the 1980s, these droughts had dire impacts on the population (Pausata et al. 2020). Despite the recent recovery in the overall amount of precipitation, significant interannual fluctuations of dry and wet phases persist (IPCC 2018).

Under the low emissions scenario, models project a rise in consecutive dry days over larger areas of the Guinea coast, with an increase by around five to seven days for areas of Mauritania, Senegal and Mali. In contrast, in most areas of Niger and northernmost Nigeria, the number of consecutive dry days is expected to decline (Klutse et al. 2018). At the same time, the frequency and intensity of meteorological droughts is projected to increase across the Niger and the Volta River basins, which would likely have severe implications on future water supply from the two regional water systems (IPCC 2022). Under the high emissions scenario, there will be a more certain increase in meteorological droughts and rainfall deficits. For example, the duration of droughts in western areas of Western Africa will rise from about two months between 1950 and 2014 to around four months in the second half of the 21st century (Ukkola et al. 2020). In general, the increased risk of drought will occur primarily during the pre-monsoon season (IPCC 2018).

SEA LEVEL RISE

Sea levels along the Western African coast have been rising at rates above the global average and have contributed to substantial shoreline erosion along some coasts (Ranasinghe et al. 2021). In response to climate change, averaged over the entire Western African coastline, the median climate model projects a sea level rise of 10 cm by 2030 and 34 cm by 2080 under the low emissions scenario, compared to the year 2000. Under a medium-to-high emissions scenario, the long-term rise will be significantly higher (40 cm). Consequently, depending on future population growth in the region, between 43.6 million and 47.2 million people living in low elevation coastal zones will be exposed to sea level rise by 2030 (IPCC 2022). Due to sea level rise, coastal regions of Western Africa are highly vulnerable to frequent and severe flooding, with erosion leading to drought and saline intrusion, thereby undermining agricultural productivity (Goxho 2021).

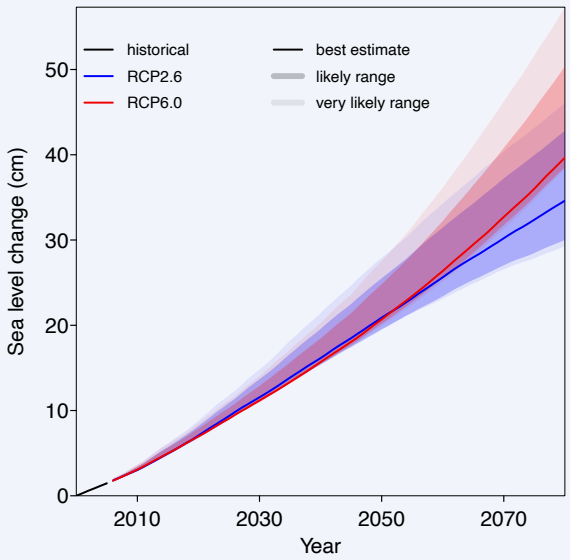


Figure 15: Sea level rise in Western Africa (Binder 2022c)

Climate security risk pathways

LIVELIHOOD AND FOOD INSECURITY DRIVING CONFLICTS OVER NATURAL RESOURCES

Climate change contributes significantly to increased livelihood and food insecurity for communities across Western Africa, particularly those directly dependent on natural resources, such as farmers, fishers and pastoralists. These changes exacerbate competition within and between different livelihood groups over water, land, fisheries and forestry, which if poorly managed can quickly turn violent.

Climate-induced food insecurity and instability

Western Africa scores low at the global level in terms of food security, but significantly better compared to Eastern Africa and Central Africa. However, with an estimated 14.6 per cent of the population (62.8 million people) undernourished in 2022, it scores worse compared to Northern Africa (7.5 per cent; 19.5 million people) and Southern Africa (11.1 per cent; 7.6 million people). Moreover, the prevalence of undernourishment has risen gradually over the past two decades (from 12.2 per cent in 2005). Meanwhile, the prevalence of severe food insecurity has risen sharply, from 11.4 per cent (41 million people) in 2005 to 22 per cent (94.4 million people) in 2022 (FAO et al. 2023).

The differentiated impacts of climate change on food systems in Western Africa are likely to lead agricultural economies to shift substantially, with negative impacts on food security. In 2014, the IPCC predicted that crop-growing periods in Western Africa could shorten by 20 per cent by 2050, causing a 40 per cent decline in cereal yields and a reduction in cereal biomass for livestock (IPCC 2014). Climate change also has an important impact on food security derived from marine resources. The warming and acidification of the ocean threaten fish populations, which are crucial sources of protein for diets in Western Africa. Fish constitutes more than 30 per cent of protein intake in coastal countries and is a crucial staple in its dried form in most Western African hinterlands (Beatley and Edwards 2018; Schmidt and Muggah 2021).

Beyond the humanitarian impacts of food insecurity on the health and development of individuals, food security issues also risk impacting the stability of Western Africa. However, the link between food insecurity and conflict is complex. Food insecurity can stoke grievances, and mobilise protest and rebellion, but can also dampen conflict behaviour. Moreover, conflict risks are highest when there are changes in the conditions of food access, whether towards greater scarcity or availability. This suggests that conflict is a result of institutional failures to mediate access to food rather than the scarcity of food itself (Hendrix and Brinkman 2013). Western Africa saw widespread food-related unrest in 2007–2008, particularly in Senegal, Guinea, Côte d'Ivoire and Burkina Faso. Currently, the region faces its worst food crisis in 10 years due to a combination of climate impacts, conflicts, the economic impact of the COVID-19 pandemic and more recently the war in Ukraine. The risk of further food-related unrest and related instability remains high (OXFAM 2022).

Violent competition between herders and farmers

The economic resilience and livelihoods of many populations in Western Africa are highly weather-dependent and thereby vulnerable to climate change. Crops and livestock account for an estimated 60 per cent of livelihoods and 35 per cent of the combined GDP of Western Africa (CILSS 2016; USAID 2018). As farming and pastoralism are often the economic backbone of rural communities, climate-induced livelihood insecurity can quickly drive maladaptation and competition over natural resources. Consequently, natural resource conflicts are a challenge across the region, ranging from community-level conflicts around water in Western African basins (DeConing and Krampe 2021) to competition between herders, farmers and fishers (Climate Diplomacy 2022).

Arguably, the most widespread livelihood-related conflicts in Western Africa occur between farmers and herders, as observed on a large scale in countries such as Nigeria, Mali and Burkina Faso. In response to drought and climate-induced losses of pasture, there have been significant shifts in transhumance routes towards regions with more fertile ground, which are often farmland. In the Central Sahel, while arable land is shrinking year-on-year due to the effects of climate change and environmental degradation, demographic expansion requires that areas under cultivation expand. This results in fertile land becoming increasingly scarce and valuable. In the Mopti region of central Mali, levels of agricultural production have risen

19 No data was available for Cabo Verde.

sharply in recent decades despite increasing land scarcity. The poorly regulated rush towards fertile land has led to violent local conflicts, mostly along ethnic lines, and mainly between herders and farmers, such as the Fulani and Dogon groups (ICG 2020; Nagarajan 2022).

In the Nigerian state of Benue, similar scarcity in fertile land has led to severe clashes, as herders – passing through agricultural land in search of pasture – destroy crops (Tade 2020). In the Gambia, one study found that reductions in agricultural productivity, and increases in saltwater intrusion, food insecurity, poverty and inequality were aggravated by the effects of climate change, and were the principal cause of resource conflict between and within communities (Sambou and Ceesay 2023). Farmer-herder conflicts across Western Africa are increasing in frequency and severity. Half of the 15,000 fatalities recorded since 2010 occurred between 2018 and 2020, with fatalities concentrated in Nigeria and Central Sahel countries (Brottem 2021). In Nigeria, a study found that fatalities from such conflicts had nearly doubled in four years, from over 500 in 2014 to almost 1,000 in 2018 (Adigun 2022). Indeed, herder-farmer conflicts in Nigeria are estimated to be more deadly than violence committed by Boko Haram (Daniel 2021).

Natural resource conflicts between livelihood groups

However, natural resource management conflicts are not limited to herder-farmer disputes, but involve other livelihood groups and even occur within livelihood groups. For example, in Ghana, agriculture accounts for about 21 per cent of GDP, and especially in the country's northern provinces such as the Bawku province, the convergence of the effects of climate change and colonial-induced ethnic tensions between the Kusasi and Mamprusi people have exacerbated conflicts over arable land between farmer (Strouboulis et al. 2023). Local chiefdoms have played a key role in governing environmental resources and acting as traditional custodians of land and informal law enforcement and justice structures since pre-colonial times, but access and control are also vital for their socioeconomic standing and political power. Partly triggered by colonial demand of land in the 19th century, many current conflict risks in Ghana stem from decades-long competition over chieftaincy succession, and control over territory and resources (Sackyefio-Lenoch 2014).

Natural resource conflicts include disputes over dwindling marine fish stocks, as evident along the Gulf of Guinea, which result in a significant reduction in maximum catch potential (Beatley and Edwards 2018). In Senegal, increasing temperatures have caused the northward migration of sardinella, the species of greatest economic value and importance for food security in the region. Consequently, Senegalese fishermen have been compelled to venture across the border into Mauritania for fishing, resulting in confrontations with the coastguard (Beatley and Edwards 2018). As Western African coastal communities see their livelihoods threatened, the most resourceful young people migrate out of the region, while those that stay behind face unemployment. In severely affected areas like Agbavi in Togo, the circumstances have become dire enough that young men have resorted to joining criminal networks engaged in fuel smuggling and illegal beach-sand mining. This illicit activity not only worsens erosion but also compounds other challenges faced by the community (Fagotto 2016).

In Mali, both fishers and farmers face grave environmental challenges including soil infertility, silting of rivers, and depleted fish numbers and variety. Pastoralists also see changes in water bodies, a reduction in quality and quantity of pasture, and the disappearance of grass species. Competition between but also within these livelihood groups erodes social cohesion and increases hostility, with oftentimes violent clashes over access and control of natural resources (Nagarajan 2022).

Conflicts related to natural resources, however, do not always hinge on scarcity. The creation of new resources can also generate conflicts over access and control. For example, a development project in Burkina Faso that aimed to bolster rice production by introducing water resources altered the local demographic and political balance. The project attracted non-local farmers from different ethnic groups, which led to conflicts around resource allocation, and escalated tensions between native and non-native land users (ICG 2020).

To cope with losses in livelihoods such as farming and pastoralism, many of Western Africa's rural poor have tried their luck in other sectors, particularly artisanal and small-scale mining. However, conflict over mineral resources, such as over diamonds in Sierra Leone, and oil and gas in Nigeria, is a perennial issue in the region (Olanrewaju 2020; Abdullahi 2021). Propelled by the dis-

covery of a Saharan gold vein in 2012, countries such as Niger, Mali and Burkina Faso have seen a proliferation of artisanal and small-scale gold mining, underpinned by growing illicit markets in cyanide, a chemical widely used in the extraction process that has detrimental environmental and health impacts. Illicit gold mining also affects security in Western Africa, as it reinforces existing patterns of transnational smuggling, international crime and corruption (Global Initiative Against Transnational Organized Crime 2023). The contamination of chemicals used in artisanal and small-scale gold mining can damage agricultural livelihoods, exacerbating tensions within and between communities, and cause violent conflicts, such as in Mali's Kayes region (Koné and Adam 2021).

Another source of tension is forestry. For example, in Côte d'Ivoire, deforestation for the cultivation of perennial crops, such as cocoa and coffee cultivation, has led to a dramatic reduction in arable land and forest. Since 1960, Côte d'Ivoire has lost over 80 per cent of its forest cover. In this context, tensions between local and migrant communities over the sharing and tenure of the land and forest are increasingly leading to outbreaks of violence, which contribute to the displacement of populations, further increasing the pressure on natural resources in host communities (UNEP 2017b).

CLIMATE CHANGE DRIVING THE PROLIFERATION OF ARMED GROUPS AND VIOLENT EXTREMISM

The direct and indirect effects of climate change create conditions in which some social groups in Western Africa, particularly young people, are more likely to engage in illicit and criminal activities as negative coping mechanisms. In addition, lacking or harmful responses to climate-related security risks can fuel social grievances that increase the vulnerability of affected people to recruitment into armed groups and violent extremism. At the same time, the proliferation of armed groups in Western Africa directly and indirectly causes environmental degradation, for example, through their involvement in extractive industries, or by hampering the implementation of environmental policies, conservation efforts and climate action.

Climate vulnerability and recruitment

Livelihood insecurity driven by climate stress can increase the pressure on vulnerable, especially young, people to engage in criminal and illicit activities, such as smuggling and trafficking, banditry, and illegal resource extraction. In Western Africa, many radical Islamist and armed groups are deeply intertwined in criminal networks, offering vulnerable young people a perceived pathway to more lucrative socioeconomic opportunities (Toupane et al. 2021). Especially in the Central Sahel and around the Lake Chad Basin, but increasingly also in rural areas in coastal countries, socioeconomic marginalisation and unemployment have been a significant entry point for recruitment, as armed groups exploit existing grievances (Strouboulis et al. 2023).

While the drivers of recruitment are complex, and always specific to the context and the individual, socioeconomic factors – in addition to other factors such as negative experiences with state authorities, social status and ideology – are generally considered among the most important drivers of youth radicalisation and armed group recruitment across Western Africa (Groupe d'Etudes et de Recherches sur les Migrations et Faits de Société 2021). In Senegal, several studies found that poverty, unemployment and the lack of livelihood options were the main motives identified by young people for joining Jihadist armed groups; factors which also exacerbate the effects of climate change and environmental degradation (Lopez et al. 2021; Sambe et al. 2022). Climate fragile settings – especially when combined with weakening land and natural resource management, fragmented governance frameworks, and high levels of corruption – offer more opportunities for armed groups to thrive by facilitating criminal activities and undermining trust in government (Nantulya 2016; International Crisis Group 2020).

Violent extremism and transnational criminality

Over the past decade, violent extremism has been of particular concern across Western Africa, especially in the Central Sahel and the Lake Chad Basin. Most recently, concerns have escalated in certain Gulf of Guinea countries, particularly Benin, Togo, Ghana, and Côte d'Ivoire, regarding the southward movement of Jihadists, who have already gained control over significant portions of the Sahel region. Additionally, armed groups are active in wooded areas along the border between Benin and Burkina Faso. Likewise, northern Benin and Togo have experienced an increase in Jihadist assaults, posing a threat to security in coastal nations further to the south (International Crisis Group 2023).

Some of the most lucrative sectors that criminal groups and Jihadis in Western African focus

on include arms, drugs, human trafficking and kidnapping for ransom. The latter is estimated to be the main source of revenue for Jihadist groups (Lounnas 2018). The majority of victims of human trafficking are women and girls, and an estimated three out of four victims are children (UNODC 2021b). Nigeria is a well-evidenced country with strong criminal networks that focus on trafficking. At the same time, Nigeria is a country of origin, transit and destination, which is affected by both domestic and cross-border trafficking (UNODC 2021b). Armed groups are also increasingly involved in drug trafficking, with cocaine imported from Latin America through multiple maritime entry points. These entry points span the coastline between Senegal and Guinea, and further south, with Côte D'Ivoire playing a prominent in recent years (Bird 2021). In recent years, terrorist and criminal groups have developed strong working relationships to grow their businesses. These networks often depend on the complicity or participation of local actors and state agents, who profit from illicit dealings (Gaye 2018).

The Ghana-Côte d'Ivoire-Burkina Faso tri-border is a key route in illicit arms trafficking, such as small arms and fertiliser for improvised explosive devices (Strouboulis et al. 2023). As seen in regions across the world, extremists in the Sahel have weaponised access to critical natural resources for strategic or tactical purposes, and as a means to terrorise, coerce and subjugate local populations (Strouboulis et al. 2023). Starting from 2021, Jihadist groups from the Sahel have begun to encroach upon W National Park, a vast nature reserve situated along the borders of Benin, Burkina Faso and Niger. Their incursion into the park has disrupted longstanding conservation activities and adversely affected local livelihoods, fueling tensions between settled farmers and nomadic herders over land and water (International Crisis Group 2023). In Mali, in recent years, extremist groups have expanded their lucrative activities in artisanal mining and the illegal gold trade, which leads to further deterioration of the security situation. For instance, in 2021, two terrorist groups engaged in a fierce battle to control gold mining sites in Mali's Gourma region (Abderrahmane 2022). The involvement of armed groups in illicit mining also causes severe damage to the environment, including through the dredging of rivers, and use chemicals such as mercury and cyanide, which present high risks for agriculture, fishing and herding due to groundwater contamination that can lead to animal and human poisoning (Koné and Adam 2021).

CLIMATE-INDUCED CHANGES IN MIGRATION PATTERNS CAN INCREASE INSECURITY AND CONFLICT

Human mobility has traditionally been one of the main strategies used by people in Western African to often successfully adapt to climate change and environmental pressures. However, climate change impacts, particularly extreme weather events, can cause sudden and unplanned changes in human mobility that make people more vulnerable, contribute to severe demographic pressures in certain geographic areas and increase the risk of conflict. This can be observed across the spectrum of different forms of mobility, including displacement, seasonal migration and transhumance, rural-urban movements, and regional and international migration.

Internal and regional climate migration

The vast majority of climate migration in Western Africa happens within countries and by 2050, up to 32 million Western Africans are expected to have to move within their countries because of climate change. Internal climate migration is not uniform across Western African countries as some areas are more adversely impacted by climate change than others. Countries that are expected to witness the highest numbers of internal climate migrants are Nigeria and Niger, followed by Senegal, Mali, Benin and Burkina Faso (Clement et al. 2021).

Major climate in- and out-migration hotspots could expand and intensify by 2050. For example, eastern Niger, and the central border area between Nigeria and Niger could see major climate in-migration due to favourable climatic conditions projected in these regions. Meanwhile, the southwest of Niger and the north of Benin are projected to become climate out-migration hotspots due to water stress. Another major climate out-migration hotspot could be in western Mali, around Bamako and the Koulikoro region, due to water stress and crop losses. The southeast, southwest and coastal states of Nigeria are expected to see climate out-migration as well due to sea level rise compounded by storm surge, water stress and crop yield losses (Clement et al. 2021).

When migrants decide to leave their country, most remain within Western Africa, moving from rural areas to urban centres. For example, climate change and related livelihood insecurity are among the key drivers of migration from landlocked Sahelian countries towards the coast. Given the arid climate of departure countries, it has

been suggested that one of the factors driving this migration is the limited in-situ adaptive capacity of populations (Leal Filho et al 2022). Drought-induced food and livelihood insecurity have led to high levels of migration from Sahelian countries over the last decades, with farmer households especially likely to move in case of high dry season temperatures (Teye 2022).

The most common form of intra-regional migration is rural-urban. Most migrants move to cities in coastal countries in search of socioeconomic opportunities, with some cities growing up to nine per cent per year (Devillard et al. 2015). In addition to rural-urban migration, seasonal migration such as transhumance has been a mainstay of Western African societies for centuries and is an important climate adaptation strategy (Teye 2022). While it is difficult to give precise numbers, an estimated 70 per cent of Western Africa's cattle population is expected to be managed through transhumance, involving tens of millions of pastoralists (IOM Global Migration Data Analysis Centre 2021).

Seasonal and intra-regional climate migration help to strengthen the economic resilience and food security of families, and migrants often times decide to permanently settle in their destination countries, with cities as destinations of choice (Jarawura 2013; Dreier and Sow 2015). However, some populations are unable to move as a response to climate change, notably because of a lack of endowments. This often includes the poor and aged, and those who lack the social capital to migrate. Impediments to mobility can also include negative perceptions of migrants, which hinder individuals moving across regions and continents alike (Puig Cepero et al. 2021). Moreover, in patriarchal communities, women are often immobile, both because of a lack of resources and cautions against migrating (Teye 2022).

Displacement

Western Africa is home to millions of IDPs and refugees, a number that has spiked since the deterioration of the security situation in 2016. The Western African countries that host the most refugees and IDPs include Nigeria, Niger, Mali and Burkina Faso. In 2023, Nigeria and Burkina Faso were home to about 3.5 million and two million IDPs, respectively, while Niger hosted some 300,000 refugees and asylum-seekers (UNHCR 2023b).

The increase in the frequency and severity of extreme weather events exacerbates displacement across the region. From 2008 to 2022, natural hazard-induced disasters and extreme weather events ranging from flash flooding, droughts, storms and cyclones led to the displacement of more than 17 million Western Africans (Leal Filho et al 2022). Rapid sea level rise and coastal degradation have also led to involuntary movement, as seen in the evacuation of the Western African port towns Keta in Ghana and St Louis in Senegal. Meanwhile, flash flooding exacerbated by river silting has affected communities in Sahelian countries, displacing more than 30,000 in Burkina Faso in 2017 (Teye 2022). According to the World Bank, between 0.3 million and 2.2 million people living along the Western African coast could be forced to move out of the 5 km coastal belt by 2050 due to sea level rise compounded by storm surges and flooding (Clement et al. 2021).

Migration and human security

Climate change can severely affect existing mobility dynamics with significant implications for the human security of populations, whether they are on the move, hosts or involuntarily immobile. As part of their journey, migrants can be particularly vulnerable to trafficking, marginalisation and other abuses. These incidents include death, detention, extortion, kidnapping, physical abuse, robbery, and sexual assault and harassment (Mixed Migration Centre 2020). When arriving in a host community, migrants often have to deal with new social, political and economic realities, which can further undermine the ability of these populations to pursue livelihoods (Mobjörk et al. 2020).

Western African migrants attempting long journeys and dangerous crossings are particularly vulnerable to abuse. Notoriously dangerous routes include trans-Saharan and trans-Sahelian migration, which often require assistance from human smugglers to cross inhabitable terrain or international borders. Male migrants are primarily subjected to forced labour and physical violence, while female migrants are more exposed to sexual violence and trafficking (UNODC 2021a). The Sahel and Sahara Desert are also key transit points for migrants moving to Northern Africa or even to Europe. Although migration routes constantly shift depending on accessibility and safety, the two main routes in recent years have been along the Western African coast towards Morocco or the Central Sahelian route, with Niger being a key transit country (Yayboke and Aboneaaj 2020). Although inter-continental migration remains marginal, it is increasingly securitised by strict and sophisti-

cated controls at international borders, which has led to a build-up of migrants, notably in Niger and Northern African countries. Migrants respond to this tightening by resorting to increasingly dangerous routes, with higher risks of abuse and death (International Centre for Migration Policy Development 2022).

People from Western Africa who decide to migrate to Northern Africa or Europe often do this because of socioeconomic reasons, with climate change impacts one of the main push factors as it exacerbates livelihood insecurity (Clement et al. 2021). If successful, economic migrants can send remittances from their destination back home to support their families, which can be a vital lifeline in times of climate and environmental stress. In some areas of Western Africa, entire households or even combined families support the migration of young members to more prosperous regions in the hope of receiving remittances later on (IOM 2021b). For instance, in Mali's Kayes region, which is highly dependent on agriculture, migration has traditionally been one of the key adaptation strategies and resilience-building mechanisms. Due to their "culture of migration," Kayesians are by far the largest group of Malians in France and other European countries (Kayes 2020). Similarly, in Burkina Faso, remittances from international migrants have helped households back home to improve their agricultural livelihoods by modernising techniques, diversifying their sources of income, and covering health and education expenses (Tapsoba and Hubert 2022).

WESTERN AFRICAN CITIES AS HOTSPOTS OF CLIMATE SECURITY RISKS

Climate change is driving rural-urban migration in Western Africa, contributing to rapid rates of urbanisation in the region's cities, and leading to severe demographic pressures that increase the risk of rural poverty, poor public services, infrastructural constraints, urban crime and insecurity. Coastal cities, which already face specific risks in terms of sea level rise, flooding and erosion, and dwindling fish stock, are particularly vulnerable.

Increasing pressures

Even in the best-case scenario of 1.5°C global warming, urban populations exposed to severe droughts across Western Africa are projected to increase by around 65 million compared to 1986–2005 (Liu W et al. 2018). The risk of urban flooding along coasts and river deltas is high across the region (GFDRR 2022). Urbanisation driven by population growth and intra-regional migration, displacement and climate change will continue to figure among the major transformations affecting Western Africa. Urbanisation dynamics in Western Africa are cross-border in nature, and shape relations between rural and urban areas, gender equality, political participation, public services, and peace and security (OECD 2020).

Forty per cent of Western Africa's population live in cities, with the urban population growing at between 1.6 per cent and 3.1 per cent per year (Ofoezie, E. I. et al 2022) – a rate which is much higher than the global average of 1.7 per cent for 2021 (World Bank 2022). The region's urban population as a proportion of the total population has risen from under 10 per cent in 1950 to 40 per cent in 2020 (Walther 2021). As exemplified by the wave of urbanisation following the great droughts of the 1970s and 1980s, rural-urban migration is an important adaptation strategy to climate shocks and will likely intensify as climate change impacts increase (OECD Sahel and West Africa Club 2010). As major urban centres in Western Africa are mainly coastal, many people are vulnerable to rising sea levels, flooding and coastal erosion (Croitoru et al. 2019). These challenges are further exacerbated by the intensive and unbridled use of resources and rapid urban expansion (Mbaye 2020), which has already led to the evacuation of several coastal towns, as seen in Senegal and Ghana (Schmidt and Muggah 2021). According to the World Bank, the costs of environmental degradation and climate change in coastal areas of Benin, Côte d'Ivoire, Senegal and Togo were as high as USD 3.8 billion in 2017, some 5.3 per cent of the combined GDP of the four countries. Moreover, coastal degradation, such as flooding, erosion and pollution, is estimated to cause more than 13,000 deaths per year in these four countries as well as high levels of urban displacement (Croitoru et al. 2019).

The rapid urbanisation of Western African countries means governments are struggling to provide the required services to new urban dwellers. As public services struggle to meet demand, urban migration is increasing suburban poverty (Brown and Crawford 2008). Informal settlements combine high population density with insufficient sanitation, water and electricity, as well as increased vulnerability to climate change impacts such as flooding (Joiner et al 2012). This socioeconomic disempowerment is often combined with a lack of representation and participation, which can lead

to urban improvement and adaptation initiatives that fail to take the interests of the urban poor into account (Puig Cepero et al. 2021). Finally, climate change directly causes urban displacement. For example, towns in Senegal and Ghana have been evacuated because of sea level rise and erosion (Croitoru et al. 2019).

Human security in cities

Populations, livelihoods and resources in Western Africa are mostly concentrated along the coast. The three most populous cities in the region, Lagos, Abidjan and Accra, are coastal. These populations are very vulnerable to the increasingly severe manifestations of climate change. For example, fish stocks are decreasing in quantity and quality, with diets significantly dependent on this food source for protein intake (Beatley and Edwards 2018; Schmidt and Muggah 2021). Coastal agricultural productivity is simultaneously impacted by flooding, erosion and saline intrusion (Goxho 2021).

Urban migration coincides with increased crime, as organisations exploit cities as illicit markets and hubs for trafficking. Due to rapid urbanisation and demographic pressure, major Western African cities have experienced increased human trafficking, including for prostitution, forced labour and the selling of children, as well as illicit trade in arms and drugs (UNODC 2005; Alemika 2013), with women disproportionately affected (Puig Cepero et al. 2021). Coastal insecurity is dominated by crime and illegal extraction, and intensified by climate-induced rarefication of livelihoods, including smuggling and sand mining. The reduction of fish stocks has led to clashes between coastguards and fishers, and subsequent riots. As fishing declines, the economic resilience of communities and towns alike is affected, leading individuals to migrate out of the affected regions (Beatley and Edwards 2018).

While the emergence of armed opposition groups in the Sahel has ruralised conflict in Western Africa, cities remain centres of conflict due to the concentration of infrastructure, wealth and political power. In major Western African cities such as Lagos and Jos, gangs struggle for power, challenging state monopoly on the legitimate use of violence and forcing vigilante violence on urban dwellers (Bekker and Fourchard 2013).

Responses and good practices

Across Western Africa, a number of responses to address climate-related security risks have emerged. The following section will highlight some of the initiatives being done at the (1) regional, (2) national and (3) local levels.

REGIONAL APPROACHES

Transboundary resource management cooperation has been a key axis of regional action on climate security, with water management an important entry point. The oldest transborder water management commission, the Lake Chad Basin Commission (LCBC), which was established in 1964, promotes the sustainable management of the basin and refers conflicts between its members to the International Court of Justice. As early as 1994, it had created the Multi-National Joint Task Force, a combined force composed of troops in Benin, Cameroon, Chad, Niger and Nigeria, which aimed to address trans-border crime and violence, and, especially since 2009, counter extremist groups such as Boko Haram. Security coordination also includes the harmonisation of border control measures as well as the exchange of defence information. Similarly, the Authority of the Niger Basin (ANB) promotes the integrated development of the basin in fields ranging from energy and agriculture to herding, fishing, forestry and industry. Meanwhile, the Senegal River Basin Development Organisation (OMVS) tackles hydropower, fluvial navigation, sustainable and concerted use of water, and livelihoods.

The OMVS is an example of how transboundary cooperation can successfully balance economic development with quality-of-life improvements and ecosystems with robust planning and information systems. Other transboundary initiatives, such as the Gambia River Basin Development Organisation (OMVG), the LCBC and the ANB, have had less success than the OMVS due to basin characteristics and lack of collective action (Guillier and Brown 2022).[20] The younger Volta Basin Authority (VBA) has experienced significant difficulties in collecting data and mobilising resources. Moreover, the basin's geographical characteristics lead to relatively localised transboundary issues that favour bilateral rather than multilateral cooperation (World Bank 2021g).

Similarly, the World Bank Project Cooperation in International Waters in Africa (CIWA) has been an

20 The Gambia Basin is relatively small and the Niger Basin has endorheic water flow.

important actor regarding water security in Western Africa, partnering with the various regional authorities on a number of projects. For example, in 2013, the CIWA and LCBC developed a regional water security framework for the Lake Chad Basin. The project noted the importance of granular data and modelling in areas with complex natural interaction (CIWA 2023). The CIWA also led the Sahel Groundwater Initiative, a technical assistance project that aims to improve groundwater exploration, expertise and regional cooperation, and its use for small-scale irrigation in Ghana, Burkina Faso, Niger, Nigeria and Côte d'Ivoire (CIWA 2022).

Apart from transboundary water management, Western African countries collaborate in numerous other domains to strengthen climate resilience. Notably, the Great Green Wall initiative, launched in 2007 by the African Union, aims to tackle climate insecurity in the region by planting thousands of trees across the Sahel. In turn, this will contribute to carbon sequestration, restore ecosystems and provide sustainable livelihoods through agroforestry (Schmidt and Muggah 2021). The example of the Great Green Wall (see page 33 and page 138 for a more detailed analysis of the Great Green Wall) demonstrates that, despite many implementation difficulties, projects can find renewed momentum by questioning their assumptions, integrating participatory and inclusive processes, and considering the lived experiences of affected populations (Mutanda Dougherty 2023).

Given the complexity of the links between climate change, environmental degradation, and peace and security, and the impact of these links on development and humanitarian action, experts stress the need to address the climate and security nexus through an integrated approach with all actors and stakeholders involved. However, in Western Africa, siloes continue to persist between the climate change and security fields (Guillier and Brown 2022). A recent initiative to enhance integration and cross-sectoral collaboration is the UN Regional Working Group on Climate Change, Security, Environment and Development (UN-CCESD) in Western Africa. Founded in 2021, its objective is to encourage UN information sharing and cross-pillar coordination to reduce the adverse implications of climate change and environmental degradation on human security, and to address the impacts of these phenomena on mobility and peace in the region. Another example is the UN Integrated Strategy for the Sahel (UNISS), which partly covers Western Africa (see Sahel chapter).

The UNDP is the main UN structure that deals with the interconnected fields of climate, disaster risk reduction, governance, conflict prevention, peacebuilding and natural resource management. The UNDP's Sahel Resilience Project integrates various interventions in which it collaborates at the regional level, with actors such as the African Union, ECOWAS and LCBC, as well as at the national level, where it aims to enhance disaster risk reduction strategies and resilience building. The project is being implemented across five areas of intervention: data for decision-making, risk governance, preparedness for recovery, resilient urban areas and regional engagement (UNDP 2021b). The project stems from the growing realisation of the links between climate change and security, and the significant silos that exist between various fields (Guillier and Brown 2022).

Climate change is also a regional priority issue for the ECOWAS, as captured in the recently adopted Regional Climate Strategy and Action Plan (2022–2030), which describes climate change as a factor that reshapes the world, and increases the risk of instability and insecurity in all its forms. It further stipulates how climate impacts across the region exacerbate conflicts linked to scarcity and use of natural resources, food and livelihood insecurity, and migration and displacement, among other challenges (ECOWAS 2022). The ECOWAS's approach to climate security also translates in various thematic focus areas, such as on transhumance. For example, the ECOWAS meets regularly with the largest regional herders' network, the Billital Maroobé Network (*Réseau Billital Maroobé*, RBM), to take stock of the latest transhumance campaigns and to mitigate risks such as inter-communal conflicts. According to the IOM, a key ECOWAS partner with regard to regional climate mobility, some core gaps related to transhumance remain. These gaps include the region's lack of a unified understanding of transhumant movements, their numbers and routes, and the direct impact this has on their ability to make sound policy decisions, as well as the need for localised conflict mitigation approaches to successfully address reoccurring transhumance-related conflicts (IOM 2022d).

ECOWAS and UNOWAS are engaged in a major collaborative effort with the broader UN system, government agencies, and civil society organisations to address the impact of climate change on peace and security in Western Africa. Significant initiatives have been undertaken in this regard, such as the creation of an ECOWAS-UNOWAS

Working Group on Climate Change and Security, and the establishment of the UN-CCESD. In April 2022, following a first-of-its-kind regional conference on climate security in Western Africa, representatives of countries in Western Africa and the Sahel signed a call to action, committing to inclusive, evidence-based analysis and policymaking on climate security in the region, as well as integrated partnerships and collaboration, and scaling up climate financing (UNOWAS 2022).

A key component to address climate-related security risks in Western Africa is risk-informed planning through early action systems. ECOWARN is an observation and monitoring tool for preventing conflicts and aiding decision making. The West Africa Network for Peacebuilding (WANEP) has for many years been a strategic partner for ECOWAS in operationalising ECOWARN. Over the years, the collaboration has resulted in the development of national early warning systems in all ECOWAS member states, which help to integrate more grassroots engagement and information into the system (Eze and Frimpong 2021). Even though ECOWARN is widely considered among the most advanced early warning systems for conflict prevention on the continent, it does not integrate much climate and environmental data into its forecasts and analysis (Gnanguenon 2021).

In addition, Western Africa has developed early warning systems focusing specifically on climate and environment. The CILSS, along with its regional centre Aghrymet, specialises in providing climate forecasts, surveys and training. Forecasts include climate predictions, and tracking of agriculture and herding, respectively helping farmers prepare for extreme weather events and identifying fall-back areas for herders in case of drought, using satellite and drone imaging. Both institutions also conduct hydrological and ecosystem surveys designed to track ecosystem evolution and degradation. Aghrymet supports effective agricultural adaptation by providing farmers with specialised climate information. One project facilitated by the CILSS was the PREGEC, which provides seasonal forecasts as well as water flow forecasts to farmers. However, Aghryment does not include many peace and security indicators in its forecasts and analyses, and as with ECOWARN lacks enhanced mainstreaming of the climate-conflict nexus (Guillier and Brown 2022).

Finally, numerous initiatives across Western Africa aim to address intersectional vulnerabilities to climate change, focusing in particular on women and children. The work of UNWOMEN in linking women, peace and security, with climate and environmental issues has made a major contribution to making climate adaptation sensitive to specific vulnerabilities. In Niger, for example, UNWOMEN has articulated its action around several axes, including integrating climate vulnerabilities in the 2020–2024 National Action Plan on Gender (UN Women 2020).

NATIONAL APPROACHES

Several interventions in Western Africa link national climate objectives to peace and security goals. For example, in Sierra Leone, the UNDP and the national government have worked towards increasing electricity supply to the cities of Freetown, Bo and Kenema to contribute to national peace and security. In 2007, Sierra Leone's government identified the country's power crisis as a key risk to peace and stability. Thus, the project not only aimed to address development issues, but also address feelings of neglect and disillusionment due to the lack of adequate power (UNDP 2010). There is rigorous scientific evidence available that illustrate the causal linkages between access to energy and renewable energy projects, and associated social and economic benefits. Several studies also illustrate the positive effects of energy and electrification, particularly lighting, on individual perceptions of safety and security. This has been especially evident among women and girls in fragile settings, but also on crime rates and violent conflict (Energy Peace Partners 2022).

In Ghana, the Ministry of Food and Agriculture collaborated with the Ministry of National Security to launch the Ghana Cattle Ranching Project to address farmer-herder conflicts. Under the program, large swaths of land were fenced off for cattle to graze (Strouboulis et al. 2023). However, the project faced several challenges, primarily related to complex land tenure arrangements through chiefdoms, identity, perceptions of land grabbing, and dynamics of access to animal feed and water sources, as well as concerns of corruption and rent-seeking behaviour among chiefs and security officers. One study concluded that there was a need to reconsider the cattle ranching policy by better understanding the complexity of conflicts

21 Land degradation neutrality is defined by the UNCCD as "a state whereby the amount and quality of land resources, necessary to support ecosystem functions and services and enhance food security, remains stable or increases within specified temporal and spatial scales and ecosystems."

and widening public consultation (Ahmed and Kuusaana 2021).

In 2023, in Mali, the government with support of the UNDP launched a six-year project aimed at enhancing climate security and the sustainable management of natural resources. The project is targeting the long-term sustainability of vulnerable productive areas in, for example, Bandiagara, Douentza, Mopti and San through nature-based solutions and the more peaceful management of natural resources. Through this initiative, Mali aims to reach its climate goals, as set out in the country's Nationally Determined Contribution under the Paris Agreement, which include achieving land degradation neutrality (UNDP 2023b).[21] Similarly, the Mali Climate Fund tries address the effects of climate change by investing in a green and resilient economy. Its theory of change is very much aligned with climate, peace and security objectives, and aims to enhance national capacities to better understand the middle ground between climate change, and socioeconomic and human factors, as well as address risks in the most vulnerable sectors, such as water management, agriculture, food security and energy (AEED 2023). Nigeria has been hosting an African Ministers' Council on Water (AMCOW) post-COP28 Stakeholders Dialogue in Abuja, where the Council's secretariat is headquartered, in early 2024 on operationalising data for sustainable water use (AMCOW 2024).

Some conservation efforts at the national level in Western Africa integrate climate adaptation, resilience, and peace and security objectives into efforts to conserve and protect the natural environment. For example, in Liberia, the UNDP and FAO work together with the Forestry Development Authority (FDA) to strengthen the management of community forests and protected areas in Liberia. Initiatives focus on improving the governance of community forest management bodies, building the capacities of forest regulatory institutions, empowering national civil society and non-governmental organisations, scaling natural resource management pilots, and promoting sustainable livelihood incentives for forest fringe communities (MPTF 2023).

Some national early warning initiatives in Western Africa include regular forecasting, such as the CGIAR collaboration with Vodafone, and the Council for Scientific and Industrial Research in Ghana, to provide real-time climate information to farmers and improve adaptation (Nguyen et al. 2020). The CGIAR is also promoting climate-smart agriculture across Western Africa, including the climate-proofing of value chains, supporting national agricultural investment plans and nationally determined contributions, and developing climate-smart agricultural investment plans. For example, in Mali, the CGIAR developed climate-smart models merging farming, forestry and herding, and diffused demand-driven practices and technologies through participatory processes to enable community-based adaptation. The CGIAR's Inclusive Climate Change Adaptation for a Sustainable Africa project aims to mainstream gender in climate policies, practices and negotiations (Nguyen et al. 2020).

LOCAL APPROACHES

Some evidence from peacebuilding programming at the local level in Western Africa suggests that climate resilience building contributes to a reduction in conflict and insecurity, and conversely peace allows for better access to and management of natural resources (Kurtz and Elsamahi 2023). For example, in Nigeria, Mercy Corps conducted a randomised impact evaluation of a programme to reduce conflict over natural resources between farmers and herders, mostly through mediation and conflict sensitivity training for local leaders. It concluded that mediation training had a positive effect on both leaders and their communities, with significant improvements to perceptions of security, but also a causal relation with a reduction in violence, including in farmer-herder conflicts (Reardon et al. 2021). Similarly, in Nigeria, research on collaborative projects between farmers and pastoralists found indicative evidence of improved trust between those conflicting groups (Mercy Corps 2019). These results are in line with other research, for example, on the violence reducing effects of community education with regard to land disputes in Liberia (Blattman et al. 2014; Kurtz and Elsamahi 2023).

In Burkina Faso, the organisation TreeAid provides an example of how forest conservation can be linked to conflict prevention and resolution, as well as reductions in poverty and hunger. Its forest governance programme supports local communities to protect and restore forestry by setting up forest management plans and committees, as well as supporting enterprise groups. The project has a strong focus on the inclusion and participation of women, as they have traditionally been marginalised from forestry management (TreeAid 2023). TreeAid also actively contributes to conflict man-

agement, particularly between communities and forest conservation agents, by facilitating dialogue between local officials, agropastoralists and other livelihood groups that depend on the forest (Tarif 2023). Similarly, in Senegal, local civil society organisations have established local consultative forums to create a platform for awareness-raising among communities on national forestry legislation, but also to enhance participatory dialogue around reforestation and environmental protection, and how this could be linked to strengthened economic resilience (Tarif 2023).

Other climate security interventions in Western Africa have focused on addressing gender issues related to climate vulnerability. For example, with support from the UNPBF, several projects in Mali and Niger aim to train women to contribute to local conflict prevention efforts around climate-induced natural resources conflicts in their communities. Through these endeavours, women have taken on the role of conflict mediators, resolving conflicts and benefiting from livelihood diversification opportunities including land ownership. These efforts have also facilitated the organisation of women-led cooperatives, enhancing women's participation in and leadership of local decision-making processes to reduce the impact of climate change on and related tensions in their communities (UNPBF 2023).

Western Africa has a wealth of indigenous knowledge and practice of land management, pastoralism and agriculture, which can help communities to build resilience against climate change impacts. In Ghana, long-standing indigenous farming practices help to mitigate the adverse effects of climate change (Gibson and Anderson 2023). Proka, for example, is a historical farming practice that involves the clearing land for cultivation. Instead of slashing and burning the brush, the sticks and leaves are left to rot, acting as an organic fertiliser that expedites vegetation regeneration while reducing the risk of wildfire (Awuah-Nyamekye 2019).

Over the past decade, the subregion of Liptako Gourma has been plagued by localised violent conflict, with climate change and environmental degradation one of the key drivers. Several initiatives aim to address the climate-conflict nexus in the subregion. For example, the EIP Trust Works environmental peacemaking project aims to integrate an understanding of the climate change, environmental and natural resource-related dynamics involved in conflicts as entry point for dialogue and trust building. By identifying existing peace initiatives, the project wants to foster collaboration between conflicting parties around issues of shared interest (EIP 2023).

The French Development Agency (AFD) 3 Frontiers Project (P3F) aims to support agropastoral communities in Liptako Gourma to improve environmental protection, transhumance, and the prevention and resolution of conflicts related to natural resource management (Alliance Sahel 2020; Le Gret 2021). Furthermore, the Swiss Centre for Humanitarian Dialogue (HD) supports a network of around 2,000 agropastoral mediators across Mali, Burkina Faso, Niger and Mauritania to help settle local conflicts between farmers and pastoralists, and broker local agreements over the management of resources and demarcating corridors for safe movement of livestock (Centre for Humanitarian Dialogue 2019). A number of agropastoral associations active in Liptako Gourma also play an important role in the broader context of environmental peacemaking efforts.[22]

Large organisations are heavily engaged in the Liptako-Gourma subregion. In 2021, the World Bank launched a new USD 350 million project to support community-based recovery and stability, aimed at simultaneously addressing emergency and climate change needs, heightened pressures from forced displacement, competition over natural resources, and regional data monitoring gaps. In close collaboration with the subregional organisation *Autorité de développement Intégré de la région du Liptako-Gourma*, which was created in 1970, the project supports a regional peace and stability dialogue, while at the same time deploying community-centred development platforms to localise implementation (World Bank 2021a).

22 In Liptako Gourma, these include the Association pour la Promotion de l'Elevage dans le sahel et la Savane, the Réseau des Organisations Paysannes et de Producteurs en Afrique de l'Ouest and the RBM.

Lake Chad: Not a shrinking lake, but a fluctuating one

Lake Chad is an ecological miracle, a huge freshwater lake in an otherwise arid region. It is shared by Chad, Cameroon, Niger and Nigeria. The lake supplies water to around 50 million people and is the basis for the livelihoods of an estimated 20 million. All-in-all Lake Chad's river basin covers an area of more than eight per cent of the African continent.

While Lake Chad shrank dramatically in the 1970s and 1980s due to the combined effects of climate variability and unsustainable water management, such as irrigation and dam-building activities, Lake Chad is not currently shrinking. More recent research using satellite data has shown that overall – taking account of the combined surface water extent of the northern and southern pools, plus the total water storage, ground water and soil moisture – the lake is actually in a period of expansion and has been for the past two decades. Some evidence even suggests that total water volumes stored within the lake water and the aquifers beneath have been increasing more recently (Pham-Duc et al. 2020).

However, there is greater variability and uncertainty than ever before in recorded history, leading to fluctuations in the size of the northern pool, as well as greater unpredictability regarding when and how much rain may fall (Pham-Duc et al. 2020). The timing and duration of the rains also varies erratically, and there have been shifts in the timing of the season and increases in extreme weather events (Taylor et al. 2017). Moreover, because of the shallowness of the lake and higher ambient temperatures, vegetation cover is increasing, particularly in shallow areas. In turn, this is slowing water movement across the lake, hampering fishing activity and boat transport across the lake, and providing a misleading perception that large parts of the lake have disappeared or transformed into a vast swamp (Pham-Duc et al. 2020).

A 2019 climate security assessment identified four key climate-related security risks that emerge through the interaction of increasing climate variability and conflict (Vivekananda et al. 2019):

1. Climate and conflict undermine livelihoods: Prior to recent conflicts, there was a rich tapestry of cross-border trade. Moreover, people living around the lake relied on a range of livelihood systems that allowed them to switch between different activities (farming, fishing and pastoralism), as well as crops, grazing routes, fishing areas, depending on whether there was more or less water. The conflict has undermined these livelihood systems and decreased resilience.

2. Increased competition over natural resources: Natural resource conflicts are not a new phenomenon in the region, but the conflict has eroded existing conflict management systems and displacement has led to a clustering of people around urban centres. Together with the impact of climate change, this has led to more people competing over fewer resources in the area.

3. Recruitment into armed groups: Recruitment is a complex phenomenon. It takes place in the context of stark social and economic inequality, perceived lack of state legitimacy, increasingly vulnerable livelihoods, and the lure of financial incentives offered to potential recruits. Climate change compounds this risk as it undermines already fragile economies and livelihoods.

4. Heavy-handed military responses: While national militaries and the Multi-National Joint Task Force, working with community militias, have had some success in bringing relative peace to the region, their heavily militarised approaches have often undermined livelihoods by restricting movements and have often eroded state-citizen relationships.

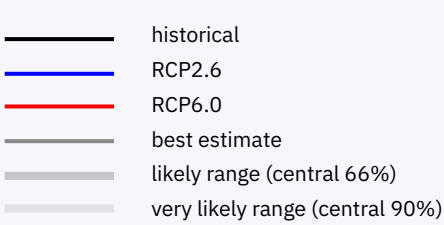
Annex

How to read the plots

The maps and plots included in this report provide an overview of projected climate change parameters and related sector-specific impacts in African regions until 2080 under two different climate change scenarios (RCPs). RCP2.6 represents a low emissions scenario that aims to keep global warming below 2°C above pre-industrial temperatures, while RCP6.0 represents a medium-to-high emissions scenario. Projections are provided up to 2080, with each year showing the mean value of a 31-year period.[65]

The **line plots** show climate impact projections averaged over the whole country, with the blue colour representing the RCP2.6 scenario and the red colour representing the RCP6.0 scenario. While the lines depict the best estimate (representing the multi-model median of 10 climate models), the shaded areas represent the likely range (strongly shaded area) and the very likely range (lightly shaded area), indicating the range of model agreement of at least 66 per cent and 90 per cent of all model projections, respectively.

How to read the plots



The **map plots** display regionally explicit climate information under RCP2.6 and RCP6.0, in a spatial resolution of approximately 50 x 50 km. While the leftmost column represents the baseline period as found in the model data, the other three columns represent future projections in comparison to that baseline period. The colour values depict the multi-model median of the underlying models at each grid cell. The presence of a dot means that at least 75 per cent of the models agree on the sign of change depicted for the specific grid cell and scenario (i.e. whether an increase or a decrease can be expected). Conversely, the absence of a dot represents the lack of model agreement on the predicted change.

UNCERTAINTIES IN CLIMATE CHANGE PROJECTIONS

It is important to acknowledge that uncertainties are always part of climate change projections. Uncertainties arise from a variety of factors, including natural variabilities, uncertainties in GHG emissions scenarios and differences in the models use. Consequently, no future (climate change) projection comes without some level of uncertainty. The levels of (un)certainties, however, differ. We present the results of 10 different global models. To indicate the (un)certainty of the projections, we consider model agreement. The more these models agree the higher the certainty, the more they disagree the lower the certainty. For example, if different models project a similar result under the same scenario, the projected changes demonstrate low levels of uncertainty. However, if the models project very different changes (in terms of range and even direction) under the same scenario, then the projections are uncertain.

Line plots and map plots depict uncertainty differently and cannot be compared. The line plots indicate the level of certainty through the shaded areas, depicting the likely (central 66 per cent) and very likely (central 90 per cent) range of all model projections. Generally, the smaller the shaded areas, the more certain the projections. The map plots depict the level of certainty through the presence or absence of dots. If dots are present, at least 75 per cent of all models agree on the direction of change or, in other words, on an increasing or a decreasing trend. If the dots are absent in a specific region or scenario, then model agreement within this specific region and scenario is below 75 per cent.

To simplify the interpretation of the projections, all line plots and map plots that are subject to high levels of uncertainty are marked with a symbol ( ).

This does not imply that these plots have no informational value, but rather draws attention to the limitations of such projections for future planning. Consequently, they should be very carefully interpreted when they are used for planning measures. In the case of high uncertainty, additional information will be provided on how to interpret the data.

References

Abay K, Diao X, Laborde D, Raouf M. 2023. IFPRI Global Food Policy Report 2023: Middle East and North Africa: IFPRI Egypt. https://gfpr.ifpri.info/2023/04/11/regional-developments-middle-east-and-north-africa/.

Abay K, Karachiwalla N, Kurdi S, Salama Y. 2023. Food price shocks and diets among poor households in Egypt: IFPRI Egypt. https://egyptssp.ifpri.info/2023/01/03/food-price-shocks-and-diets-among-poor-households-in-egypt/.

Abderrahmane A. 2022. Mali to Dubai: Artery for West Africa's booming illegal gold trade. https://issafrica.org/iss-today/mali-to-dubai-artery-for-west-africas-booming-illegal-gold-trade.

Abdullahi M. 2021. Is An Insurgency Slowly Gathering Momentum In Southeast Nigeria? https://humanglemedia.com/is-an-insurgency-slowly-gathering-momentum-in-.

Abebe MA. 2014. Climate Change, Gender Inequality and Migration in East Africa. Washington Journal of Environmental Law and Policy. 4:104–140.

Abrahams D. 2021. Land is now the biggest gun: climate change and conflict in Karamoja, Uganda. Climate and Development. 13:748–760.

Abrahms B, Carter NH, Clark-Wolf TJ, Gaynor KM, Johansson E, McInturff A, Nisi AC, Rafiq K, West L. 2023. Climate change as a global amplifier of human-wildlife conflict. Nature Clim Change. 13: 224–234.

Abtew W, Dessu SB. 2019. The Grand Ethiopian Renaissance Dam on the Blue Nile: Springer Geography.

ACLED. 2022. 10 Conflicts to Worry About in 2022: The Sahel. https://acleddata.com/10-conflicts-to-worry-about-in-2022/sahel/.

Adewumi IJ, Ugwu DO, Madurga-Lopez I. 2022. Integration of ocean-based adaptation and mitigation actions into regional and national climate policies in Africa. In: Archibald S, Pereira L, Coetzer K. (eds). Future Ecosystems for Africa (FEFA). Johannesburg: University of the Witwatersrand.

Adigun OW. 2022. The Trends and Dynamics of Nigeria's Farmer-Herder Conflicts (2014–2019). https://hal.science/hal-03762007/document.

Africa Center for Strategic Studies. 2022a. Record 36 Million Africans Forcibly Displaced. https://africacenter.org/spotlight/record-36-million-africans-forcibly-displaced-is-44-percent-of-global-total-refugees-asylum/. Accessed 2023 Jul 27.

Africa Center for Strategic Studies. 2022b. Rising sea levels besieging Africa's booming coastal cities: Reliefweb; [accessed 2023 Feb 22]. https://reliefweb.int/report/world/rising-sea-levels-besieging-africas-booming-coastal-cities.

Africa Center for Strategic Studies. 2023. African Migration Trends to Watch in 2023. https://africacenter.org/spotlight/african-migration-trends-to-watch-in-2023/#:~:text=African%20migration%20has%20been%20on,expected%20to%20continue%20in%202023. Accessed 2023 Jul 27.

Africa News. 2022. South Africa floods: Protests over disruptions in electricity and water supply. Durban: AFP.

African Development Bank. 2019. West Africa Economic Outlook 2019: Macroeconomic performance and prospects, Regional integration and structural transformation in West Africa. https://www.afdb.org/fileadmin/uploads/afdb/Documents/Publications/2019AEO/REO_2019_-_West_africa.pdf.

African Development Bank. 2021. West Africa Economic Outlook 2021: Debt Dynamics:The Path to Post-COVID Recovery. https://www.afdb.org/en/documents/west-africa-economic-outlook-2021.

African Development Bank. 2022. Climate-Proofing Transboundary Water Agreements in Africa. https://www.afdb.org/en/documents/climate-proofing-transboundary-water-agreements-africa.

African Development Bank Group. n.d. The Bank Group's Strategy for The New Deal on Energy for Africa 2016 – 2025; [accessed 2023 Jul 24]. https://www.afdb.org/fileadmin/uploads/afdb/Documents/Generic-Documents/Bank_s_strategy_for_New_Energy_on_Energy_for_Africa_EN.pdf.

African Development Bank Group. 2019a. Analysis of adaptation components of Africa's Nationally Determined Contributions (NDCS). Abidjan: African Development Bank Group; [accessed 2023 Jun 20]. https://www.afdb.org/fileadmin/uploads/afdb/Documents/Generic-Documents/Analysis_of_Adaptation_Components_in_African_NDCs_2019.pdf.

African Development Bank Group. 2019b. Southern Africa Economic Outlook 2019. https://www.afdb.org/fileadmin/uploads/afdb/Documents/Publications/2019AEO/REO_2019_-_Southern_africa.pdf.

African Development Bank Group. 2021. EVALUATION OF AFRICAN DEVELOPMENT BANK STRATEGIES AND PROGRAMS IN GABON, 2011- 2020. https://idev.afdb.org/sites/default/files/documents/files/MANAGEMENT%20RESPONSE%20-%20%20EVALUATION%20OF%20AFRICAN%20DEVELOPMENT%20BANK%20STRATEGIES%20AND%20PROGRAMS%20IN%20GABON%2C%202011-2020.pdf.

African Development Bank Group. 2021. North Africa Economic Outlook 2021: Growth expected to recover to pre-pandemic levels on rebound in oil, vaccines and trade. https://www.afdb.org/en/news-and-events/press-releases/north-africa-economic-outlook-2021-growth-expected-recover-pre-pandemic-levels-rebound-oil-vaccines-and-trade-46601. Accessed 2023 Feb 22.

African Development Bank Group. 2022a. Bank Group's Strategy for AddressingFragility and Building Resilience in Africa (2022-2026). Transition States Coordination Office (RDTS). Abidjan: African Development Bank Group. https://www.afdb.org/en/documents/bank-groups-strategy-addressing-fragility-and-building-resilience-africa-2022-2026.

African Development Bank Group. 2022b. East Africa Economic Outlook 2022: Supporting Climate Resilience and a Just Energy Transition. p. 128 [accessed 2023 Apr 12]. https://www.afdb.org/en/documents/east-africa-economic-outlook-2022.

African Development Bank Group. 2023a. African Development Bank 2023 Annual Meetings: African Development Bank chief says dearth of climate finance flows "choking" Africa: Adesina calls out developed nations for not honoring $100 billion-a-year pledge. Kenya.

African Development Bank Group. 2023b. Southern Africa Economic Outlook 2023. https://www.afdb.org/en/documents/southern-africa-economic-outlook-2023.

African Development Bank Group. 2023c. Water Strategy 2021 – 2025: Towards a water secure Africa. https://www.afdb.org/en/documents/water-strategy-2021-2025-towards-water-secure-africa.

African Ministers' Council on Water. 2024. AMCOW advocates for Climate Action at a Post-COP28 Stakeholders Dialogue – Abuja, Nigeria. https://amcow-online.org/amcow-advocates-for-climate-action-at-a-post-cop28-stakeholders-dialogue-abuja-nigeria/.

African Union. 2021. African Union Handbook 2021: Arts, culture and heritage: Levers for building the Africa we want. Addis Ababa, Wellington: African Union, Ministry of Foreign Affairs and Trade, New Zealand. 270 p.

African Union. 2023. Continental Watch: 11July 2023 – 15 July 2023. Africa Multi-Hazard Early Warning and Early Action: African Union; [accessed 2023 Aug 1]. https://www.mydewetra.world/bulletin/exported_file/1206/download/.

African Union, Organisation for Economic Cooperation and Development. 2021. Africa's Development Dynamics 2021: Digital Transformation for Quality Jobs. https://www.oecd-ilibrary.org/development/africa-s-development-dynamics-2021_0a5c9314-en.

African Union, Organisation for Economic Cooperation and Development. 2022. Africa's Development Dynamics: Regional value chains for a sustainable recovery: Regional value chains for a sustainable recovery. Addis Ababa; [accessed 2022 May 12]. https://doi.org/10.1787/2e3b97fd-en.

African Union Commission. 2022. Institutional and Operational Framework for Multi-Hazard Early Warning and Early Action System for Africa: African Union Commission; [accessed 2023 Jul 26]. file:///C:/Users/schmelzer/Downloads/en-mhewas_framework_2022.pdf.

African Union Peace and Security Council. 2021. Communique of the 984th Meeting at the Level of Heads of State and Government: PSC/AHG/COMM.1 (CMLXXXIV). https://www.peaceau.org/uploads/eng-final-communique-for-the-984th-psc-meeting-sustainable-peace-climate-change-9-march-2021-final.pdf. Accessed 2023 Jul 26.

Agam A, Barkai R. 2018. Elephant and Mammoth Hunting during the Paleolithic: A Review of the Relevant Archaeological, Ethnographic and Ethno-Historical Records. Quaternary. 1:3.

Agbalajobi DT. 2009. The role of African women in peace building and conflict resolution: The case of Burundi. Global Media Journal. 8:1–20.

Agence de l'Environnement et du Développement Durable. 2023. Rapport Annuel 2022 des activites du Fonds D'affectation Speciale du Mali pour le Climat (Fonds Climat Mali); [accessed 2023 Aug 4]. https://mptf.undp.org/sites/default/files/documents/2023-05/2022_narrative_financial_report_mali_climate_fund.pdf.

Agence Tunis Afrique Press. 2021. Grain production to reach 8 to 8.5 million quintals (UTAP). https://www.tap.info.tn/en/Portal-Economy/14124267-grain-production-to. Accessed 2023 Feb 22.

Agoubi B. 2021. A review: saltwater intrusion in North Africa's coastal areas—current state and future challenges. Environmental Science and Pollution Research.

Agreement of Declaration of Principles. 2015. Agreement on Declaration of Principles between The Arab Republic of Egypt, The Federal Democratic Republic of Ethiopia And The Republic of the Sudan On The Grand Ethiopian Renaissance Dam Poject (GERDP). https://www.internationalwaterlaw.org/documents/regionaldocs/Final_Nile_Agreement_23_March_2015.pdf.

Agwanda B. 2022. Securitization and Forced Migration in Kenya: A Policy Transition from Integration to Encampment. Population and Development Rev. 48:723–743.

Ahmadalipour A, Moradkhani H, Castelletti A, Magliocca N. 2019. Future drought risk in Africa: Integrating vulnerability, climate change, and population growth. Sci Total Environ. 662:672–686.

Ahmed A, Kuusaana ED. 2021. Cattle Ranching and Farmer-herder Conflicts in sub-Saharan Africa: Exploring the Conditions for Successes and Failures in Northern Ghana. African Security.

Akello V. 2009. Uganda's progressive Refugee Act becomes operational. https://www.unhcr.org/news/news/ugandas-progressive-refugee-act-becomes-operational. Accessed 2023 Jul 25.

Akpalu DA. 2005. Response scenarios of households to drought-driven food shortage in a semi-arid area in South Africa: University of the Witwatersrand.

Alam A, Du AM, Rahman M, Yazdifar H, Abbasi K. 2022. SMEs respond to climate change: Evidence from developing countries. Technological Forecasting and Social Change. 185:122087.

Alcayna T. 2020. How chronic gaps in adaptation finance expose the world's poorest people to climate chaos. Zurich: Zurich Flood Resilience Alliance.

Alemika. 2013. THE IMPACT OF ORGANISED CRIME ON GOVERNANCE IN WEST AFRICA. https://library.fes.de/pdf-files/bueros/nigeria/10199.pdf.

Ali AM, Kazemi E, Adan A. 2023. Sudan: Fighting Rages Amid Ceasefire Talks: Situation Update: May 2023. https://acleddata.com/2023/05/26/sudan-situation-update-may-2023-fighting-rages-amid-ceasefire-talks/. Accessed 2023 Jun 02.

Alimi E, Bosi L, Demetriou C. 2012. Relational Dynamics and Processes of Radicalization: A Comparative Framework. Mobilization: An International Quarterly. 17:7–26.

al-Kady B. 2022. Egypt officially enters state of water poverty. https://www.al-monitor.com/originals/2022/01/egypt-officially-enters-state-water-poverty. Accessed 2023 Feb 22.

All Africa. 2023. Zimbabwe: Indignant Zim Villagers Protest Against Damage Caused By Chinese Mining Exploration Activities; [accessed 2023 Jun 20]. https://allafrica.com/stories/202305160036.html.

Allen ND. 2023. African-Led Peace Operations: A Crucial Tool for Peace and Security. https://africacenter.org/spotlight/african-led-peace-operations-a-crucial-tool-for-peace-and-security/.

Alliance Sahel. 2020. Programme de Developpement d'Urgence (PDU): Projet "Trois Frontières" au Mali, Burkina Faso et Niger: Alliance Sahel; [accessed 2023 Aug 18]. https://www.alliance-sahel.org/wp-content/uploads/2020/04/Fiche-projet-PDU_REG_AFD_Trois-Frontieres.pdf.

Alshammari N, Willoughby J. 2017. Determinants of political instability across Arab Spring countries. Mediterranean Politics.

Altaeb M. 2021. Desalination in Libya: Challenges and opportunities: MEI. https://www.mei.edu/publications/desalination-libya-challenges-and-opportunities.

Al-Zu'bi M, Dejene SW, Hounkpè J, Kupika OL, Lwasa S, Mbenge M, Mwongera C, Ouedraogo NS, Touré NDE. 2022. African perspectives on climate change research. Nature Clim Change. 12:1078–1084.

Amakrane K, Rosengaertner S, Simpson NP, de Sherbinin A, Linekar J, Horwood C, Jones B, Cottier F, Adamo S, Mills B, Yetman G, Chai-Onn T, Squires J, Schewe J, Frouws B, Forin R. 2023. African Shifts – The Africa Climate Mobility Report: Addressing Climate-Forced Migration and Displacement. New York: Global Centre for Climate Mobility, Africa Climate Mobility Initiative. 242 p. https://africa.climatemobility.org/overview#african-shifts.

Andrews O, Le Quéré C, Kjellstrom T, Lemke B, Haines A. 2018. Implications for workability and survivability in populations exposed to extreme heat under climate change: a modelling study. The Lancet Planetary health. 2:e540-e547.

Antwi-Agyei P, Dougill AJ, Stringer LC, Codjoe SNA. 2018. Adaptation opportunities and maladaptive outcomes in climate vulnerability hotspots of northern Ghana. Climate Risk Management. 19:83–93.

APN. 2023. Arab Network for Food Sovereignty (ANFS). https://www.apnature.org/en/arab-network-food-sovereignty-anfs.

Arab Water Council. 2022a. The Climate Security in the Arab Region: Launching the Regional Climate Security Network. https://www.arabwatercouncil.org/index.php?option=com_content&view=article&id=579:the-climate-security-in-the-arab-region-launching-the-regional-climate-security-network&catid=60:news-events&Itemid=354&lang=en.

Arab Water Council. 2022b. Who We Are: Regional Climate Security Network. http://rcsn.arabwatercouncil.org/who-we-are/.

Armed Conflict Location and Event Data Project. 2023. Somalia: Conflict Expands to Galmudug State: Situation Update: March 2023. https://acleddata.com/2023/03/24/somalia-situation-update-march-2023-conflict-expands-to-galmudug-state/. Accessed 2023 Jun 02.

Asah ST. 2015. Transboundary hydro-politics and climate change rhetoric: an emerging hydro-security complex in the lake chad basin. WIREs Water. 2:37–45.

Aswan Forum. 2022. The Aswan conclusions on sustainable peace and development in Africa—third edition. Cairo, Egypt: Aswan Forum; [accessed 2023 Jun 20]. https://www.aswanforum.org/img-uploads/8380_25074921.pdf.

Atwii F, Sandvik KB, Kirch L, Paragi B, Radtke K, Schneider S, Weller D. 2022. World Risk Report 2022: Bündnis Entwicklung Hilft, Ruhr University Bochum – Institute for International Law of Peace and Armed Conflict; [accessed 2023 Jul 27]. https://weltrisikobericht.de/wp-content/uploads/2022/09/WorldRiskReport-2022_Online.pdf.

Auffredou M. 2022. Cobalt MIning in the Democratic Republic of the Congo: Colonialism, Sustainable Development, and Environemntal Justice.

Auktor GV, Loewe M. 2022. Subsidy Reform and the Transformation of Social Contracts: The Cases of Egypt, Iran and Morocco. Social Sciences.

Awiti AO. 2022. Climate Change and Gender in Africa: A Review of Impact and Gender-Responsive Solutions. Frontiers in Climate.

Awuah-Nyamekye S. 2019. Climate Change and Indigenous Akan Religio-Cultural Practices: Lessons for Policy-Makers and Implementers in Environmental Conservation in Ghana. Worldviews.

Ayal DY, Desta S, Gebru G, Kinyangi J, Recha J, Radeny M. 2015. Opportunities and challenges of indigenous biotic weather forecasting among the Borena herders of southern Ethiopia. SpringerPlus. 4:1–11.

Ayanlade A, Radeny M. 2020. COVID-19 and food security in Sub-Saharan Africa: implications of lockdown during agricultural planting seasons. NPJ Sci Food. 4:13.

Ayanlade A, Smucker TA, Nyasimi M, Sterly H, Weldemariam LF, Simpson NP. 2023. Complex climate change risk and emerging directions for vulnerability research in Africa. Climate Risk Management:100497.

Baarsch F, Schaeffer M, Granadillos JR, Krapp M, Amegble KD, Balaghi R, Balo G, Coumou D, Bruin K de, Eboh EC. 2019. Climate change impacts on Africa's economic growth. Africa Development Bank, Abidjan.

Babatunde Amao O, Ettang D, Okeke-Uzodike U, Tugizamana C. 2014. Revisiting the Utility of the Early Warning and Early Response Mechanisms in Africa: Any Role for Civil Society? Peace and Conflict Review. 8:77–93.

Bah I. 2021. Climate change in the Central African Republic: what threats? https://www.icrc.org/en/document/climate-change-central-african-republic-what-threats.

Bahta YT, Jordaan A, Muyambo F. 2016. Communal farmers' perception of drought in South Africa: Policy implication for drought risk reduction. International Journal of Disaster Risk Reduction. 20:39–50.

Ballesteros C, Esteves LS. 2021. Integrated Assessment of Coastal Exposure and Social Vulnerability to Coastal Hazards in East Africa. Estuaries and coasts. 44:2056–2072.

Bamutaze Y, Kyamanywa S, Singh BR, Nabanoga G, Lal R. 2019. Agriculture and ecosystem resilience in Sub Saharan Africa: livelihood pathways under changing climate: Springer.

Barbier EB, Burgess JC. 2021. Economics of Peatlands Conservation, Restoration, and Sustainable Management: A Policy Report for the Global Peatlands Initiative: United Nations Environment Programme; [accessed 2023 Jul 27]. https://wedocs.unep.org/bitstream/handle/20.500.11822/37262/PeatCRSM.pdf.

Beatley M, Edwards S. 2018. Overfished: In Senegal, empty nets lead to hunger and violence. https://gpinvestigations.pri.org/overfished-in-senegal-empty-nets-lead-to-hunger-and-violence-e3b5d0c9a686.

Beevers MD. 2015. Governing natural resources for peace: Lessons from Liberia and Sierra Leone. Global Governance. 21:227.

Bekker, Fourchard, editors. 2013. Governing cities in Africa: Politics and policies.

Belhabib D, Sumaila UR, Le Billon P. 2019. The fisheries of Africa: Exploitation, policy, and maritime security trends. Marine Policy. 101:80–92.

Belhassan K. 2022. Managing Drought and Water Stress in Northern Africa. Arid Environment.

Belli A, Villa V, Läderach P, Pacillo G. 2021. How does climate exacerbate root causes of conflict in Kenya? An econometric analysis: Climate Security Observatory Series. Factsheet 2021/8: Consultative Group for International Agricultural Research. 17 p. https://hdl.handle.net/10568/116464.

Bennett NJ, Le Billon P, Belhabib D, Satizábal P. 2022. Local marine stewardship and ocean defenders. npj Ocean Sustainability. 1:3.

Bennouna A. 2022. The State of Energy in Morocco. https://www.kas.de/documents/264147/264196/Report+Energy+Morocco+2022_Amin+Bennouna.pdf/db49a4e3-6505-aaf3-85af-775b57d49d08?version=1.0&t=1683651907984.

Berhane Z&D. 2014. Subseasonal Analysis of Precipitation Variability in the Blue Nile River Basin. Journal of Climate.

Berkhout E, Kodsi E, van den Berg M, van Zeist W-J, Mwandendu R, van der Esch S, Rembold F, Meroni M, Cherlet M. 2021. Future perspectives on land for Eastern Africa: Pilot study focusing on Ethiopia and Kenya: United Nations Development Programme.
76 p.

Binder L. 2022a. Climate Change in Central Africa. Unpublished: Potsdam Institute for Climate Impact Research.

Binder L. 2022b. Climate Change in North Africa. Unpublished: Potsdam Institute for Climate Impact Research.

Binder L. 2022c. Climate Change in West Africa. Unpublished: Potsdam Institute for Climate Impact Research.

Binder L. 2023. Current and future climate impacts Southern Africa. Berlin: Potsdam Institute for Climate Impact Research.

Binder L, Gleixner S, Gornott C, Lange S, Šedová B, Tomalka J. 2023. Climate Risk Profile for Eastern Africa: Deutsche Gesellschaft für Internationale Zusammenarbeit. 26 p.

Bird L. 2021. West Africa's Cocaine Corridor: Building a subregional response: Global Initiative Against Transnational Organized Crime. https://globalinitiative.net/wp-content/uploads/2022/07/GB-W-Africa-Corridor.July22.REV-web.pdf.

Bird L, Stanyard J, Moonien V, Raymonde Randrianarisoa R. 2021. Changing tides: The evolving illicit drug trade in the western Indian Ocean. Geneva: Global Initiative Against Transnational Organized Crime; [accessed 2023 Jul 26]. https://globalinitiative.net/wp-content/uploads/2021/05/GITOC-Changing-Tides-The-evolving-illicit-drug-trade-in-the-western-Indian-Ocean.pdf.

Blattman C, Hartman A, Blair R. 2014. How to Promote Order and Property Rights under Weak Rule of Law? An Experiment in Changing Dispute Resolution Behavior through Community Education. Am Polit Sci Rev. 108:100–120.

Blumstein S. 2017. Integrating water and climate diplomacy in the Orange-Senqu river. Berlin: adelphi. Climate Diplomacy Series; [accessed 2023 Jun 19]. https://climate-diplomacy.org/sites/default/files/2020-10/Policy%20Brief%20Orange-Senqu%20_20170619.pdf.

Böge V. 2006. Water Governance in Southern Africa—Cooperation and Confl ict Prevention in Transboundary River Basins. Bonn: BONN INTERNATIONAL CENTER FOR CONVERSION- INTERNATIONALES KONVERSIONSZENTRUM BONN. Brief 33.

Bolognesi M, Vrieling A, Rembold F, Gadain H. 2015. Rapid mapping and impact estimation of illegal charcoal production in southern Somalia based on WorldView-1 imagery. Energy for Sustainable Development. 25:40–49.

Boojhawon A, Surroop D. 2021. Impact of climate change on vulnerability of freshwater resources: a case study of Mauritius. Environment, Development and Sustainability. 23:195–223.

Botreau H, Cohen M. 2019. Gender inequalities and food insecurity. Ten years after the food price crisis, why are women farmers still food-insecure?: OXFAM. https://reliefweb.int/report/world/gender-inequalities-and-food-insecurity-ten-years-after-food-price-crisis-why-are-women.

Boubakri H, Lahlou M, Musette S, Mohamed M. 2021. Migration in North Africa. https://www.kas.de/documents/282499/282548/Migration+in+North+Africa+Policy+Paper+-+English.pdf/44fc85fb-cb12-2cad-8a18-5aecd30536d1?version=1.3&t=1620657754510.

Bouchama N, Ferranti G, Fuireti L, Menesesi A, Thim A. 2018. Gender Inequality in West African Social Institutions.

Bove T. 2021. The Great Green Wall is Failing, But its Legacy Could Still Be A Success. https://earth.org/the-great-green-wall-legacy/. Accessed 2023 Aug 04.

bp. 2020. Energy Outlook 2020 edition: BP Energy Economics. 81 p; [accessed 2023 Feb 23]. https://www.bp.com/content/dam/bp/business-sites/en/global/corporate/pdfs/energy-economics/energy-outlook/bp-energy-outlook-2020.pdf.

Breisinger C, Kassim Y, Kurdi S, Randriamamonjy J, Thurlow J. 2023. From Food Subsidies to Cash Transfers: Assessing Economy-Wide Benefits and Trade-Offs in Egypt. Journal of African Economies.

Breuer T, Maisels F, Fishlock V. 2016. The consequences of poaching and anthropogenic change for forest elephants. Conserv Biol. 30:1019–1026.

Breuer T, Ngama S. 2020. Humans and forest elephants in Central Africa: Conflict and co-existence in and around protected areas. In: Doumenge C., Palla F, Itsoua Madzous G-L, editors. State of Protected Areas in Central Africa 2020. Gland. p. 174–219.

Brier G de, Lonema JP, Muller T. 2023. Taxes and levies in the artisanal mining sites of South Kivu and Ituri: How much does an artisanal miner pay?: IPIS. https://ipisresearch.be/publication/taxes-and-levies-in-the-artisanal-mining-sites-of-south-kivu-and-ituri-how-much-does-an-artisanal-miner-pay/.

Brilhante M, Varela E, P Essoh A, Fortes A, Duarte MC, Monteiro F, Ferreira V, Correia AM, Duarte MP, Romeiras MM. 2021. Tackling Food Insecurity in Cabo Verde Islands: The Nutritional, Agricultural and Environmental Values of the Legume Species. Foods. 10.

Broek E, Hodder CM. 2022. Towards an Integrated Approach to Climate Security and Peacebuilding in Somalia. Stockholm: Stockholm International Peace Research Institute; [accessed 2023 Jul 27]. https://sipri.org/sites/default/files/2022-06/2206_towards_an_integrated_approach_to_climate_security_and_peacebuilding_in_somalia_0.pdf.

Brottem L. 2021. The Growing Complexity of Farmer-Herder Conflict in West and Central Africa: Africa Center for Strategic Studies. https://africacenter.org/publication/growing-complexity-farmer-herder-conflict-west-central-africa/.

Brown D, Rance Chanakira R, Chatiza K, Dhliwayo, M., Dodman. 2012. Climate change impacts, vulnerability and adaptation in Zimbabwe. London: iied. Climate Change Working Paper Report No.: 3; [accessed 2023 Jun 15]. https://www.iied.org/sites/default/files/pdfs/migrate/10034IIED.pdf.

Brown O, Keating M. 2015. Addressing natural resource conflicts: Working towards more effective resolution of national and sub-national resource disputes. London: Chatham House. https://www.chathamhouse.org/2015/06/addressing-natural-resource-conflicts-working-towards-more-effective-resolution-national.

Brown and Crawford. 2008. Assessing the security implications of climate change for West Africa Country case studies of Ghana and Burkina Faso: IISD. https://www.iisd.org/system/files/publications/security_implications_west_africa.pdf.

Bruch C, Muffett C, Nichols SS. 2016. Natural resources and post-conflict governance: building a sustainable peace. In: Governance, natural resources and post-conflict peacebuilding: Routledge. p. 1–32.

Brück T, Ferguson NTN, Izzi V, Stojetz W. 2021. Can Jobs Programs Build Peace? The World Bank Research Observer. 36:234–259.

Bruckmann L. 2021. La gestion partagée de l'eau dans le bassin du fleuve Sénégal: trajectoire, enjeux et perspectives. L'Ouest Saharien. Vol. 13-14:261–280.

Bruffaerts L. 2015. A diamantine struggle: redefining conflict diamonds in the Kimberley Process. International affairs. 91:1085–1101.

Bruna N, Mbanze AA. 2023. Land Grabbing under a Changing Political Landscape in Mozambique. In: Neef A, Ngin C, Moreda T, Mollett S, editors. Routledge Handbook of Global Land and Resource Grabbing.

Burger J. 2014. Indigenous peoples, extractive industries and human rights. Brussels: Directorate General on External Policies, Policy Department; [accessed 2023 Aug 1]. https://www.europarl.europa.eu/RegData/etudes/STUD/2014/534980/EXPO_STU(2014)534980_EN.pdf.

Bush ER, Whytock RC, Bahaa-El-Din L, Bourgeois S, Bunnefeld N, Cardoso AW, Dikangadissi JT, Dimbonda P, Dimoto E, Edzang Ndong J, Jeffery KJ, Lehmann D, Makaga L, Momboua B, Momont LRW, Tutin CEG, White LJT, Whittaker A, Abernethy K. 2020. Long-term collapse in fruit availability threatens Central African forest megafauna. Science. 370:1219–1222.

Business and Human Rights Resource Centre. 2021. Human Rights Defenders & Civic Freedoms Programme. https://www.business-humanrights.org/en/. Accessed 2023 Jul 27.

Butts KH, Thomas PR. 2019. The geopolitics of Southern Africa: South Africa as regional superpower. New York, NY: Routledge.

Camarena KR. 2023. Most east African refugees are hosted close to borders – it's a deliberate war strategy. https://theconversation.com/most-east-african-refugees-are-hosted-close-to-borders-its-a-deliberate-war-strategy-200861. Accessed 2023 May 29.

Camberlin P. 2014. Climate of Eastern Africa. In: Storch Hv, editor. Oxford research encyclopedia of climate science. New York, NY: Oxford University Press.

Camurri M. 2022. Maritime Security in the Indian Ocean: the practice of Illegal, Unreported and Unregulated (IUU) Fishing. https://mondointernazionale.org/focus-allegati/maritime-security-in-the-indian-ocean-the-practice-of-illegal-unreported-and-unregulated-iuu-fishing. Accessed 2023 Jul 27.

Carciotto S. 2020. On the move: mobility and governance in Southern Africa. ISS Southern Africa Report. 2020:1–32.

CARE International. 2017. Hope dries up? Women and Girls coping with Drought and Climate Change in Mozambique. Maputo; [accessed 2023 Jun 15]. https://careclimatechange.org/wp-content/uploads/2016/11/El_Nino_Mozambique_Report_final.pdf.

Caroli G. 2023. Towards a Common Vision Report for Zambia. Forthcoming: CGIAR. Working Paper Series.

Caroli G, Tavenner K, Huyer S, Sarzana C, Belli A, Elias M, Pacillo G, Läderach P. 2022. The gender-climate-security nexus: Conceptual Framework, CGIAR Portfolio Review & Recommendations towards an Agenda for One CGIAR: CGIAR Focus Climate Security; [accessed 2023 Aug 2]. https://cgspace.cgiar.org/bitstream/handle/10568/117590/GCS%20Paper.pdf?sequence=4&isAllowed=y.

Carson J, Hutchison E, Giangola L, Cooley D, Quin L. 2021. Uganda: USAID Securing Peace and Promoting Prosperity (EKISIL) Activity – Climate Risk Management Case Study: United States Agency for International Development; [accessed 2023 Aug 2]. https://www.climatelinks.org/resources/uganda-usaid-securing-peace-and-promoting-prosperity-ekisil-activity-climate-risk.

Carter TA, Veale DJ. 2015. The timing of conflict violence: Hydraulic behavior in the Ugandan civil war. Conflict Management and Peace Science. 32:370–394.

Center for Preventive Action. 2023. Conflict in Ethiopia. https://www.cfr.org/global-conflict-tracker/conflict/conflict-ethiopia. Accessed 2023 Jun 26.

Central African Forest Initiative. 2023. Multi-sectoral Programme in Mai-Ndombé Province – DRCongo. https://www.cafi.org/countries/democratic-republic-congo/piredd-mai-ndombe-province. Accessed 2023 Aug 07.

Central Intelligence Agency. 2022. The World Factbook: Sao Tome and Principe. https://www.cia.gov/the-world-factbook/countries/sao-tome-and-principe.

Centre for Humanitarian Dialogue. 2019. Agro-pastoral mediation in the Sahel region of Mali, Niger and Burkina Faso. Geneva: Centre for Humanitarian Dialogue; [accessed 2023 Jul 28]. https://www.hdcentre.org/wp-content/uploads/2019/01/HD-Agro-pastoral-mediation-in-the-Sahel.pdf.

Centre for Research on the Epidemiology of Disasters – The International Disaster Database. n.d. EM-DAT Glossary. https://www.emdat.be/. Accessed 2023 Jul 27.

CGIAR. 2023a. Climate Security Initiative. Rome: CGIAR. https://climatesecurity.cgiar.org/.

Chekireb A, Goncalves J, Stahn H, Tomini A. 2022. Private Exploitation of the North-Western Sahara Aquifer System. Environment Modelling & Assessment.

Chibani A. 2022. Confronting Water Scarcity in North Africa; [accessed 2023 Feb 22]. https://arabcenterdc.org/resource/confronting-water-scarcity-in-north-africa/.

Chidumayo E, Gumbo DJ. 2010. The dry forests and woodlands of Africa: managing for products and services. earthscan.

Chigusiwa L, Kembo G, Kairiza T. 2023. Drought and social conflict in rural Zimbabwe: Does the burden fall on women and girls? Review of development economics.

Chimatiro S, Simmance F, Wesana J, Cohen P, Westlund L, Linton J. 2021. The African Great Lakes Regional Food System: the contribution of fisheries – the case of small pelagic fishes: Discussion Paper. Penang: WorldFish. 43 p; [accessed 2023 Apr 24]. https://digitalarchive.worldfishcenter.org/bitstream/handle/20.500.12348/4957/0d7fac68bd3ee45955f05af0ab1df122.pdf?sequence2.

Cilliers J. 2018. Violence in Africa: Trends, drivers and prospects to 2023: Institute for Secruity Studies. Africa Report Report No.: 12; [accessed 2023 Jul 24]. https://issafrica.s3.amazonaws.com/site/uploads/ar-12-v1.pdf.

Cinini SF, Mkhize SM. 2021. An exploration of the safety and security experiences of African foreign nationals in Durban, South Africa. Journal of African Foreign Affairs. 8:27–47.

City of Cape Town. 2018. Water Outlook Report, Cape Town: Department of Water and Sanitation. Cape Town.

Clement V, Rigaud KK, Sherbinin A de, Jones B, Adamo S, Schewe J, Sadiq N, Shabahat E. 2021. Groundswell Part 2: Acting on Internal Climate Migration. Washington, DC: World Bank. https://openknowledge.worldbank.org/handle/10986/36248.

Climate Diplomacy. n.d.a. Climate Change, Charcoal Trade and Armed Conflict in Somalia: Climate Diplomacy Factbook. https://climate-diplomacy.org/case-studies/climate-change-charcoal-trade-and-armed-conflict-somalia. Accessed 2022 Dec 06.

Climate Diplomacy. n.d.b. Communal Conflicts in the Karamoja Cluster (Kenya): Factbook. https://climate-diplomacy.org/case-studies/communal-conflicts-karamoja-cluster-kenya. Accessed 2022 Aug 30.

Climate Diplomacy. n.d.c. Conflict between Dinka and Nuer in South Sudan: Factbook. https://climate-diplomacy.org/case-studies/conflict-between-dinka-and-nuer-south-sudan. Accessed 2022 Aug 30.

Climate Diplomacy. n.d.d. Conservation and conflict: The Mafia Island Marine Park: Climate Diplomacy Factbook. https://climate-diplomacy.org/case-studies/conservation-and-conflict-mafia-island-marine-park. Accessed 2022 Jun 02.

Climate Diplomacy. n.d.e. Dispute over Water in the Nile Basin: Climate Diplomacy Factbook. https://climate-diplomacy.org/case-studies/dispute-over-water-nile-basin. Accessed 2022 Dec 07.

Climate Diplomacy. n.d.f. Disputes over the Grand Ethiopian Renaissance Dam (GERD): Climate Diplomacy Factbook. https://climate-diplomacy.org/case-studies/disputes-over-grand-ethiopian-renaissance-dam-gerd. Accessed 2022 Dec 07.

Climate Diplomacy. n.d.g. Droughts and the Grain Export Ban in Russia: Climate Diplomacy Factbook. https://climate-diplomacy.org/case-studies/droughts-and-grain-export-ban-russia. Accessed 2022 Dec 07.

Climate Diplomacy. n.d.h. Growing Land Scarcity and the Rwandan Genocide of 1994: Climate Diplomacy Factbook. https://climate-diplomacy.org/case-studies/growing-land-scarcity-and-rwandan-genocide-1994. Accessed 2022 Jun 03.

Climate Diplomacy. n.d.i. Piracy off the Coast of Somalia: Climate Diplomacy Factbook. https://climate-diplomacy.org/case-studies/piracy-coast-somalia. Accessed 2022 May 02.

Climate Diplomacy. n.d.j. Security Implications of the Gilgel Gibe III Dam, Ethiopia: Climate Diplomacy Factbook. https://climate-diplomacy.org/case-studies/security-implications-gilgel-gibe-iii-dam-ethiopia. Accessed 2022 Dec 13.

Climate Diplomacy. 2022. Transnational Conflict and Cooperation in the Lake Chad Basin. https://climate-diplomacy.org/case-studies/transnational-conflict-and-cooperation-lake-chad-basin.

Clingendael. 2020. Tripoli's Electricity Crisis and its Politicisation. https://www.clingendael.org/sites/default/files/2020-04/PB_Libyas_electricity_crisis_April_2020.pdf.

Clover J, Eriksen S. 2009. The effects of land tenure change on sustainability: human security and environmental change in southern African savannas. Environmental Science & Policy. 12:53–70.

Colombo S. 2018. A tale of several stories: EU-North Africa relations revisited. https://ecdpm.org/work/north-africa-hope-in-troubled-times-volume-7-issue-4-autumn-2018/a-tale-of-several-stories-eu-north-africa-relations-revisited. Accessed 2023 Feb 22.

Comité Permanent Inter-états de Lutte contre la Sécheresse dans le Sahel. 2016. Landscapes of West Africa—A window on a changing world: Comité Permanent Inter-états de Lutte contre la Sécheresse dans le Sahel. http://dx.doi.org/10.5066/F7N014QZ.

Common Market for Eastern and Southern Africa. 2023. What is COMESA? https://www.comesa.int/what-is-comesa/.

Communes Vertes. 2020. ALGERIA: Government and GIZ launch the “green municipalities” project. https://communes-vertes.org/nos-activites/solutions-pilotes-en-ee-et-enr-et-plans-daction/.

Conférence des Nations Unies sur le commerce et le développement. 2019. Examen de la politique d’investissement du Tchad: United Nations; [accessed 2023 Aug 1]. https://unctad.org/system/files/official-document/diaepcb2019d1_fr.pdf.

Congo Basin Forest Partnership. 2019. On the need to guide regional transhumance dynamics by giving greater consideration to issues relating to security, management of large fauna and the increasing degradation of ecosystems resulting from climate change. https://archive.pfbc-cbfp.org/news_en/items/NDjamena-Declaration.html.

Congo Basin Forest Partnership. 2023. Concept Note Second International Conference of Ministers on Transboundary Transhumance. https://pfbc-cbfp.org/info-logistique.html. Accessed 2023 Aug 07.

Consultative Group for International Agricultural Research. 2022a. Climate Security Observatory. Country Profile: Kenya. 7 p. https://hdl.handle.net/10568/127878.

Consultative Group for International Agricultural Research. 2022b. Climate, security and food systems in Kenya. UNFSS AT5 HDP Nexus coalition. Brief Series. Rome. 13 p. https://hdl.handle.net/10568/128091.

Consultative Group for International Agricultural Research. 2023b. The Launch of CGIAR’s Regional Climate Security Hub for the MENA region. https://www.cgiar.org/news-events/news/cgiar-climate-security-hub-mena/. Accessed 2023 Jul 27.

Cooperation in International Waters in Africa. 2022. HARNESSING THE POTENTIAL OF GROUNDWATER TO ENHANCE PASTORAL PRODUCTIVITY IN THE SAHEL. https://www.ciwaprogram.org/rcv1/ciwa-learning-note-pastoralism-groundwater-sahel-region/.

Cooperation in International Waters in Africa. 2023. WEST AND CENTRAL AFRICA. https://www.ciwaprogram.org/west-and-central-africa/.

Cordall SS. 2023. So thirsty they drank seawater: The refugees Tunisia pushed out. https://www.aljazeera.com/news/2023/7/10/suffering-of-refugees-on-tunisias-desert-borders.

Cornish C, Munshi N, Raval A. 2021 May 26. Oil producers face costly transition as world looks to net-zero future. Financial Times; [accessed 2023 Feb 23]. https://www.ft.com/content/27b4b7f1-9b08-4406-8119-03a73fb6ce19.

Critical Ecosystem Partnership Fund. 2015. Ecosystem Profile Guinean Forests of West Africa Biodiversity Hotspot: International Union for Conservation of Nature; [accessed 2023 Jul 27]. https://www.cepf.net/sites/default/files/en_guinean_forests_ecosystem_profile.pdf.

Croitoru L, Miranda JJ, Sarraf M. 2019. The Cost of Coastal Zone Degradation in West Africa: Benin, Cote d’Ivoire, Senegal, and Togo: World Bank. http://documents.worldbank.org/curated/en/822421552504665834/The-Cost-of-Coastal-Zone-Degradation-in-West-Africa-Benin-Cote-dIvoire-Senegal-and-Togo.

Dan Suleiman M. 2023. Niger is a key player in the Sahel region – 4 security implications of the coup. https://theconversation.com/niger-is-a-key-player-in-the-sahel-region-4-security-implications-of-the-coup-211883.

Dana J. 2023. Lithium and the New Wave of Resource Nationalism. Medium. https://josephdana.medium.com/lithium-and-the-new-wave-of-resource-nationalism-b448b991c0fa.

Daniel OB. 2021. Climate Change and Farmers-Herders Conflict in Nigeria. New Security Beat. https://www.newsecuritybeat.org/2021/11/climate-change-farmers-herders-conflict-nigeria/.

Darkoh MBK, Mbaiwa JE. 2014. Okavango delta-a Kalahari oasis under environmental threats. Journal of Biodiversity & Endangered Species.

Davies R. 2021. Burundi – Thousands Affected by Rising Levels of Lake Tanganyika Says UN. https://floodlist.com/africa/burundi-lake-tanganyika-flood-april-2021#:~:text=Levels%20of%20the%20lake%20have%20been%20slowly%20rising,sea%20level.%20The%20average%20level%20is%20772.7%20metres.

Davis R, Hirji R. 2014. Climate change and water resources planning, development and management in Zimbabwe: main report.

De Berry J. 2023. Madagascar and the social impacts of drought: World Bank Blogs. https://blogs.worldbank.org/climatechange/madagascar-and-social-impacts-drought. Accessed 2023 Apr 17.

de Brier G, Schouten P, Marsden P, Gillebert D. 2020. Promoting peaceful and safe seasonal migration in Northern Central African Republic: Results of Consultation with transboundary herders, semi-settled herders and settled communities in Ouham Pendé and Western Ouham. Antwerp: IPIS/Concordis; [accessed 2023 Jul 28]. https://ipisresearch.be/wp-content/uploads/2021/02/2101-Concordis-Report.pdf.

DeConing C, Krampe F. 2021. Climate, Peace and Security Fact Sheet Sahel: Sahel: Stockholm International Peace Research Institute, Norwegian Institute of International Affairs; [accessed 2023 Aug 2]. https://sipri.org/sites/default/files/NUPI_Fact_Sheet_Sahel_LR5.pdf.

DeGeorges A, Reilly B. 2006. Dams and Large Scale Irrigation on the Senegal River. Impacts on Man and the Environment: Human Development Report 2006. Human Development Report Office Occasional Paper. 24 p.

Desbureaux S, Damania R. 2018. Rain, forests and farmers: Evidence of drought induced deforestation in Madagascar and its consequences for biodiversity conservation. Biological Conservation. 221:357–364.

Destrijcker L, Foong A, Mahamoud A, Dieffenbacher JC. 2023. Key climate security actors and frameworks in Eastern Africa: Mapping exercise. Berlin: adelphi. 18 p; [accessed 2023 Jun 7]. https://weatheringrisk.org/en/publication/key-climate-security-actors-and-frameworks-eastern-africa.

Destrijcker L, Kyeyune M, Dieffenbacher JC. 2023. Climate, Peace and Security Study: Uganda, West Nile sub-region: Weathering Risk. Berlin: adelphi. 57 p.

Detges A, Klingenfeld D, König C, Pohl B, Rüttinger L, Schewe J, Sedova B, Vivekananda J. 2020. 10 insights on climate impacts and peace: A summary of what we know. Berlin, Potsdam: adelphi, Potsdam Institute for Climate Impact Research. 69 p. https://weatheringrisk.org/sites/default/files/document/10%20Insights%20on%20Climate%20Impacts%20and%20Peace%20Report_0.pdf.

Deutsche Welle. 2019. Cyclone Idai wreaks havoc across southeastern Africa. Mozabique.

Devillard, A. Bacchi, A and Noack, M. 2015. A Survey on Migration Policies in West Africa.

Di Falco S, Laurent-Lucchetti J, Veronesi M, Kohlin G. 2020. Property Rights, Land Disputes and Water Scarcity: Empirical Evidence from Ethiopia. American Journal of Agricultural Economics. 102:54–71.

Diene PD, Manley D, Olan'g S, Scurfield T. 2022. Triple Win: How Mining Can Benefit Africa's Citizens, Their Environment and the Energy Transition: Natural Resource Governance Institute. https://resourcegovernance.org/sites/default/files/documents/triple-win_how-mining-can-benefit-africas-citizens-their-environment-the-energy-transition.pdf.

Dini-Osman RK. 2024. 3 coup-hit West African nations exit ECOWAS citing sanctions, no support against terrorism. https://theworld.org/stories/2024-02-06/3-coup-hit-west-african-nations-exit-ecowas-citing-sanctions-no-support-against. Accessed 2024 Mar 14.

Dreier and Sow. 2015. Bialaba Migrants from the Northern of Benin to Nigeria, in Search of Productive Land—Insights for Living with Climate Change. Sustainability. 7.

Droogers P, Immerzeel WW, Terink W, Hoogeveen J, Bierkens MFp, L. P. H. van Beek, Debele B. 2012. Water resources trends in Middle East and North Africa towards 2050. Hydrology and Earth System Sciences.

Drylands Learning and Capacity Building Initiative. n.d. Who We Are. https://dlci-hoa.org/what-we-do-overview/. Accessed 2022 Jun 03.

Dutta Gupta T, Madurga-Lopez I, Läderach P, Pacillo G. 2021. How does climate exacerbate root causes of conflict in Kenya? An impact pathway analysis: CGIAR FOCUS Climate Security. 11 p. https://hdl.handle.net/10568/116458.

Dutton J. 2022. Climate and Covid-hit Mauritius seeks resilience in its recovery. https://african.business/2022/12/finance-services/climate-and-covid-hit-mauritius-seeks-resilience-in-its-recovery. Accessed 2023 Jul 28.

Eaton, Tim. 2018. Libya's War Economy Predation, Profiteering and State Weakness: Chatham House; [accessed 2023 Feb 22]. https://www.chathamhouse.org/sites/default/files/publications/research/2018-04-12-libyas-war-economy-eaton-final.pdf.

Eberle UJ, Rohner D, Thoenig M. 2020. Heat and Hate: Climate Security and Farmer-Herder Conflicts in Africa: CEPR Discussion Papers 15542. 78 p.

ECCAS. 2021a. Atlas des risques de la CEEAC. https://www.gfdrr.org/sites/default/files/ATLAS%20RISQUES%20CEEAC_light.pdf.

ECCAS. 2021b. ATLAS DES RISQUES DE LA CEEAC. https://www.gfdrr.org/sites/default/files/ATLAS%20RISQUES%20CEEAC_light.pdf.

Ecker, Olivier, Al-Riffai, Perrihan, Breisinger, Clemens, El-Batrawy, Rawia. 2016. Nutrition and economic development: Exploring Egypt's exceptionalism and the role of food subsidies.

Economic Community of West African States. 2022. Regional Climate Strategy (RCS) and Action Plan (2022-2030): Economic Community of West African States; [accessed 2023 Aug 1]. https://ecowap.ecowas.int/media/ecowap/file_document/2022_ECOWAS_Regional_Climate_Strategy_and_Action_Plan_2022-2030_EN.pdf.

Egypt Independent. 2022. Egypt addresses UN security council over Ethiopia's continued filling of GERD. https://egyptindependent.com/egypt-addresses-un-security-council-over-ethiopias-continued-filling-of-gerd/. Accessed 2023 Feb 22.

Eljechtimi A. 2022. New desalination plant points towards Morocco's drought response. https://www.reuters.com/world/new-desalination-plant-points-towards-moroccos-drought-response-2022-11-21/.

Elshafei M, Ibrahim A, Helmy A, Abdallah M, Eldeib A, Badawy M, AbdelRazek S. 2021. Study of Massive Floating Solar Panels over Lake Nasser. Journal of Energy.

El-Shahat S, El-Zafarany AM, El Seoud TA, Ghoniem SA. 2021. Vulnerability assessment of African coasts to sea level rise using GIS and remote sensing. Environment, Development and Sustainability. 23:2827–2845.

Elum ZA, Modise DM, Marr A. 2017. Farmer's perception of climate change and responsive strategies in three selected provinces of South Africa. Climate Risk Management. 16:246–257.

Elumami A, Al-Warfali A. 2022. Libya's power cuts enrage citizens, spurring protest. https://www.reuters.com/world/africa/libyas-power-cuts-enrage-citizens-spurring-protest-2022-07-04/. Accessed 2023 Feb 22.

Energy Peace Partners. 2022. Literature Review: Energy Access, Renewable Energy and Social Impact. https://energypeace.squarespace.com/peace-impacts.

Engelbrecht FA. 2022. Is climate change to blame for KwaZulu-Natal's flood damage?. Pretoria: ISS. https://issafrica.org/iss-today/is-climate-change-to-blame-for-kwazulu-natals-flood-damage.

Epstein A, Bendavid E, Nash D, Charlebois ED, Weiser SD. 2020. Drought and intimate partner violence towards women in 19 countries in sub-Saharan Africa during 2011-2018: a population-based study. PLoS Med. 17:e1003064.

Ericsson M, Löf O. 2020. Extractive dependency in lower-income countries: Evolving trends during the transition to a low-carbon future. Bonn: United Nations University UNU-WIDER. WIDER Working Paper 2020 Report No.: 120; [accessed 2023 Jun 20]. https://www.wider.unu.edu/sites/default/files/Publications/Working-paper/PDF/wp2020-120.pdf.

Ernesta S. 2019. $ 11 million project will increase capacity of Seychelles' main desalination plant. http://www.seychellesnewsagency.com/articles/10374/++million+project+will+increase+capacity+of+Seychelles+main+desalination+plant. Accessed 2023 Aug 02.

European Civil Protection and Humanitarian Aid Operations. 2019. Horn of Africa – Heavy Deyr rains: ECHO Daily Flash of 13 December 2019. https://reliefweb.int/report/kenya/horn-africa-heavy-deyr-rains-dg-echo-un-ocha-ifrc-echo-daily-flash-13-december-2019. Accessed 2022 Dec 27.

European Commission. 2021. France, Germany, UK, US and EU launch ground-breaking International Just Energy Transition Partnership with South Africa. Brussels.

European Commission. 2022. COP27: EU and Egypt step up cooperation on the clean energy transition. https://ec.europa.eu/commission/presscorner/detail/en/ip_22_6925.

European Institite of Peace. 2023. Environmental Peacemaking in Liptako Gourma.

European Investment Bank, International Solar Alliance, African Union. 2022. Africa's extraordinary green hydrogen potential: European Investment Bank, International Solar Alliance, African Union; [accessed 2023 Jul 26]. https://www.eib.org/attachments/press/africa-green-hydrogen-flyer.pdf.

Ewi M, Louw-Vaudran L, Els W, Chelin R, Adam Y, Samuel Boerekamp E. 2022. Violent extremism in Mozambique: drivers and links to transnational organised crime. Maputo: Institute for Security Studies. 52 p; [accessed 2022 Oct 13]. https://issafrica.s3.amazonaws.com/site/uploads/sar-51.pdf.

Eze CB, Frimpong OB. 2021. Contributions of Early Warning to the African Peace and Security Architecture: The Experience of the West Africa Network for Peacebuilding (WANEP). In: McNamee T, Muyangwa M, editors. The State of Peacebuilding in Africa. Cham: Springer International Publishing. p. 181–194.

Fabricius P. 2023. Comoros-Mayotte saga a microcosm of Africa-Europe migration crisis: ISS Today. https://issafrica.org/iss-today/comoros-mayotte-saga-a-microcosm-of-africa-europe-migration-crisis. Accessed 2023 Jul 28.

Fagotto M. 2016. West Africa Is Being Swallowed by the Sea. Foreign Policy. https://foreignpolicy.com/2016/10/21/west-africa-is-being-swallowed-by-the-sea-climate-change-ghana-benin/.

Famine Early Warning Systems Network. 2022. Famine expected to emerge in Somalia in late 2022 in absence of urgent assistance. 2 p; [accessed 2023 Apr 17]. https://fews.net/sites/default/files/Press%20Release%20-%20Somalia%20Famine%20Projection.pdf.

Faruk O, Bearak M. 2020. With drastically smaller hajj, Somalia's livestock industry goes from 'boom to doom'. https://www.washingtonpost.com/world/africa/hajj-somalia-livestock-exports/2020/07/28/10c984e6-d03a-11ea-826b-cc394d824e35_story.html. Accessed 2023 May 30.

Feibel CS. 2011. A geological history of the Turkana Basin. Evol Anthropol. 20:206–216.

Ferre Garcia T, Madurga Lopez I, Sax N, Liebig T, Carneiro B, Laderach P, Pacillo G. 2023. How does climate exacerbate root causes of conflict in Zimbabwe? An impact pathway analysis. Pending Publication: CGIAR.

Few R, Spear D, Singh C, Tebboth MGL, Davies JE, Thompson-Hall MC. 2021. Culture as a mediator of climate change adaptation: Neither static nor unidirectional. WIREs Clim Change. 12.

Filho WL, Wolf F, Totin E, Zvobgo L, Simpson NP, Musiyiwa K, Kalangu JW, Sanni M, Adelekan I, Efitre J, Donkor FK, Balogun A-L, Mucova SAR, Ayal DY. 2023. Is indigenous knowledge serving climate adaptation? Evidence from various African regions. Development Policy Review. 41:e12664.

FiTI National Multi-Stakeholder Group (MSG) Seychelles. 2023. Seychelles' Report to the Fisheries Transparency Initiative (FiTI): 2021 summary: Fisheries transparency Initiative; [accessed 2023 Aug 2]. https://www.sfa.sc/index.php/fisheries-report-other-document?task=download.send&id=211&catid=33&m=0.

Flintan F. 2011. The changing nature of gender roles in the drylands of the Horn and East Africa: implications for Disaster Risk Reduction programming: REGLAP. https://wrd.unwomen.org/sites/default/files/2021-11/24271_24271genderanddrrfinal-dec20111.pdf.

Flummerfelt R. 2022. To Purge the Forest by Force: Organized violence against Batwa in Kahuzi-Biega National Park: Minority Rights Group International. https://minorityrights.org/publications/pnkb/.

Food and Agriculture Organization of the United Nations. n.d. Pastoralist Parliamentary Group. https://www.fao.org/pastoralist-knowledge-hub/pastoralist-networks/database-of-organization/details/en/c/979863/. Accessed 2023 Jun 07.

Food and Agriculture Organization of the United Nations. 2016. AQUASTAT Country profile – Egypt. https://www.fao.org/fishery/en/publication/87615.

Food and Agriculture Organization of the United Nations. 2017a. FAO in Action: Using indigenous knowledge to reverse land degradation in Angola. Angola: FAO; [accessed 2023 Jun 19]. https://www.fao.org/in-action/using-indigenous-knowledge-to-reverse-land-degradation-in-angola/en/.

Food and Agriculture Organization of the United Nations. 2017b. Linking community-based animal health services with natural resource conflict mitigation in the Abyei Administrative Area: Building resilience through dialogue and negotiation in a contested area between Sudan and South Sudan: Food and Agriculture Organization of the United Nations; [accessed 2023 Aug 2]. https://www.fao.org/in-action/kore/good-practices/good-practices-details/fr/c/1026219/.

Food and Agriculture Organization of the United Nations. 2019a. AQUASTAT: Total renewable water resources per capita. https://tableau.apps.fao.org/.

Food and Agriculture Organization of the United Nations. 2019b. Cross-border coordination of livestock movements and sharing of natural resources among pastoralist communities in the Greater Karamoja Cluster. Rome: FAO.

Food and Agriculture Organization of the United Nations. 2020. Global Forest Resources Assessment 2020. Rome: Food and Agriculture Organization of the United Nations; [accessed 2023 Aug 7]. https://www.fao.org/3/ca9825en/ca9825en.pdf.

Food and Agriculture Organization of the United Nations. 2023. Tropical Cyclone Freddy, Madagascar, 2023. https://storymaps.arcgis.com/stories/591c404b88a342ec8c9fbd1691ae7eb7. Accessed 2023 Jul 28.

Food and Agriculture Organization of the United Nations, International Fund for Agricultural Development, United Nations International Childern's Emergency Fund, World Food Programme, World Health Organization. 2023. The State of Food Security and Nutrition in the World 2023: Urbanization, agrifood systems transformation and healthy diets across the rural–urban continuum. Rome: FAO; [accessed 2023 Jul 24]. https://www.fao.org/3/cc3017en/cc3017en.pdf.

Food and Agriculture Organization of the United Nations, United Nations Development Programme, World Food Programme. n.d. PBF/TCD/B-4: Consolidation de la paix et de la sécurité entre les communautés d'agriculteurs et d'éleveurs dans les provinces du Salamat, du Sila et du Ouaddaï. https://mptf.undp.org/project/00129386. Accessed 2023 Aug 01.

Food and Agriculture Organization of the United Nations, United Nations Population Fund. 2020. Appui au renforcement de dialogue et la paix au niveau communautaire pour la prévention et la gestion des conflits entre communautés de cultivateurs et de pasteurs ici désigné agro-pastorales. https://mptf.undp.org/project/00124597. Accessed 2023 Aug 01.

Food and Agriculture Organization of the United Nations – Somalia Water and Land Information Management. n.d. The Juba and Shabelle Rivers and their Importance to Somalia. http://www.faoswalim.org/article/juba-and-shabelle-rivers-and-their-importance-somalia. Accessed 2023 Jun 02.

Foong A, Pohl B, Rüttinger L. 2020a. Climate-fragility risk brief Sudan: adelphi; [accessed 2023 Aug 2]. https://climate-diplomacy.org/sites/default/files/2021-01/CSEN%20Climate%20Fragility%20Risk%20Brief%20Sudan.pdf.

Foong A, Pohl B, Rüttinger L. 2020b. Climate-Fragility Risk Brief: Sudan. Berlin: adelphi. 28 p. Climate Security Expert Network; [accessed 2022 Apr 20]. https://climate-security-expert-network.org/sites/climate-security-expert-network.org/files/documents/csen_climate_fragility_risk_brief_sudan.pdf.

Forest Declaration Assessment. 2023. The latest on forest finance innovation from the One Forest Summit. Forest Declaration Assessment. https://forestdeclaration.org/one-forest-summit-forest-finance-innovation/.

Founda, Varotsos, Pierros and Giannakopoulos. 2019. Observed and projected shifts in hot extremes' season in the Eastern Mediterranean: Coordinated Regional Climate Downscaling Experiment.

France24. 2022. Rising food prices shake North Africa as Ukraine war rages. https://www.france24.com/en/live-news/20220313-rising-food-prices-shake-north-africa-as-ukraine-war-rages. Accessed 2023 Feb 22.

Frontex. 2022. Migratory Map. https://frontex.europa.eu/we-know/migratory-map/. Accessed 2023 Feb 22.

Frouws B, Horwood C. 2023. Murderous border controls: the mass killings of Ethiopian migrants along the Saudi Arabian – Yemen border. https://mixedmigration.org/articles/murderous-border-controls-ethiopian-migrants/.

Gado TA, El-Agha DE. 2021. Climate Change Impacts on Water Balance in Egypt and Opportunities for Adaptations. In: Abu-hashim M, Khebour Allouche F, Negm A, editors. Agro-Environmental Sustainability in MENA Regions. Cham: Springer International Publishing. p. 13–47.

Gado TA, El-Hagrsy RM, Rashwan IMh. 2022. Projection of rainfall variability in Egypt by regional climate model simulations. Journal of Water and Climate Change. 13.

Gannon KE, Crick F, Atela J, Babagaliyeva Z, Batool S, Bedelian C, Carabine E, Conway D, Diop M, Fankhauser S, Jobbins G, Ludi E, Qaisrani A, Rouhaud E, Simonet C, Suleri A, Wade CT. 2020. Private adaptation in semi-arid lands: a tailored approach to 'leave no one behind'. Glob. Sustain. 3:e6.

Gatenby V. 2017. Libya suffers severe water shortages. https://www.aljazeera.com/videos/2017/10/28/libya-suffers-severe-water-shortages.

Gatti R, Lederman D, Islam A, Wood CA, Fan RY, Lotfi R, Mousa ME, Nguyen H. 2022. Reality check: Forecasting growth in the Middle East and North Africa in times of uncertainty. Washington, DC: World Bank Group. 57 p. MENA Economic Update. und; [accessed 2023 Feb 22]. https://openknowledge.worldbank.org/bitstream/handle/10986/37246/9781464818653.pdf.

Gaye SB. 2018. Connections between Jihadist groups and smuggling and illegal trafficking rings in the Sahel: Friedrich Ebert Stiftung. https://library.fes.de/pdf-files/bueros/fes-pscc/14176.pdf.

GEF Independent Evaluation Office. 2020. Evaluation of GEF support in fragile and conflict -affected situations. Washington, D.C.: GEF Independent Evaluation Office. GEF/E/C.59/01.

Georges A. 2022. Gas, the new deal for Mauritania. https://african.business/2022/10/energy-resources/gas-the-new-deal-for-mauritania.

Germanwatch. 2021. Global CLimate Risk Index: Top 10 most affected countries in 2019. Berlin: Germanwatch; [accessed 2023 Jun 20]. https://www.germanwatch.org/en/19777.

Gevers A, Musuya T, Bukuluku P. 2019. Why climate change fuels violence against women. https://apolitical.co/solution-articles/en/why-climate-change-fuels-violence-against-women. Accessed 2023 Jul 26.

GFDRR. 2022. Think Hazard. https://thinkhazard.org/en/.

Gheuens J, Nagabhatla N, Perera E. 2019. Disaster-Risk, Water Security Challenges and Strategies in Small Island Developing States (SIDS). Water. 11:637.

Gibson A, Anderson M. 2023. What Ghana Teaches Us About the Intersection of Climate and Conflict. https://www.linkedin.com/pulse/what-ghana-teaches-us-intersection-climate-conflict/.

GIZ. 2016. Project evaluation: summary report SADC: Transboundary Water Management Program in SADC. Eschborn: GIZ.

Glaser SM, Hendrix CS, Franck B, Wedig K, Kaufman L. 2019. Armed conflict and fisheries in the Lake Victoria basin. Ecology and Society. 24:25.

Global Center on Adaptation. 2022. State and Trends in Adaptation Report 2022. https://gca.org/wp-content/uploads/2023/01/GCA_State-and-Trends-in-Adaptation-2022_Fullreport.pdf?_gl=1*puv683*_ga*MTA2ODExNTE3OC4xNjg4OTgxNzc4*_up*MQ.

Global Edge. 2023. Democratic Republic of the Congo: Economy. https://globaledge.msu.edu/countries/democratic-republic-of-the-congo/economy. Accessed 2023 Jul 28.

Global Facility for Disaster Reduction and Recovery. n.d. ThinkHazard! https://thinkhazard.org/en/. Accessed 2022 Nov 24.

Global Initiative Against Transnational Organized Crime. 2021a. Global Organized Crime Index: Mauritius: Global Initiative Against Transnational Organized Crime; [accessed 2023 Jul 27]. https://ocindex.net/assets/downloads/english/ocindex_profile_mauritius.pdf.

Global Initiative Against Transnational Organized Crime. 2021b. Global Organized Crime Index: Seychelles: Global Initiative Against Transnational Organized Crime, Global Organized Crime Index; [accessed 2023 Jul 26]. https://ocindex.net/assets/downloads/english/ocindex_profile_seychelles.pdf.

Global Initiative Against Transnational Organized Crime. 2023. Rise in cyanide-based processing techniques changes criminal dynamics in gold mines in Burkina Faso and Mali. https://riskbulletins.globalinitiative.net/wea-obs-002/03-rise-in-cyanide-based-processing-techniques.html.

Global Network Against Food Crises. n.d. Fighting Food Crises along the HDP Nexus Coalition. http://www.fightfoodcrises.net/hdp-coalition/en/. Accessed 2023 May 31.

Global Nutrition Report. 2023. Country Nutrition Profiles: Northern Africa. https://globalnutritionreport.org/resources/nutrition-profiles/africa/northern-africa/.

Global Organized Crime Index. 2023. Zimbabwe Profile. Washington, D.C; [accessed 2023 Jul 13]. https://ocindex.net/country/zimbabwe.

Global Partnership for the Prevention of Armed Conflict. 2022. Expanding Prevention: Capitalising on the Power of Early Warning and Early Response Systems: Global Partnership for the Prevention of Armed Conflict. 3 p; [accessed 2023 Jan 18]. https://www.gppac.net/resources/building-prevention-national-level-case-expansion-early-warning-systems.

Global Partnership for the Prevention of Armed Conflict. 2023. Localised Climate-Related Security Risk Assessment: A Case Study: Kaabong, Karamoja Sub-Region, Uganda. 14 p. https://gppac.net/resources/localised-climate-related-security-risk-assessment-uganda-case-study.

Global System for Mobile Communications. 2020. Digital Agriculture Maps: 2020 State of the Sector in Low and Middle-Income Countries. London: Global System for Mobile Communications; [accessed 2023 Jul 26]. https://www.gsma.com/r/wp-content/uploads/2020/09/GSMA-Agritech-Digital-Agriculture-Maps.pdf.

Global Witness. 2017. Liberia: Holding the Line. London: Global Witness; [accessed 2023 Jul 26]. https://www.globalwitness.org/documents/18740/Liberia_logging_accountability_report_AW_lowres.pdf.

Global Witness. 2021. Decade of Defiance: Ten years of reporting land and environmental activism worldwide. https://www.globalwitness.org/en/campaigns/environmental-activists/land-and-environmental-defenders-annual-report-archive/. Accessed 2023 Aug 01.

Gnanguenon A. 2021. Pivoting to African Conflict Prevention? An analysis of continental and regional early warning systems: European Union Institute for Security Studies; [accessed 2023 Jul 26]. https://www.iss.europa.eu/sites/default/files/EUISSFiles/Brief_3_2021_0.pdf.

GNDR. 2023. Views from the frontline. https://www.gndr.org/project/views-from-the-frontline/.

Government of the Republic of Uganda, Intergovernmental Authority on Development, East African Community. 2022. Kampala Ministerial Declaration on Migration, Environment and Climate Change by Member States of the Intergovernmental Authority on Development (IGAD), The East African Community (EAC) and States of the East and Horn of Africa at the Inter Ministerial Conference on Migration, Environment and Climate Change. Kampala. 7 p; [accessed 2023 Jun 7]. https://environmentalmigration.iom.int/sites/g/files/tmzbdl1411/files/documents/Kampala%20Ministerial%20Declaration%20on%20MECC_English%20signed.pdf.

Goxho D. 2021. No peace under the Shea tree – Climate change & conflicts in the Sahel: Debunking the myths. https://www.kas.de/en/web/mned-bruessel/single-title/-/content/no-peace-under-the-shea-tree-climate-change-conflicts-in-the-sahel-debunking-the-myths.

Grain de Sel. 2005. L'Organisation pour la mise en valeur du fleuve Sénégal (OMVS), une réussite à nuancer?: Grain de Sel; [accessed 2023 Jul 26]. https://www.inter-reseaux.org/wp-content/uploads/pdf_GdS30_eau_dev_rural.pdf.

Gravesen ML, Funder M. 2022. The Great Green Wall: An Overview and Lessons Learnt. en.

Groupe d'Etudes et de Recherches sur les Migrations et Faits de Société. 2021. Central Sahel Analysis on the Level of Risk for Children recruited by armed Groups. https://resourcecentre.savethechildren.net/document/analyse-du-sahel-central-sur-le-niveau-de-risque-pour-les-enfants-recrutes-par-les-groupes-armes/.

Guillier M, Brown O. 2022. Addressing climate security responses in West Africa: consultations with experts from the region: Alp Analytica; [accessed 2023 Aug 1]. https://alpanalytica.org/publications/services/.

Gustin G. 2022. In Africa, Conflict and Climate Super-Charge the Forces Behind Famine and Food Insecurity. https://insideclimatenews.org/news/12062022/in-africa-conflict-and-climate-super-charge-the-forces-behind-famine-and-food-insecurity/?utm_source=InsideClimate+News&utm_campaign=cca14fddaf-&utm_medium=email&utm_term=0_29c928ffb5-cca14fd-daf-327899529. Accessed 2022 Jun 20.

Haars C, Winkelaar B, Lönsjö EM, Mogos B. 2016. The uncertain future of the Nile Delta.

Haensler A, Saeed F, Jacob D. 2013. Assessment of projected climate change signals over central Africa based on a multitudeof global and regional climate projections. Climate Service Centre Report. 11.

Haer R. 2018. Children and armed conflict: looking at the future and learning from the past. Third World Quarterly.

Hamad H. 2016. Maritime Terrorism: Why the East African Community is the Next Potential Target of Maritime Terrorism. Research on Humanities and Social Sciences. 6.

Hamed, Hadji, Redhaounia, Zighmi, Baali, El Gayar. 2018. Climate impact on surface and groundwater in North Africa: a global synthesis of findings and recommendations. Euro-Mediterranean Journal for Environmental Integration.

Hamming TR. 2021. The Islamic State in Mozambique. https://www.lawfaremedia.org/article/islamic-state-mozambique. Accessed 2023 Jul 25.

Harmeling S, Kaloga A, Fanny P. n.d. Climate Loss and Damage in Africa: Massive Costs on the Horizon. https://careclimatechange.org/climate-loss-and-damage-in-africa-massive-costs-on-the-horizon/#post-content. Accessed 2023 Jul 27.

Harper S, Zeller D, Hauzer M, Pauly D, Sumaila UR. 2013. Women and fisheries: Contribution to food security and local economies. Marine Policy. 39:56–63.

Hatim Y. 2020. Maghreb Countries Study Project for Joint Electricity Market. https://www.moroccoworldnews.com/2020/02/294144/maghreb-countries-study-project-for-joint-electricity-market.

HelpAge International. 2022. Urgent action needed to stop famine and the annihilation of pastoralism in the Horn of Africa, older people warn. https://www.helpage.org/news/urgent-action-needed-to-stop-famine-and-the-annihilation-of-pastoralism-in-the-horn-of-africa-older-people-warn/. Accessed 2023 Jun 15.

Hendrix CS, Brinkman H-J. 2013. Food Insecurity and Conflict Dynamics: Causal Linkages and Complex Feedbacks. Stability: International Journal of Security & Development. 2:26.

Hereher ME. 2010. Vulnerability of the Nile Delta to sea level rise: an assessment using remote sensing. Geomatics, Nautral Hazards and Risk.

Hillert L. 2023. Linking Conservation and Peacemaking. Geneva: Centre for Humanitarian Dialogue; [accessed 2023 Jul 28]. https://hdcentre.org/wp-content/uploads/2023/03/Linking-Conservation-and-Peacemaking_Final.pdf.

Hirvonen K. 2016. Temperature Changes, Household Consumption, and Internal Migration: Evidence from Tanzania. American Journal of Agricultural Economics. 98:1230–1249.

Hoare R. 2015. Lessons From 20 Years of Human–Elephant Conflict Mitigation in Africa. Human Dimensions of Wildlife. 20:289–295.

Hodari D, Elliott R. 2020 Aug 10. Peak Oil? OPEC Says the World's Richest Countries Are Already There. The Wall Street Journal; [accessed 2023 Feb 23]. https://www.wsj.com/articles/global-oil-demand-wont-peak-before-2040-opec-says-11602158400.

Hodder C. 2021. Climate Change and Security in the United Nations Assistance Mission to Somalia. Berlin: adelphi. 5 p. Climate Security Expert Network; [accessed 2022 Apr 20]. https://climate-security-expert-network.org/sites/climate-security-expert-network.org/files/documents/csen_climate-fragility_policy_brief_unsom.pdf.

Hofste RW, Reig P, Schleifer L. 2019. 17 Countries, Home to One-Quarter of the World's Population, Face Extremely High Water Stress: WRI; [accessed 2023 Feb 22]. https://www.wri.org/insights/17-countries-home-one-quarter-worlds-population-face-extremely-high-water-stress.

Horn of Africa Initiative. n.d.a. Addressing Food Insecurity and Climate Change in the Horn of Africa: Regional Solutions. https://www.hoainitiative.org/addressing-food-insecurity-and-climate-change-in-the-horn-of-africa-regional-solutions/. Accessed 2023 May 31.

Horn of Africa Initiative. n.d.b. Overview. https://www.hoainitiative.org/who-we-are/. Accessed 2022 Aug 09.

Horn of Africa Initiative. 2022. Key priority projects to deepen regional integration. 11 p; [accessed 2022 Dec 7]. https://hoainitiative.org/key-priority-projects-to-deepen-regional-integration/.

Hornby D, Nel A, Chademana S, Khanyile N. 2018. A Slipping Hold? Farm Dweller Precarity in South Africa's Changing Agrarian Economy and Climate. Land.

Houdret A, Kadiri Z, Bossenbroek L. 2017. A New Rural Social Contract for the Maghreb? The Political Economy of Access to Water, Land and Rural Development. Middle East Law and Governance.

Howard A. 2016. Blood Diamonds: The Successes and Failures of the Kimberley Process Certification Scheme in Agnola, Sierra Leone and Zimbabwe. Wash. U. Global Stud. L. Rev. 15:137.

Huchon J, Jiagho RE, Bleu DD, Epanda M. 2020. Transhumant pastoralism and protected aread in Central Africa: from conflict to peaceful coexistence. In: Doumenge C., Palla F, Itsoua Madzous G-L, editors. State of Protected Areas in Central Africa 2020. Gland.

Human Rights Watch. 2023a: DR Congo: Rampant Intercommunal Violence in West. https://www.hrw.org/news/2023/03/30/dr-congo-rampant-intercommunal-violence-west.

Human Rights Watch. 2023b. Tunisia: No Safe Haven for Black African Migrants, Refugees: Security Forces Abuse Migrants; EU Should Suspend Migration Control Support. https://www.hrw.org/news/2023/07/19/tunisia-no-safe-haven-black-african-migrants-refugees. Accessed 2023 Jul 25.

Hund K, Megevand C, Gomes EP, Miranda M, Reed E. 2023. Deforestation Trends in the Congo Basin: Mining. Deforestation trends in the Congo Basin: World Bank. https://openknowledge.worldbank.org/entities/publication/104e9a08-23eb-5f82-9113-f498348f6b7b.

Hunt S, Eshete G, Tadesse M, Eshetu Z. 2019. Review of agricultural production systems in eastern Africa in relation to food and nutrition security and climate change. Nairobi: Consultative Group for International Agricultural Research. 157 p; [accessed 2023 Jan 18]. https://hdl.handle.net/10568/106995.

Hussein W. 2016. How Egypt plans to address its growing water crisis. https://www.al-monitor.com/originals/2016/06/egypt-crops-water-crisis-state-emergency.html. Accessed 2023 Feb 22.

Hzami A, Heggy E, Amrouni O, Mahé G, Maanan M, Abdeljaouad S. 2021. Alarming coastal vulnerability of the deltaic and sandy beaches of North Africa. Nature.

Ide T, Brzoska M, Donges JF, Schleussner C-F. 2020. Multi-method evidence for when and how climate-related disasters contribute to armed conflict risk. Global Environmental Change.

Ide T, Kristensen A, Bartusevičius H. 2021. First comes the river, then comes the conflict? A qualitative comparative analysis of flood-related political unrest. Journal of Peace Research. 58:83–97.

Ide T, Schilling J, Link JS, Scheffran J, Ngaruiya G, Weinzierl T. 2014. On exposure, vulnerability and violence: Spatial distribution of risk factors for climate change and violent conflict across Kenya and Uganda. Political Geography. 43:68–81.

Idemudia U, Tuokuu FXD, Essah M. 2022. The extractive industry and human rights in Africa: Lessons from the past and future directions. Resources Policy. 78:102838.

Idowu TE, Lasisi KH. 2020. Seawater intrusion in the coastal aquifers of East and Horn of Africa: A review from a regional perspective. Scientific African. 8:e00402.

Idris I. 2018. Livestock and Conflict in South Sudan: K4D Helpdesk Report: Institute of Development Studies. en; [accessed 2022 Dec 13]. https://opendocs.ids.ac.uk/opendocs/handle/20.500.12413/14316.

IFAB. 2022. Flooding events in Southern Africa. https://www.ifabfoundation.org/2022/06/10/flooding-events-in-southern-africa/.

Ifabiyi IP. 2013. Recharging the Lake Chad: the Hydropolitics of National Security and Regional Integration in Africa. Afr. Res. Rev. 7.

IMF. 2019. Union of Comoros: Request for Disbursement Under the Rapid Credit Facility and Purchase Under the Rapid Financing Instrument-Press Release; Staff Report; and Statement by the Executive Director for the Union of Comoros. https://www.imf.org/en/Publications/CR/Issues/2019/08/14/Union-of-Comoros-Request-for-Disbursement-Under-the-Rapid-Credit-Facility-and-Purchase-Under-48587.

Independent Evaluation Unit. 2023. Independent evaluation of the relevance and effectiveness of the green climate fund's investments in the African states. Final Report. 3rd. Songdo, Soth Corea: Independent Evaluation Unit Green Climate Fund. Evaluation Report Report No.: 14; [accessed 2023 Jun 19]. https://ieu.greenclimate.fund/sites/default/files/document/230309-afr-final-report-3rd-ed-top.pdf.

Innovation for Sustainable Development Network. 2019. Removing fossil fuel subsidies in Morocco. https://www.inno4sd.net/removing-fossil-fuel-subsidies-in-morocco-436.

Institut de Relations Internationales et Stratégiques. 2023. Climate security in the Western Indian Ocean: Institut de Relations Internationales et Stratégiques; [accessed 2023 Jul 28]. https://defenseclimat.fr/wp-content/uploads/2022/09/RE-14_-VF3.pdf.

Institute for Economics & Peace. 2020. Global Terrorism Index 2020: Measuring the Impact of Terrorism. Sydney: IEP. 109 p; [accessed 2023 Feb 22]. https://www.economicsandpeace.org/wp-content/uploads/2020/11/GTI-2020-web-2.pdf.

Institute for Economics & Peace. 2022. Global Terrorism Index 2022: MEASURING THE IMPACT OF TERRORISM. Sydney: IEP; [accessed 2023 Feb 22]. https://reliefweb.int/report/world/global-terrorism-index-2022.

Institute for Justice and Reconciliation. 2021. National and regional responses to the Cabo Delgado crisis: Policy Brief No. 34: Institute for Justice and Reconciliation; [accessed 2022 May 9]. https://www.ijr.org.za/home/wp-content/uploads/2021/07/IJR-Policy-Brief-Cabo-Delgado-09July-2021.pdf.

Institute for Secruity Studies. 2023a. African Futures SADC. https://futures.issafrica.org/geographic/recs/sadc/.

Institute for Secruity Studies. 2023b. South Africa. Future Projections. Pretoria.

Intergovernmental Authority on Development. n.d.a. IGAD Cluster 1 (Karamoja Cluster). https://resilience.igad.int/clusters/igad-cluster-1-karamoja-cluster/. Accessed 2023 Jan 12.

Intergovernmental Authority on Development. n.d.b. The IGAD land governance project. https://land.igad.int/index.php/about-us. Accessed 2023 Jul 26.

Intergovernmental Authority on Development. 2013. The IDDRSI Strategy. 41 p.

Intergovernmental Authority on Development. 2018. Policy Framework on the nexus between Informal Cross-Border Trade & Cross-Border Security Governance. Enhancing Cross-Border Cooperation and Cross-Border Economic Exchanges in the IGAD Region. 76 p.

Intergovernmental Authority on Development. 2020a. IGAD Regional Strategy: The Framework: Intergovernmental Authority on Development. 108 p.

Intergovernmental Authority on Development. 2020b. Protocol on Free Movement of Persons Endorsed at Ministerial Meeting. https://igad.int/protocol-on-free-movement-of-persons-endorsed-at-ministerial-meeting/. Accessed 2022 Aug 30.

Intergovernmental Authority on Development. 2021. IGAD Migration Statistics Report. October 2021: Intergovernmental Authority on Development. 76 p.

Intergovernmental Authority on Development. 2022a. Communiqué of the 48th Ordinary Session of the IGAD Council of Ministers: Intergovernmental Authority on Development. 7 p; [accessed 2022 Dec 12]. https://igad.int/communique-of-the-48th-ordinary-session-of-the-igad-council-of-ministers/.

Intergovernmental Authority on Development. 2022b. IGAD Regional Climate Change Strategy and Action Plan (2023-2030): Intergovernmental Authority on Development. 76 p; [accessed 2023 Jun 7]. https://www.icpac.net/publications/igad-regional-climate-change-strategy-and-action-plan-2023-2030/.

Intergovernmental Authority on Development. 2022c. Ministers endow IGAD with a blue economy strategy. https://igad.int/ministers-endow-igad-with-a-blue-economy-strategy/. Accessed 2023 Jul 26.

Intergovernmental Authority on Development. 2022d. Report on State of Climate Peace and Security in the Horn of Africa: Intergovernmental Authority on Development. 64 p; [accessed 2022 Dec 12]. https://www.icpac.net/publications/report-on-state-of-climate-peace-and-security-in-the-horn-of-africa/.

Intergovernmental Authority on Development – Centre for Pastoral Area and Livestock Development. n.d. ICPALD in brief. https://icpald.org/. Accessed 2022 Dec 12.

Intergovernmental Authority on Development – Climate Prediction and Applications Center. n.d. FSNWG. https://www.icpac.net/fsnwg/. Accessed 2023 Jul 26.

Intergovernmental Authority on Development – Climate Prediction and Applications Center. 2023a. Examining the connections between climate change impacts and mental health. https://icpac.medium.com/examining-the-connections-between-climate-change-impacts-and-mental-health-3dc8d-4d4eccf. Accessed 2023 Jun 07.

Intergovernmental Authority on Development – Conflict Early Warning and Response Mechanism. n.d. About CEWARN. https://cewarn.org/index.php/about-cewarn. Accessed 2022 Dec 12.

Intergovernmental Authority on Development – Conflict Early Warning and Response Mechanism. 2007. Report of the IGAD Regional Workshop on the Disarmament of Pastoralist Communities. 169 p.

Intergovernmental Authority on Development – Conflict Early Warning and Response Mechanism. 2021. Regional conflict profile and scenario building. 28 p.

Intergovernmental Authority on Development – Conflict Early Warning and Response Mechanism. 2022a. Climate-Conflict Nexus in the IGAD Region: A Study of CEWARN's Behavioral & ICPAC's Environmental Data As Predictors of Conflict Incidents, 2003-2015. Addis Ababa: Intergovernmental Authority on Development – Conflict Early Warning and Response Mechanism. 20 p.

Intergovernmental Authority on Development – Conflict Early Warning and Response Mechanism. 2022b. Conflict, Climate Change, Food Security, and Mobility in the Karamoja Cluster. A Study to analyse interactions amongst conflict, food security, climate change, migration and displacement factors. Nairobi: Food and Agriculture Organization of the United Nations, Intergovernmental Authority on Development – Conflict Early Warning and Response Mechanism, Interpeace. 51 p.

Intergovernmental Authority on Development – Conflict Early Warning and Response Mechanism. 2023. Regional report on periodic thematic research on youth unemployment linkage with leading eight causes of conflicts in the IGAD region. 35 p.

Intergovernmental Authority on Development Climate Prediction and Applications Center. 2023b. Final Comuniqué of the 14th Ordinary Session of the IGAD Assembly of Heads of State and Government: June 12, 2023 Djibouti, Republic of Djibouti: IGAD Climate Prediction and Applications Center; [accessed 2023 Jul 26]. https://igad.int/wp-content/uploads/2023/06/FINAL-COMMUNIQUE-OF-THE-14TH-IGAD-ORDINARY-ASSEMBLY-OF-HEADS-OF-STATE-AND-GOVERNMENT-12.06.2023.pdf.

Internal Displacement Monitoring Centre. 2021. A decade of displacement in the Middle East and North Africa. https://www.internal-displacement.org/sites/default/files/publications/documents/IDMC_MenaReport_final.pdf.

Internal Displacement Monitoring Centre. 2022. Global Report on Internal Displacement 2022. Geneva: Internal Displacement Monitoring Centre. 89 p; [accessed 2023 Mar 13]. https://www.internal-displacement.org/global-report/grid2022/.

Internal Displacement Monitoring Centre. 2023. Global Report on Internal Displacement 2023. Geneva: Internal Displacement Monitoring Centre; [accessed 2023 Jul 27]. https://www.internal-displacement.org/global-report/grid2023.

International Centre for Migration Policy Development. 2022. Migration Outlook 2022 West Africa: Five migration issues to look out for in 2022. https://www.icmpd.org/file/download/57218/file/ICMPD_Migration_Outlook_WestAfrica_2022.pdf.

International Conference on the Great Lakes Region. 2006. The Pact on security, stability and development for the Great Lakes Region: International Conference on the Great Lakes Region; [accessed 2023 Jul 28]. https://icglr.org/wp-content/uploads/2022/06/Pact_EN-Modified_2012.pdf.

International Conference on the Great Lakes Region. 2023. Peace and Security. https://icglr.org/programs/peace-and-security/. Accessed 2023 Jul 28.

International Crisis Group. 2014. Afrique centrale: les défis sécuritaires du pastoralisme. Brussels: International Crisis Group; [accessed 2023 Jul 28]. https://icg-prod.s3.amazonaws.com/the-security-challenges-of-pastoralism-in-central-africa-french.pdf.

International Crisis Group. 2019. Women and al-Shabaab's Insurgency: Crisis Group Africa Briefing No.145. Nairobi, Brussels: International Crisis Group. 16 p. https://www.crisisgroup.org/africa/horn-africa/somalia/b145-women-and-al-shabaabs-insurgency.

International Crisis Group. 2020. The Central Sahel: Scene of New Climate Wars?: Crisis Group Africa Briefing N°154. Dakar, Niamey, Brussels: International Crisis Group; [accessed 2023 Aug 16]. https://icg-prod.s3.amazonaws.com/b154-sahel-new-climate-wars.pdf.

International Crisis Group. 2020. The Central Sahel: Scene of New Climate Wars? Crisis Group Africa Briefing N°154. https://icg-prod.s3.amazonaws.com/b154-sahel-new-climate-wars.pdf.

International Crisis Group. 2022. Winning Peace in Mozambique's Embattled North. https://reliefweb.int/report/mozambique/winning-peace-mozambique-s-embattled-north-briefing-n-178-enpt.

International Crisis Group. 2023. Containing Militancy in West Africa's Park W: International Crisis Group; [accessed 2023 Jul 28]. https://icg-prod.s3.amazonaws.com/s3fs-public/2023-02/310-containing-militancy-in-west-africas-park-w.pdf.

International Crisis Group. 2023. Country Profile: Cameroon. https://www.crisisgroup.org/africa/central-africa/cameroon. Accessed 2023 Jul 27.

International Energy Agency. 2020a. Clean Energy Transitions in North Africa. https://www.iea.org/reports/clean-energy-transitions-in-north-africa.

International Energy Agency. 2020b. North Africa's Pathways to Clean Energy Transitions. https://www.iea.org/commentaries/north-africa-s-pathways-to-clean-energy-transitions.

International Energy Agency. 2021. Net Zero by 2050 – A Roadmap for the Global Energy Sector: International Energy Agency. 224 p; [accessed 2023 Feb 23]. https://iea.blob.core.windows.net/assets/405543d2-054d-4cbd-9b89-d174831643a4/NetZeroby2050-ARoadmapfortheGlobalEnergySector_CORR.pdf.

International Energy Agency. 2022. Fossil Fuel Subsidies Database: Fossil fuel consumption subsidies for select countries, 2010-2021. https://www.iea.org/data-and-statistics/data-product/fossil-fuel-subsidies-database#.

International Federation of Red Cross and Red Crescent Societies. 2015. Unseen, unheard: gender-based violence in disasters. Geneva: IFRC. https://www.ifrc.org/sites/default/files/2021-08/1297700-Gender-based%20Violence%20in%20Disasters-EN.pdf.

International Federation of Red Cross and Red Crescent Societies. 2020. Emergency Appeal: Final Report. Comoros: Tropical Cyclone Kenneth. 13 p; [accessed 2023 Jun 16]. https://reliefweb.int/report/comoros/comoros-tropical-cyclone-kenneth-emergency-appeal-mdrkm007-final-report.

International Federation of Red Cross and Red Crescent Societies. 2021. Southern Africa Report. IFRC. Gaborone, Botswana: IFRC.

International Federation of Red Cross and Red Crescent Societies. 2022a. DISASTER RECOVERY IN MOZAMBIQUE: A Legal and Policy Survey. Geneva: IFRC; [accessed 2023 Jun 20]. https://disasterlaw.ifrc.org/sites/default/files/media/disaster_law/2023-02/Mozambique%20-%20Final.pdf.

International Federation of Red Cross and Red Crescent Societies. 2022b. Final Report South Africa: Urban Violence. 13 p.

International Food Policy Research Institute, edited by Sepo Hachigonta, Gerald C. Nelson, Timothy S. Thomas, and Lindiwe Majele Sibanda. 2021. Southern African Agriculture and Climate Change: A Comprehensive Analysis. Gaborone, Botswana. 4 p.

International Fund for Agricultural Development. 2020. How to do note: Gender and pastoralism. https://www.ifad.org/en/web/knowledge/-/publication/how-to-do-note-gender-and-pastoralism.

International Labour Organization. 2020. Geneva: International Labour Organization; [accessed 2023 Jul 28]. https://www.ilo.org/wcmsp5/groups/public/---africa/---ro-abidjan/documents/publication/wcms_753300.pdf.

International Monetary Fund. 2022. Divergent Recoveries in Turbulent Times; [accessed 2023 Feb 22]. https://www.imf.org/en/Publications/REO/MECA/Issues/2022/04/25/regional-economic-outlook-april-2022-middle-east-central-asia.

International Organization for Migration. 2017. UN Migration Agency Rehabilitates Water Wells in Southern Libya. https://www.iom.int/news/un-migration-agency-rehabilitates-water-wells-southern-libya.

International Organization for Migration. 2020a. Africa Migration Report: Challenging the narrative. Addis Ababa: International Organization for Migration; [accessed 2023 Jul 24]. https://publications.iom.int/books/africa-migration-report-challenging-narrative.

International Organization for Migration. 2020b. East and Horn of Africa: Regional Strategy 2020-2024. Nairobi: International Organization for Migration. 44 p; [accessed 2022 Oct 27]. https://eastandhornofafrica.iom.int/our-strategy.

International Organization for Migration. 2021a. Burundi Crisis Response Plan 2021: International Organization for Migration; [accessed 2023 Jul 28]. https://crisisresponse.iom.int/sites/g/files/tmzbdl1481/files/appeal/pdf/2021_Burundi_Crisis_Response_Plan_2021.pdf.

International Organization for Migration. 2021b. Étude sur la migration et le changement climatique dans la région de kayes. https://mali.iom.int/sites/g/files/tmzbdl1636/files/documents/ETUDE%20SUR%20LA%20MIGRATION%20ET%20LE%20CHANGEMENT%20CLIMATIQUE%20DANS%20LA%20REGION%20DE%20KAYES_0.pdf.

International Organization for Migration. 2021c. Mobility in the Chad-Libya-Niger Triangle: August 2019 – September 2020. 1 atlas (249 pages); [accessed 2023 Feb 23]. https://dtm.iom.int/sites/g/files/tmzbdl1461/files/reports/DTM-Mobility-in-Chad-Libya-Niger-Triangle.pdf.

International Organization for Migration. 2022a. IOM MONITOR: IOM. https://displacement.iom.int/sites/g/files/tmzbdl1461/files/reports/FMR%20Regional%20Report_2022_11.pdf.

International Organization for Migration. 2022b. Migrating in Search of the Southern Dream: The Experiences of Ethiopian Migrants Moving Along the Southern Route. 32 p.

International Organization for Migration. 2022c. Vulnerabilities Rife for East and Horn of Africa Migrants Traveling the Southern Route. https://eastandhornofafrica.iom.int/news/vulnerabilities-rife-east-and-horn-africa-migrants-traveling-southern-route. Accessed 2023 Jun 06.

International Organization for Migration. 2022d. West and Central Africa Transhumance Response Plan: International Organization for Migration; [accessed 2023 Aug 1]. https://crisisresponse.iom.int/sites/g/files/tmzbdl1481/files/appeal/pdf/West_and_Central_Africa_Transhumance_Response_Plan_2022_summary.pdf.

International Organization for Migration. 2023. Overview: West and Central Africa. https://www.mixedmigrationhub.org/africa-and-middle-east/west-and-central-africa.

International Organization for Migration, United Nations Framework Convention on Climate Change, East African Development Bank Regional Collaboration Centre. 2022. Integration of human mobility in green economy and related policies in the Intergovernmental Authority on Development (IGAD) region. Summary report. Kampala. 72 p.

International Renewable Energy Agency. 2018. Renewable Energy Outlook Egypt. https://www.irena.org/-/media/Files/IRENA/Agency/Publication/2018/Oct/IRENA_Outlook_Egypt_2018_En.pdf.

International Renewable Energy Agency. 2023a. Energy Profile: Egypt. https://www.irena.org/-/media/Files/IRENA/Agency/Statistics/Statistical_Profiles/Africa/Egypt_Africa_RE_SP.pdf.

International Renewable Energy Agency. 2023b. Energy Profile: Mauritania. https://www.irena.org/-/media/Files/IRENA/Agency/Statistics/Statistical_Profiles/Africa/Mauritania_Africa_RE_SP.pdf.

International Renewable Energy Agency. 2023c. Energy Profile: Morocco. https://www.irena.org/-/media/Files/IRENA/Agency/Statistics/Statistical_Profiles/Africa/Morocco_Africa_RE_SP.pdf.

International Renewable Energy Agency. 2023d. Energy Profile: Tunisia. https://www.irena.org/-/media/Files/IRENA/Agency/Statistics/Statistical_Profiles/Africa/Tunisia_Africa_RE_SP.pdf.

International Union for Conservation of Nature. 2021. Annual Report; [accessed 2023 Jul 28]. https://www.iucn.org/resources/annual-reports/iucn-2021-international-union-conservation-nature-annual-report.

International Union for Conservation of Nature. 2022. Issues Brief: Human-wildlife conflict. International Union for Conservation of Nature and Natural Resources. https://www.iucn.org/resources/issues-brief/human-wildlife-conflict. Accessed 2023 Aug 01.

Iocchi A. 2020. The Dangers of Disconnection: Oscillations in Political Violence on Lake Chad. The International Spectator. 55:84–99.

IOM Global Migration Data Analysis Centre. 2021. Migration data in Western Africa. Accessed. https://www.migrationdataportal.org/regional-data-overview/western-africa.

IOM Migration Data Portal. 2021. Migration data in Northern Africa. https://www.migrationdataportal.org/regional-data-overview/northern-africa. Accessed 2023 Feb 22.

IOM Migration Data Portal. 2023. Migration Data in the Southern African Development Community (SADC). https://www.migrationdataportal.org/regional-data-overview/southern-africa#:~:text=An%20estimated%202.9%20million%20migrants,of%20education%20and%20better%20opportunities.

IPBES. 2019. Global assessment report on biodiversity and ecosystem services of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services. IPBES secretariat, Bonn, Germany: Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services; [accessed 2023 Jul 27]. https://doi.org/10.5281/zenodo.3831673.

IPCC. 2014. Climate Change 2014 Synthesis Report. https://www.ipcc.ch/site/assets/uploads/2018/02/SYR_AR5_FINAL_full.pdf.

IPCC. 2018. Impacts of 1.5°C Global Warming on Natural and Human Systems. In: Global Warming of 1.5°C. An IPCC Special Report on the Impacts of Global Warming of 1.5°C above Pre-Industrial Levels and Related Global Greenhouse Gas Emission Pathways, in the Context of Strengthening the Global Response to the Threat of Climate Change, Sustainable Development, and Efforts to Eradicate Poverty.

IPCC. 2019. Climate Change and Land: An IPCC Special Report on climate change, desertification, land degradation, sustainable land management, food security, and greenhouse gas fluxes in terrestrial ecosystems: IPCC. https://www.ipcc.ch/site/assets/uploads/2019/11/SRCCL-Full-Report-Compiled-191128.pdf.

IPCC. 2021. The IPCC Assessment Report Six Working Group 1 report and southern Africa: Reasons to take action. S. Afr. J. Sci. 117.

IPCC. 2022. Africa. In: Pörtner H-O, Roberts D, Tignor M, Poloczanska E, Mintenbeck K, Alegria A, Craig M, Langsdorf S, Löschke S, Möller V, Okem A, Rama B, editors. Climate Change 2022: Impacts, Adaptation and Vulnerability. Contribution of Working Group II to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change. Cambridge, United Kingdom, New York, NY: Cambridge University Press. p. 1285–1455.

Iqbal Ahmed Khan. 2022. Indian Ocean: Why is Mauritius looking to deep-sea mining? https://fondaskreyol.org/article/indian-ocean-why-is-mauritius-looking-to-deep-sea-mining. Accessed 2023 Jul 27.

Itsoua MG, Kamgang SA, Mokpidie D, Doumenge C. 2021. Protected areas: a major asset in the fight against climate change. In: Doumenge, C., Palla, F., Itsoua, Madzous G-L. (eds.), 2021. State of Protected Areas in Central Africa 2020.

Ivanova A. 2023. Italy, Germany, Austria pledge support for hydrogen pipeline from N Africa. https://renewablesnow.com/news/italy-germany-austria-pledge-support-for-hydrogen-pipeline-from-n-africa-822922/.

Jaillon A, Schouten P, Kalessopo S. 2018. The Political Economy of Roadblocks in the Central African Republic: IPIS. https://ipisresearch.be/publication/political-economy-roadblocks-central-african-republic/.

Jarawura FX. 2013. Drought and migration in Northern Ghana. https://scholar.google.com/citations?view_op=view_citation&hl=en&user=kAP_c2gAAAAJ&citation_for_view=kAP_c2gAAAAJ:u5HHmVD_uO8C.

Johnstone S, Mazo J. 2011. Global Warming and the Arab Spring. Survival: Global Politics and Strategy.

Johri N. 2022. Lake Tanganyika's rising waters threaten Congo communities. https://www.dw.com/en/lake-tanganyikas-rising-waters-threaten-drc-communities/video-63660707.

Joiner et al. 2012. VULNERABILITY TO CLIMATE CHANGE IN WEST AFRICA: Adaptive Capacity in the Regional Context. https://www.strausscenter.org/wp-content/uploads/studentworkingpaper4_final-1.pdf.

Julian Quan, Natalie Rose Dyer, editors. 2008. Climate change and land tenure: The implications of climate change for land tenure and land policy (Land Tenure Working Paper 2).

Kachope P. 2021. Micro-disarmament experiences in Africa: Learning from the Karamoja integrated disarmament and development programme, north-eastern Uganda. African Security Review. 30:271–289.

Kagunyu AW, Wanjohi J. 2014. Camel rearing replacing cattle production among the Borana community in Isiolo County of Northern Kenya, as climate variability bites. Pastoralism. 4:1–5.

Kamara JK, Akombi BJ, Agho K, Renzaho AMN. 2018. Resilience to Climate-Induced Disasters and Its Overall Relationship to Well-Being in Southern Africa: A Mixed-Methods Systematic Review. Int J Environ Res Public Health. 15.

Kanodia H. 2022. IUU Fishing in the Indian Ocean: A security threat. https://diplomatist.com/2022/06/09/lets-catch-the-big-fish/. Accessed 2023 Aug 02.

Kanyangara P. 2016. Conflict in the Great Lakes Region. https://www.accord.org.za/conflict-trends/conflict-great-lakes-region/. Accessed 2022 Nov 29.

Kanyinda J-NM, Pascal NM, Dieudonné M. 2020. Mercury Pollution Linked To Gold Panning In DR Congo: Contamination Of Aquatic Systems And Health Impact On Residents. European Journal of Medical & Health Sciences.

Karam S, Seidou O, Nagabhatla N, Perera D, Tshimanga RM. 2022. Assessing the impacts of climate change on climatic extremes in the Congo River Basin. Climatic Change.

Katunga J. 2006. Report from Africa. Population, Health, Environment, and Conflict: Minerals, Forests, and Violent Conflict in the Democratic Republic of the Congo. p. 14 (12).

Kayes M. 2020. Destined to migrate: Exploring a culture of migration in a world of migration restrictions: Mixed Migration Centre, REACH. https://www.reach-initiative.org/what-we-do/news/destined-to-migrate-exploring-a-culture-of-migration-in-a-world-of-migration-restrictions/#:~:text=The%20report%20%E2%80%9C%20Destined%20to%20migrate%3A%20exploring%20a,and%20decision-making%20process%20over%20migration%20in%20this%20context.

Keili A, Thiam B, Young H, Goldman L. 2015. Mitigating conflict in Sierra Leone through mining reform and alternative livelihoods programs for youth. Young, H., Goldman, L., Livelihoods, natural resources, and post-conflict peacebuilding. Earthscan, Londres:233–252.

Kenyan Climate Bank. n.d. KCB Green Climate Fund: KCB and GCF going ahead to conserve the green. https://www.kcbgroup.com/kcb-green-climate-fund/. Accessed 2023 Aug 02.

Khamis S. 2017. Is Egypt's Population Growth a Blessing or a Curse? https://arabcenterdc.org/resource/is-egypts-population-growth-a-blessing-or-a-curse/. Accessed 2023 Feb 22.

Kingdom of Lesotho. 2022. The National Programme for Integrated Catchment Management in Lesotho: Operational Plan 2022. Lesotho; [accessed 2023 Jun 18]. https://renoka.org/wp-content/uploads/2022/03/ReNOKA_Operational-Plan-2022.pdf.

Kings S. 2016. Climate change is testing southern Africa water agreements. Climate Change News.

Kivu Security Tracker. 2021. The Landscape of Armed Groups in Eastern Congo: Missed Opportunities, Protracted Insecurity and Self-Fulfilling Prophecies. https://africacenter.org/security-article/the-landscape-of-armed-groups-in-eastern-congo-missed-opportunities-protracted-insecurity-and-self-fulfilling-prophecies/.

Kluckner S, Liebig T. 2023. Users First: Building the Climate Security Observatory. https://www.cgiar.org/news-events/news/users-first-building-the-climate-security-observatory/. Accessed 2023 Jun 15.

Klutse NAB, Ajayi VO, Gbobaniyi EO, Egbebiyi TS, Kouadio K, Nkrumah F, Quagraine KA, Olusegun C, Diasso U, Abiodun BJ, Lawal K, Nikulin G, Lennard C, Dosio A. 2018. Potential impact of 1.5 °C and 2 °C global warming on consecutive dry and wet days over West Africa. Environ. Res. Lett.

Komara K. 2014. L'Organisation pour la mise en valeur du fleuve Sénégal montre l'exemple d'une gestion concertée d'un bassin de fleuve transfrontalier. https://blogs.worldbank.org/fr/nasikiliza/l-organisation-pour-la-mise-en-valeur-du-fleuve-s-n-gal-montre-l-exemple-d-une-gestion-concert-e-d. Accessed 2023 Jul 26.

Koné FR, Adam N. 2021. How Western Mali could become a gold mine for terrorists. https://issafrica.org/iss-today/how-western-mali-could-become-a-gold-mine-for-terrorists.

Kongo MM. 2024 Jan 7. Should Africa De-Link From The West To Settle The Past Injustices? PAN AFRICAN VISIONS; [accessed 2024 Mar 14]. https://panafricanvisions.com/2024/01/for-2024-should-africa-de-link-from-the-west-to-settle-the-past-injustices/.

König HJ, Kiffner C, Kramer-Schadt S, Fürst C, Keuling O, Ford AT. 2020. Human-wildlife coexistence in a changing world. Conserv Biol. 34:786–794.

Koubi V, Nguyen Q, Spilker G, Böhmelt T. 2021. Environmental migrants and social-movement participation. Journal of Peace Research. 58:18–32.

Krampe F. 2021. Why United Nations peace operations cannot ignore climate change. https://www.sipri.org/commentary/topical-backgrounder/2021/why-united-nations-peace-operations-cannot-ignore-climate-change. Accessed 2023 May 30.

Krampe F, van de Goor L, Barnhoorn A, Smith E, Smith D. 2020. Water Security and Governance in the Horn of Africa: Stockholm International Peace Research Institute. Report No.: 54; [accessed 2023 Jul 26]. https://sipri.org/sites/default/files/2020-03/sipripp54_0.pdf.

Krieger G. 2022. Challenges in Mali, the Importance of Legitimate Governance in Combatting Terrorism and Violent Extremism. Journal of Strategic Security. 15.

Kujirakwinja D, Shamavu P, Hammill A, Crawford A, Bamba A., Plumptre A. 2010. Healing the Rift- Peace building in and around protected areas in the Democratic Republic of Congo's Albertine Rift: USAID. https://global.wcs.org/Resources/Publications/Publications-Search-II/ctl/view/mid/13340/pubid/DMX1156300000.aspx.

Kumar A. 2022. Global status of multi-hazard early warning systems: Target G. Geneva: United Nations Office for Disaster Risk Reduction, World Meteorological Organization; [accessed 2023 Jul 26]. https://www.undrr.org/media/84088/download?startDownload=true.

Kumar C, Dempster H, O'Donnell M, Zimmer C. 2022. Migration and the future of care: Supporting older people and care workers: Overseas Development Institute; [accessed 2023 Jul 26]. https://cdn.odi.org/media/documents/Migration_and_the_future_of_care.pdf.

Kumar S. 2019. Environmental rule of law: First global report.

Kumssa A, Jones JF. 2010. Climate change and human security in Africa. International Journal of Sustainable Development & World Ecology. 17:453–461.

Kumssa A, Williams JH, Jones JF, Des Marais EA. 2014. Conflict and Migration: The Case of Somali Refugees in Northeastern Kenya. Global Social Welfare. 1:145–156.

Kurtz J, Elsamahi M. 2023. How can peacebuilding contribute to climate resilience? Evidence from the drylands of East and West Africa. Current Opinion in Environmental Sustainability. 63:101315.

Kurtz J, Scarborough G. 2012. From Conflict to Coping: Evidence from Southern Ethiopia on the Contributions of Peacebuilding to Drought Resilience among Pastoralist Groups: Mercy Corps; [accessed 2023 Aug 2]. https://reliefweb.int/report/ethiopia/conflict-coping-evidence-southern-ethiopia-contributions-peacebuilding-drought.

Kuschminder K. 2020. Once a Destination for Migrants, Post-Gaddafi Libya Has Gone from Transit Route to Containment. https://www.migrationpolicy.org/article/once-destination-migrants-post-gaddafi-libya-has-gone-transit-route-containment. Accessed 2023 Feb 22.

Läderach P, Merrey DJ, Schapendonk F, Dhehibi B, Ruckstuhl S, Mapedza E, Najjar D, Dessalegn B, Giriraj A, Nangia V, Al-Zu'bi M, Biradar C, Pacillo G, Govind A, Hakhu A, Yigezu YA, Gupta TD, Madurga-Lopez I, Lahham N, Cosgrove B, Joshi D, Grosjean G, Hugh B, Elmahdi A, Frija A, Udalagama U, Nicol A. 2022. STRENGTHENING CLIMATE SECURITY IN THE MIDDLE EAST AND NORTH AFRICA REGION. https://cgspace.cgiar.org/bitstream/handle/10568/117616/MENA%20Position%20Paper.pdf?sequence=5&isAllowed=y.

Lado Tonlieu L. 2021. Religion and Peacebuilding in Sub-Saharan Africa. In: McNamee T, Muyangwa M, editors. The State of Peacebuilding in Africa. Cham: Springer International Publishing. p. 47–64.

Laëtitia R. 2022. "Cursed Twice": How climate change exacerbates gender-based violence in Burundi. https://eastandhornofafrica.iom.int/stories/cursed-twice-how-climate-change-exacerbates-gender-based-violence-burundi. Accessed 2023 Jul 24.

Lagi M, Bertrand KZ, Bar-Yam Y. 2011. The Food Crises and Political Instability in North Africa and the Middle East: SSRN. 15 p.

Lake Victoria Basin Commission. n.d.a. LVB IWRMP. https://www.lvbcom.org/lvb-iwrmp/. Accessed 2023 Jun 06.

Lake Victoria Basin Commission. n.d.b. Who We Are. https://www.lvbcom.org/who-we-are/. Accessed 2022 May 25.

Lake Victoria Fisheries Organization. n.d.a. Background. https://lvfo.org/content/background. Accessed 2022 Oct 26.

Lake Victoria Fisheries Organization. n.d.b. Key Achievements. https://www.lvfo.org/content/key-archievements. Accessed 2023 Jun 06.

Le Gret. 2021. Projet Trois Frontières au Burkina Faso: Le Gret; [accessed 2023 Aug 18]. https://gret.org/wp-content/uploads/2021/10/Fiche-projet-3F_210505.pdf.

Le Roux A. 2021. Urban South Africa is ill-prepared for the coming climate change storm. Pretoria: ISS.

Le Roux and Napier. 2022. Southern Africa must embrace informality in its towns and cities: ISS. https://issafrica.org/iss-today/southern-africa-must-embrace-informality-in-its-towns-and-cities.

Le Ster M. 2011. Conflicts over water around Lake Turkana Armed violence between Turkana and Dassanetch. Mambo! 9.

Leal Filho et al. 2022. Where to go? Migration and climate change response in West Africa. Geoforum.

Leonard L. 2020. How mining is threatening the sustainability of the South African nature tourism sector and civil society response. New directions in South African tourism geographies:317–335.

Lewis A. 2022. Egypt to build 21 desalination plants in phase 1 of scheme -sovereign fund. https://www.reuters.com/markets/commodities/egypt-build-21-desalination-plants-phase-1-scheme-sovereign-fund-2022-12-01/.

Li C, Chai Y, Yang L, Li H. 2016. Spatio-temporal distribution of flood disasters and analysis of influencing factors in Africa. Natural Hazards. 82:721–731.

Libya Observer. 2020. Approximately 6000 meters of electrical power lines stolen within two days. https://libyaobserver.ly/inbrief/approximately-6000-meters-electrical-power-lines-stolen-within-two-days.

Lichtenfeld LL, E.M. Naro, E. Snowden. 2019. Community, conservation, and collaboration: A framework for success. Washington, D.C.: National Geographic SOciety, African People and Wildlife; [accessed 2023 Jan 7]. https://media.nationalgeographic.org/assets/file/APW_Community_Engagement_Framework_Final_10.23.19.pdf.

Linke AM, O'Loughlin J, McCabe JT, Tir J, Witmer FD. 2015. Rainfall variability and violence in rural Kenya: Investigating the effects of drought and the role of local institutions with survey data. Global Environmental Change. 34:35–47.

Linke AM, Witmer FDW, O'Loughlin J, McCabe JT, Tir J. 2018. Drought, Local Institutional Contexts, and Support for Violence in Kenya. Journal of Conflict Resolution. 62:1544–1578.

Liu W, Sun F, Lim WH, Zhang J, Wang H, Shiogama H, Zhang Y. 2018. Global drought and severe drought-affected populations in 1.5 and 2 C warmer worlds, Earth Syst. Dynam., 9, 267–283.

Lombard L. 2015. The Autonomous Zone Conundrum: Armed Conservation and Rebellion in North-Eastern CAR. In: Lombard, L; Carayannis, T. Making Sense of the Central: Zed Books.

Lopez M, Ignacio, Gupta D, Tanaya, Läderach, Peter, Pacillo, Grazia. 2021. How does climate exacerbate root causes of conflict in Senegal? An impact pathway analysis: CGIAR Focus Climate Security. https://ccafs.cgiar.org/resources/publications/how-does-climate-exacerbate-root-causes-conflict-senegal-impact-pathway.

Lossow T von. 2017. The River Congo – Africa's sleeping giant: regional integration and intersectoral conflicts in the Congo Basin: Stiftung Wissenschaft und Politik. https://www.ssoar.info/ssoar/handle/document/55100.

Lounnas D. 2018. The Links between Jihadi Organizations and Illegal Trafficking in the Sahel: MENARA. https://www.iai.it/sites/default/files/menara_wp_25.pdf.

Lounnas D, Messari N. 2018. Algeria–Morocco Relations and their Impact on the Maghrebi Regional System. MENARA Working Papers. No. 20: Middle East and North Africa Regional Architecture. 23 p; [accessed 2023 Feb 22]. https://www.iai.it/sites/default/files/menara_wp_20.pdf.

Lowe BS, Jacobson SK, Anold H, Mbonde AS, O'Reilly CM. 2019. Adapting to change in inland fisheries: analysis from Lake Tanganyika, East Africa. Reg Environ Change. 19:1765–1776.

Luengo-Cabrera J. 2023. Central Sahel: relative to the first six months of each year, the first half of 2023 has been the deadliest. https://twitter.com/J_Luengo-Cabrera/status/1675988802496614402.

Lunstrum E. 2014. Green Militarization: Anti-Poaching Efforts and the Spatial Contours of Kruger National Park,. Annals of the Association of American Geographers.

Lycan T, Faulkner C, Doctor AC. 2020. Making Waves: Militant maritime operations along Africa's Eastern Coast: Commentary. https://warontherocks.com/2020/11/making-waves-militant-maritime-operations-along-africas-eastern-coast/. Accessed 2023 Jul 25.

Mabrouk M, Jonoski A, Oude Essink, Gualbert H. P., Uhlenbrook S. 2018. Impacts of Sea Level Rise and Groundwater Extraction Scenarios on Fresh Groundwater Resources in the Nile Delta Governorates, Egypt.

Madurga Lopez I, Dutta Gupta T, Läderach P, Pacillo G. 2021. How does climate exacerbate root causes of conflict in Zimbabwe? An impact pathway analysis.

Mahjoub A, Belghith MM, Benzina MA, Bouklia-Hassene R, Derras O, Jaidi L, Kanbaai A, Saadaoui Z. 2017. Integration du Maghreb: quelles alternatives populaires pour une integration effective et durable: RESUME ANALYTIQUE DE L'ETUDE SUR LE COÛT DU NON MAGHREB: FTDES. 32 p; [accessed 2023 Feb 22]. http://ftdes.net/rapports/resume.coutdunonmaghreb.pdf.

Mai NJH, James N. 2015. Role of Women in Peace-Building in South Sudan: JSTOR.

Majeke A. 2005. The role of traditional leaders in land tenure: The original legal and constitutional framework. Paper presented at the conference on Land tenure reforms and the evolving role of traditional leaders, 16–18 November 2005, in Durban, South Africa.

Makoye K. 2013. Tanzania's Costal Communities Forced to Drink Seawater. https://www.globalissues.org/news/2013/10/22/17673. Accessed 2023 May 30.

Makumbe P, Mapurazi S, Jaravani S, Matsilele I. 2022. Human-Wildlife Conflict in Save Valley Conservancy: Residents' Attitude Toward Wildlife Conservation. Scientifica (Cairo). 2022:2107711.

Mambondiyani A. 2022. Displaced by drought, climate migrants clash with Zimbabwe's timber industry. https://www.climatechangenews.com/2022/09/12/displaced-drought-climate-migrants-clash-zimbabwes-timber-industry-migration/. Accessed 2022 Sep 14.

Manby B. 2012. Statelessness in Southern Africa: United Nations High Commissioner for Refugees. https://www.refworld.org/reference/research/unhcr/2012/en/89593.

Mandoreba A. 2023. As rainy season approaches, UNMISS peacekeepers prepare to overcome mobility challenges. https://unmiss.unmissions.org/rainy-season-approaches-unmiss-peacekeepers-prepare-overcome-mobility-challenges. Accessed 2023 May 30.

Maphosa M. 2022. A critical analysis of the Urban Food System, Urban Governance and Household Food Security in Bulawayo, Zimbabwe.

Marijnen E. 2017. The 'green militarisation' of development aid: the European Commission and the Virunga National Park, DR Congo. Third World Quarterly. 38:1566–1582.

Masson-Delmotte V, Zhai P, Pirani A, Connors S, Péan C, Berger S, Caud N, Chen Y, Goldfarb L, Gomis M, Huang M, Leitzell K, Lonnoy E, Matthews J, Maycock T, Waterfield T, Yelekçi O, Yu R, Zhou B, editors. 2021. Climate Change 2021: The Physical Science Basis. Contribution of Working Group I to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change. Cambridge, United Kingdom, New York, NY: Cambridge University Press.

Matfess H. 2020. Brokers of Legitimacy: Women in Community-Based Armed Groups. Washington, D.C.: RESOLVE Network.

Matose T, Maviza G, Nunu WN. 2022. Pervasive irregular migration and the vulnerabilities of irregular female migrants at Plumtree border post in Zimbabwe. Journal of Migration and Health.

Matthysen K, Hoex L, Schouten P, Spittaels S. 2019. Mapping artisanal mining areas and mineral supply chains in eastern DRC: IPIS. https://ipisresearch.be/publication/mapping-artisanal-mining-areas-mineral-supply-chains-eastern-drc/.

Mavhura E. 2017. Applying a systems-thinking approach to community resilience analysis using rural livelihoods: The case of Muzarabani district, Zimbabwe. International Journal of Disaster Risk Reduction. 25:248–258.

Maviza A, Ahmed F. 2020. Analysis of past and future multi-temporal land use and land cover changes in the semi-arid Upper-Mzingwane sub-catchment in the Matabeleland south province of Zimbabwe. International Journal of Remote Sensing. 41:5206–5227.

Maviza G. 2020. Transnational migration and families–continuities and changes along processes of sustained migration: A case of Tsholotsho in Matabeleland North Zimbabwe. Unpublished PhD Thesis, University of the Witwatersrand, Johannesburg. Available at: https://wiredspace.wits.ac.za/items/a1bed5a0-b4a0-42e5-819f-ff087479cfca.

Maystadt J-F, Calderone M, You L. 2014. Local warming and violent conflict in North and South Sudan. Journal of Economic Geography. 15:649–671.

Maystadt J-F, Ecker O. 2014. Extreme Weather and Civil War: Does Drought Fuel Conflict in Somalia through Livestock Price Shocks? American Journal of Agricultural Economics. 96:1157–1182.

Mazzoni A. 2018. Forecasting water budget deficits and groundwater depletion in the main fossil aquifer systems in North Africa and the Arabian Peninsula. Global Environmental Change.

Mbaku JM. 2020. The controversy over the Grand Ethiopian Renaissance Dam: Brookings Institution. https://www.brookings.edu/blog/africa-in-focus/2020/08/05/the-controversy-over-the-grand-ethiopian-renaissance-dam/.

Mbaye AA. 2020. Confronting the challenges of climate change on Africa's coastal areas: Brookings Institution. https://www.brookings.edu/blog/africa-in-focus/2020/01/16/confronting-the-challenges-of-climate-change-on-africas-coastal-areas/.

Mbiyozo A-N. 2019. Statelessness in Southern Africa: Time to end it, not promote it. Addis Ababa: Institute for Security Studies. 24 p.

Mbiyozo A-N. 2022. Climate change, migration and gender: seeking solutions. Pretoria: ISS. Policy Brief Report No.: 178. https://issafrica.s3.amazonaws.com/site/uploads/PB-178-2.pdf.

Mbiyozo A-N. 2023. Climate-linked mobility poses opportunities, not just threats. https://futures.issafrica.org/blog/2023/Climate-linked-mobility-poses-opportunities-not-just-threats.html. Accessed 2023 Jul 21.

Meattle C, Padmanabhi R, Fernandes PdA, Balm A, Elvis, Wakaba, Chiriac D, Tonkonog B. 2022. Landscape of Climate Finance in Africa: Climate Policy Initiative. https://www.climatepolicyinitiative.org/wp-content/uploads/2022/09/Landscape-of-Climate-Finance-in-Africa.pdf.

Medgrid. 2023. Le projet. http://www.medgrid-psm.com/.

Medina L, Belli A, Caroli G, DuttaGupta T, Tarusarira J, Schapendonk F, Savelli A, Wamukoya G, Sokello Angoma S, Ogallo L, Nying'uro P, Kinuthia M, Onchiri Anyieni A, Omware S, Ambani M, Kithinji D, Hellin JJ, Loboguerrero Rodriguez AM, Laderach P, Achicanoy H, Mendez A. 2022. Towards a Common Vision of Climate Security in Kenya: CGIAR Focus Climate Security. 36 p; [accessed 2023 Jun 7]. https://hdl.handle.net/10568/125809.

Medina L, Caroli G, Belli A, Läderach P, Pacillo G. 2022. Community voices on Climate and Security: Summary results for Kenya: CGIAR FOCUS Climate Security. Rome: Alliance of Biodiversity International and CIAT; [accessed 2023 Jul 28]. https://hdl.handle.net/10568/127596.

Medina L, Maviza, G. Tarusarira, J., Caroli, G., Mastrorillo, M., Laderach P, Pacillo G. 2023. Community voices on Climate and Security: Summary results for Zambia. Forthcoming: CGIAR.

MED-TSO. 2022a. Masterplan of Mediterranean Interconnections. https://masterplan.med-tso.org/MPreport_split.aspx.

MED-TSO. 2022b. The EU will finance Italy-Tunisia power interconnection project. https://med-tso.org/en/eu-will-finance-italy-tunisia-power-interconnection-project/.

Meek S, Nene M. 2021. Exploring resource and climate drivers of conflict in Northern Mozambique. Policy Briefing. 245.

Megersa K. 2020. Subsidy Reforms: Lessons from the Middle East and North Africa (MENA) Region: Institute for Development Studies. https://opendocs.ids.ac.uk/opendocs/bitstream/handle/20.500.12413/15195/749_Case_Studies_on_Subsidy_Reform_in_LMICs.pdf?sequence=1&isAllowed=y.

MEI. 2022. What's next for Libya's Great Man-Made River Project? https://www.mei.edu/publications/whats-next-libyas-great-man-made-river-project.

Mekouar H. 2017. 'Thirsty protests' hit Morocco over water shortages. https://phys.org/news/2017-10-thirsty-protests-morocco-shortages.html. Accessed 2023 Feb 22.

Melly P. 2023. Niger coup underlines challenge to democracy across West Africa. https://www.chathamhouse.org/2023/08/niger-coup-underlines-challenge-democracy-across-west-africa.

Mercy Corps. 2017. CONCUR Impact Evaluation. London: Mercy Corps. https://europe.mercycorps.org/sites/default/files/2020-01/Conflict-Mitigation-Economic-Growth-Nigeria-2017.pdf.

Mercy Corps. 2019. Does Peacebuilding Work in the Midst of Conflict?: Impact Evaluation of A Peacebuilding Program in Nigeria. Portland, Edinburgh; [accessed 2023 Aug 18]. https://reliefweb.int/report/nigeria/does-peacebuilding-work-midst-conflict.

Middle East Monitor. 2014. Mass protests in Egypt against worsening living conditions and power outages; [accessed 2023 Feb 22]. https://www.middleeastmonitor.com/20140906-mass-protests-in-egypt-against-worsening-living-conditions-and-power-outages/.

Migration EU Expertise. 2021. Fighting against trafficking in human beings in Mauritius. https://www.mieux-initiative.eu/en/news-events/news/237-fighting-against-trafficking-in-human-beings-in-mauritius. Accessed 2023 Jul 27.

Ministry of Agriculture, Fishing, Environment, Tourism and Handcraft, Comoros. 2021. Contribution determinee au niveau national (CDN actualisée): Rapport de synthèse: 2021-2030. 17 p; [accessed 2023 Jun 14]. https://unfccc.int/sites/default/files/NDC/2022-06/CDN_r%C3%A9vis%C3%A9e_Comores_vf.pdf.

Ministry of Blue Economy, Marine Resources, Fisheries and Shipping, Mauritius. n.d. Fisheries Sector in Mauritius. https://blueconomy.govmu.org/Pages/Fisheries.aspx. Accessed 2023 Apr 24.

Ministry of Public Works, Infrastructures, Natural Resources and the Environment of Sao Tome and Principe. 2019. Third National Communication on Climate Change: Ministry of Public Works, Infrastructures, Natural Resources and the Environment of Sao Tome and Principe.

Misana S, Sokoni C, Mbonile MJ. 2012. Land-use/cover changes and their drivers on the slopes of Mount Kilimanjaro, Tanzania. Journal of Geography and Regional Planning. 5:151–164.

Mixed Migration Centre. 2020. A Sharper Lens on Vulnerability (West Africa): A statistical analysis of the determinants of vulnerability to protection incidents among refugees and migrants in West Africa. https://mixedmigration.org/resource/asharper-lens-on-vulnerability-west-africa/.

Mkodzongi G, Lawrence P. 2019. The fast-track land reform and agrarian change in Zimbabwe: Taylor & Francis. 1 p. Review of African Political Economy (159).

Mlambo AS. 2010. 2. A History of Zimbabwean Migration to 1990.

Moaveni A. 2019. What would make a woman go back to Boko Haram? Despair. https://www.theguardian.com/commentisfree/2019/jan/14/woman-boko-haram-nigeria-militant-group. Accessed 2023 Jul 28.

Mobjörk, M. Krampe, F. and Tarif, K. 2020. Pathways of Climate Insecurity: Guidance For Policymakers. https://www.sipri.org/sites/default/files/2020-11/pb_2011_pathways_2.pdf.

Moderan O. 2023. Tunisia's xenophobic plans backfire on its fragile economy. https://issafrica.org/iss-today/tunisias-xenophobic-plans-backfire-on-its-fragile-economy. Accessed 2023 Jul 26.

Mohamed A, Gonçalvès J. 2021. Hydro-geophysical monitoring of the North Western Sahara Aquifer System's groundwater resources using gravity data. Journal of African Earth Sciences.

Mohamud HS. 2022. Somalia's Dangerous Authoritarian Turn. https://www.foreignaffairs.com/articles/somalia/2022-01-26/somalias-dangerous-authoritarian-turn. Accessed 2023 Jul 27.

Mokgonyana K. 2023. The Role of African Women in Climate related Conflicts: Women, peace and security. South Africa: ACCORD; [accessed 2023 Jun 20]. https://www.accord.org.za/analysis/the-role-of-african-women-in-climate-related-conflicts/.

Mokku J. 2020. Facilitating community cohesion, peace, and reconciliation in Marsabit County. 2 p; [accessed 2022 Jun 3]. https://dlci-hoa.org/assets/upload/briefs-and-leaflets/20220602010757137.pdf.

Molenaar F, El Kamouni-Janssen F. 2017. Turning the tide: the politics of irregular migration in the Sahel and Libya. https://www.clingendael.org/sites/default/files/pdfs/turning_the_tide.pdf.

Molina M, Sánchez E, Gutiérrez C. 2020. Future heat waves over the Mediterranean from an Euro-CORDEX regional climate model ensemble. Nature.

Mongale CO. 2022. Social discontent or criminality? Navigating the nexus between urban riots and criminal activities in Gauteng and KwaZulu-Natal Provinces, South Africa (2021). Frontiers in Sustainable Cities. 4:46.

Morales-Muñoz H, Bailey A, Löhr K, Caroli G, Villarino MEJ, LoboGuerrero AM, Bonatti M, Siebert S, Castro-Nuñez A. 2022. Co-benefits through coordination of climate action and peacebuilding: a system dynamics model. Journal of Peacebuilding & Development. 17:304–323.

Morales-Muñoz H, Jha S, Bonatti M, Alff H, Kurtenbach S, Sieber S. 2020. Exploring Connections—Environmental Change, Food Security and Violence as Drivers of Migration—A Critical Review of Research. Sustainability. 12.

Mosepele K, Hambira WL, Mogomotsi GEJ, Mogomotsi PK, Moses O, Dhliwayo M, Makati A, Setomba B. 2018. Water, ecosystem dynamics and human livelihoods in the Okavango River Basin (ORB): competing needs or balanced use? A review. In: Water and Sustainability: IntechOpen.

Moyo I. 2020. Why South Africa's new plan to fortify its borders won't stop irregular migration. The Conversation.

Moyo N, Phiri K. 2023. Localised Climate-Related Security Risk Assessment: Zimbabwe Case Study: A Case Study in Gwanda District, Matabeleland South Province, Zimbabwe. The Hague: GPPAC; [accessed 2023 Jun 20]. https://gppac.net/files/2023-06/Case%20Study%20Localised%20Climate%20Related%20Security%20Risk%20Assessment%20Zimbabwe.pdf.

Moyo S. 2005. The Politics of Land Distribution and Race Relations in Southern Africa. Racism and Public Policy.

Mpandeli S, Nhamo L, Hlahla S, Naidoo D, Liphadzi S, Modi AT, Mabhaudhi T. 2020. Migration under climate change in southern Africa: A nexus planning perspective. Sustainability. 12:4722.

MPTF. 2023. JP community-based and protected area management in Liberia: Consolidated annual financial report. https://mptf.undp.org/fund/jlr20.

Msangi JP. 2007. Land degradation management in Southern Africa. Climate and land degradation:487–499.

Mucova SAR, Azeiteiro UM, Filho WL, Lopes CL, Dias JM, Pereira MJ. 2021. Approaching Sea-Level Rise (SLR) Change: Strengthening Local Responses to Sea-Level Rise and Coping with Climate Change in Northern Mozambique. JMSE. 9:205.

Mudefi RA, Sibanda M, Chazireni E. 2019. The impact of climate change on migration patterns of rural women in Marange, Zimbabwe (2006–2016). Int J Contemp Res Rev. 10:20574–20584.

Muhaya VN, Chuma GB, Kavimba JK, Cirezi NC, Mugumaarhahama Y, Fadiala RM, Kanene CM, Kabasele AY-Y, Mushagalusa GN, Karume K. 2022. Uncontrolled urbanization and expected unclogging of Congolese cities: Case of Bukavu city, Eastern DR Congo. Environmental Challenges.

Mullan C, Davies N. 2021. An investor's guide to West Africa. https://www.investmentmonitor.ai/features/an-investors-guide-to-west-africa/?cf-view.

Mumbere D. 2019. Politicians fuel xenophobic sentiments in Kenya, Ivory Coast and Mauritania. https://www.africanews.com/2019/07/01/politicians-fuel-xenophobic-sentiments-in-kenya-ivory-coast-and-mauritania/. Accessed 2023 Jul 26.

Munanura IE, Backman KF, Hallo JC, Powell RB. 2016. Perceptions of tourism revenue sharing impacts on Volcanoes National Park, Rwanda: a Sustainable Livelihoods framework. Journal of Sustainable Tourism. 24:1709–1726.

Musavengane R, Leonard L, editors. 2022. Conservation, land conflicts and sustainable tourism in southern Africa: Contemporary issues and approaches. Abingdon, Oxon, New York, NY: Routledge.

Mutanda Dougherty A. 2023. Is Africa's Great Green Wall failing? BBC podcast: The Inquirey: BBC podcast; [accessed 2023 Aug 16]. https://www.bbc.co.uk/sounds/play/w3ct4wcv.

Mwaba B. 2023. Impact of Climate Change in Zambia: Women Confronting Loss and Damage in Zambia. https://www.linkedin.com/pulse/impact-climate-change-zambia-women.

Mycoo M, Wairiu M, Campbell D, Duvat V, Golbuu Y, Maharaj S, Nalau J, Nunn P, Pinnegar J, Warrick O. 2023. Chapter 15: Small Islands. In: Change IPoC, editor. Climate Change 2022 – Impacts, Adaptation and Vulnerability: Cambridge University Press. p. 2043–2122.

Myeni T. 2022. What is Operation Dudula, South Africa's anti-migration vigilante? Durban: AlJazeera. Explainer.

Nagarajan C. 2022. Climate, peace and security assessment: Mali: Weathering Risk. Berlin: adelphi. https://weatheringrisk.org/en/publication/climate-peace-and-security-assessment-mali.

Nantulya P. 2016. Resource Mismanagement a Threat to Security in Africa: Africa Center for Strategic Studies. https://africacenter.org/spotlight/resource-mismanagement-a-threat-to-security-in-africa/.

Nashwan MS, Shahid S. 2019. Spatial distribution of unidirectional trends in climate and weather extremes in Nile river basin. Theor Appl Climatol. 137:1181–1199.

Naumann, G, Barbosa, P, Garrote, L, Iglesias, [No last name!] A. 2014. Exploring drought vulnerability in Africa: An indicator based analysis to be used in early warning systems. Hydrology and Earth System Sciences, 1991–1604. Hydrology and Earth System Sciences.

Nawrotzki RJ, DeWaard J. 2018. Putting trapped populations into place: Climate change and inter-district migration flows in Zambia. Reg Environ Change. 18:533–546.

Ncube G. 2010. Migrant remittances, household livelihood strategies and local development: a case of village 2 in ward 19 of Tsholotsho District in Zimbabwe.

Ncube G, Gómez G. 2015. Remittances in rural Zimbabwe: From consumption to investment? International Journal of Development and Sustainability (IJDS) (Online). 4:181–195.

Ncube-Phiri S, Mucherera B, Ncube A. 2015. Artisanal small-scale mining: Potential ecological disaster in Mzingwane District, Zimbabwe. Jàmbá: Journal of Disaster Risk Studies. 7:1–11.

Ndiaye T. n.d. L'organisation Pour La Mise En Valeur Du Fleuve Senegal (OMVS): Un Exemple Reussi De Gestion D'un Grand Bassin Transfrontalier En Afrique De L'ouest: L'organisation Pour La Mise En Valeur Du Fleuve Senegal; [accessed 2023 Jul 26]. https://www.inter-reseaux.org/wp-content/uploads/OMVS.pdf.

Ndione B. 2014. L'Afrique centrale face aux défis migratoires: ACP Migration. http://dx.doi.org/10.13140/2.1.4740.3207.

Ndlovu DS, Landau LB. 2020. The Zimbabwe–South Africa migration corridor: Routledge London.

Neef A, Ngin C, Shegro TM, Mollett S, editors. 2023. Routledge handbook of global land and resource grabbing. First edition. New York NY: Routledge.

Nett K, Rüttinger L. 2016. Insurgency, Terrorism and Organised Crime in a Warming Climate: Analysing the Links Between Climate Change and Non-State Armed Groups: Climate Diplomacy. https://climate-diplomacy.org/sites/default/files/2020-10/CD%20Report_Insurgency_170724_web.pdf.

Ngama S, Korte L, Bindelle J, Vermeulen C, Poulsen JR. 2016. How Bees Deter Elephants: Beehive Trials with Forest Elephants (Loxodonta africana cyclotis) in Gabon. PLoS One. 11:e0155690.

Ngubane M. 2018. 'Disrupting Spatial Legacies': Dismantled Game Farms as Success Stories of Land Reform? In: Land Reform Revisited: Brill. p. 246–270.

Nguenko J, Adewumi IJ. 2020. Rapport technique sur l'état de vulnérabilité côtière des pays d'Afrique centrale: United Nations Educational, Scientific and Cultural Organization, Intergovernmental Oceanographic Commission; [accessed 2023 Aug 1]. https://unesdoc.unesco.org/ark:/48223/pf0000373623_fre.

Ngueuleu Djeuga IC. 2015. The Janus face of water in Central African Republic (CAR): Towards an instrumentation of natural resources in armed conflicts. Cahiers d'Outre-Mer. 68:577–594.

Nguyen N, Osorio D, Schapendonk F., Läderach P. 2020. Climate Security in the Sahel: CGIAR. https://www.cgiar.org/news-events/news/climate-security-in-the-sahel/.

Nhamirre B, Insa Infalume I, Jorge J. 2023. Localised ClimateRelated Security Risk Assessment: A Case Study in Mecufi District, Cabo Delgado, Mozambique. Mozambique: GPPAC; [accessed 2023 Sep 6]. https://gppac.net/files/2023-06/Case%20Study%20Localised%20Climate%20Related%20Security%20Risk%20Assessment%20Mozambique.pdf.

Nicholson SE, Klotter DA, Zhou L, Hua W. 2022. Recent rainfall conditions in the Congo Basin. Environ. Res. Lett.

Nikiel, Eltahir. 2021. Past and future trends of Egypt's water consumption and its sources. Nature Communications.

Nile Basin Initiative. 2020. State of the River Nile Basin: Water Security in the Nile Basin 2021. Entebbe, Uganda: Nile Basin Initiative. 288 p; [accessed 2022 May 11]. http://ikp.nilebasin.org/node/4408.

Nka BN, Oudin L, Karambiri H, Paturel JE, Ribstein P. 2015. Trends in Floods in West Africa: Analysis Based on 11 Catchments in the Region. Hydrology and Earth System Sciences.

Nkonya E, Minnick A, Ng'ang'a E, Woelcke J. 2018. Land and Natural Resources Degradation in the Arid and Semi-Arid Lands in Kenya: World Bank. 69 p.

Norman S, Collin OM. 2022. Xenophobia in urban spaces: Analyzing the drivers and social justice goals from the Ugandan-Asian debacle of 1972 and xenophobic attacks in South Africa (2008-2019). Frontiers in Sustainable Cities.

Northern Rangelands Trust. n.d. Homepage. https://www.nrt-kenya.org/. Accessed 2023 May 31.

Norwegian Institute of International Affairs, Stockholm International Peace Research Institute. 2021. Climate, Peace and Security Fact Sheet: South Sudan. 4 p.

Notre Dame Global Adaptation Initiative. 2022. ND-Gain Country Index. https://gain.nd.edu/our-work/country-index/.

Ntlhakana S. 2015. Conflict diamonds in Zimbabwe: Actors, issues and implications. Southern African Peace and Security Studies. 3:61–76.

Nyboer EA, Musinguzi L, Ogutu-Ohwayo R, Natugonza V, Cooke SJ, Young N, Chapman LJ. 2022. Climate change adaptation and adaptive efficacy in the inland fisheries of the Lake Victoria basin. People and Nature. 4:1319–1338.

Nyhus PJ. 2016. Human–Wildlife Conflict and Coexistence. Annu. Rev. Environ. Resour. 41:143–171.

Obura D, Gudka M, Samoilys M, Osuka K, Mbugua J, Keith DA, Porter S, Roche R, van Hooidonk R, Ahamada S, Araman A, Karisa J, Komakoma J, Madi M, Ravinia I, Razafindrainibe H, Yahya S, Zivane F. 2022. Vulnerability to collapse of coral reef ecosystems in the Western Indian Ocean. Nature Sustainability. 5:104–113.

OECD Sahel and West Africa Club. 2006. The socio-economic and regional context of West African migrations. https://www.oecd.org/migration/38481393.pdf. Accessed 2023 Jul 26.

OECD Sahel and West Africa Club. 2010. Security Implications of Climate Change in the Sahel Region: Policy considerations. [accessed 2023 Jul 26]. https://www.oecd.org/swac/publications/47234320.pdf.

Office International de l'Eau. 2010. Fleuve Sénégal: Organisation de Mise en Valeur du fleuve Sénégal: Une réforme institutionnelle pour relever les défis de l'avenir. https://www.oieau.fr/avancementdenosprojets/fleuve-senegal-organisation-de-mise-en-valeur-du-fleuve-senegal. Accessed 2023 Jul 26.

Office of the Special Adviser on Africa. 2018. Mapping Study of the Conflict Prevention Capabilities of African Regional Economic Communities: UN. https://www.un.org/osaa/sites/www.un.org.osaa/files/files/documents/2020/Dec/mappingreport.pdf.

Ofoezie, E. I. et al. 2022. Climate, Urbanization and Environmental Pollution in West Africa. Sustainability. 14.

Okeke CU, Butu HM, Okerke C. 2023. Climate Action Strategies, Practices and Initiatives: Challenges and Opportunities for Locally-Led Adaptation in Nigeria. Nigeria: Africa Policy Research Institute. Africa's cliate agenda; [accessed 2023 Jun 20]. https://afripoli.org/climate-action-strategies-practices-and-initiatives-challenges-and-opportunities-for-locally-led-adaptation-in-nigeria.

Okumu W. 2013. Trans-local Peace Building among Pastoralist Communities in Kenya: The Case of Laikipi Peace Caravan: Culture and Environment in Africa Series. Cologne: Cologne African Studies Centre. 70 p.

Olamide E, Maredza A, Ogujiuba K. 2022. Monetary Policy, External Shocks and Economic Growth Dynamics in East Africa: An S-VAR Model. Sustainability. 14:3490.

Olanrewaju F. 2020. Natural Resources, Conflict and Security Challenges in Africa. India Quarterly.

Ololade OO. 2018. Understanding the nexus between energy and water: A basis for human survival in South Africa. Development Southern Africa. 35:194–209.

One Earth. 2023. If Nature were to draw a map of the world, what would it look like? Retrieved from:. https://www.oneearth.org/bioregions-2023/.

Onyebukwa CF. 2021. The Dilemma of natural resources and upsurge of conflicts in Africa: A cursory look at the Marikana management approaches in South Africa. Political economy of resource, human security and environmental conflicts in Africa:277–296.

Open Democracy. 2020. North African Food Sovereignty Network. https://www.opendemocracy.net/en/author/north-african-network-for-food-sovereignty/.

Organisation for Economic Cooperation and Development. 2020. Africa's Urbanisation Dynamics 2020: OECD.

Organisation for Economic Cooperation and Development. 2022a. Climate Finance Provided and Mobilised by Developed Countries in 2016-2020: Insights from disaggregated analysis. Climate Finance and the USD 100 Billion Goa. Geneva: OECD; [accessed 17/07/023]. https://doi.org/10.1787/286dae5d-en.

Organisation for Economic Cooperation and Development. 2022b. States of Fragility 2022. https://www.oecd-ilibrary.org/development/states-of-fragility-2022_c7fedf5e-en.

Ould Ahmed H. 2018. Algeria to open farming concessions to foreigners: document. https://www.reuters.com/article/us-algeria-farming/algeria-to-open-farming-concessions-to-foreigners-document-idUSKBN1I-81WH. Accessed 2023 Feb 22.

OurWorldInData. 2022. Share of electricity production from renewables, 2022. https://ourworldindata.org/grapher/share-electricity-renewables.

Owusu-Sekyere E, Lunga W, Karuaihe ST. 2021. The impact of disasters on economic growth in selected Southern Africa development community countries. Jàmbá: Journal of Disaster Risk Studies. 13.

OXFAM. 2022. West Africa faces its worst food crisis in ten years, with over 27 million people already suffering from hunger. https://westafrica.oxfam.org/en/latest/press-release/west-africa-faces-its-worst-food-crisis-ten-years-over-27-million-people.

OXFAM. 2023. Climate Finance Shadow Report 2023: Assessing the delivery of the $100 billion commitment. London; [accessed 2023 Jul 19]. https://policy-practice.oxfam.org/resources/climate-finance-shadow-report-2023-621500/.

Palik J, Obermeier AM, Rustad SA. 2022. Conflict Trends in Africa, 1989–2021: Peace Research Institute Oslo. https://www.prio.org/publications/13215.

Palmer PI, Wainwright CM, Dong B, Maidment RI, Wheeler KG, Gedney N, Hickman JE, Madani N, Folwell SS, Abdo G, Allan RP, Black ECL, Feng L, Gudoshava M, Haines K, Huntingford C, Kilavi M, Lunt MF, Shaaban A, Turner AG. 2023. Drivers and impacts of Eastern African rainfall variability. Nature Reviews Earth & Environment. 4:254–270.

Parathian HE, McLennan MR, Hill CM, Frazão-Moreira A, Hockings KJ. 2018. Breaking Through Disciplinary Barriers: Human-Wildlife Interactions and Multispecies Ethnography. Int J Primatol. 39:749–775.

Pathfinder International. 2018. Scaling-up the Population, Health, and Environment Approach in the Lake Victoria Basin: A Review of the Results from Phases I and II of the HoPE-LVB project. 13 p.

Pattison C. 2022. Can the Democratic Republic of the Congo's mineral resources provide a pathway to peace? https://www.unep.org/news-and-stories/story/can-democratic-republic-congos-mineral-resources-provide-pathway-peace.

Pausata FSr, Gaetani M, Messori G, Berg A, Souza DM de, Sage RF, deMenocal PB. 2020. The Greening of the Sahara: Past Changes and Future Implications. One Earth.

Peacebuilding Fund. 2023. Local Solutions to Build Climate Resilience and Advance Peace and Stability in Bor, Pibor and Malakal. https://mptf.undp.org/project/00140047.

Peña-Ramos JA, José López-Bedmar R, Sastre FJ, Martínez-Martínez A. 2022. Water Conflicts in Sub-Saharan Africa. Frontiers in Environmental Science. 10.

Peszko G, Mensbrugghe D, Golub A, Ward J, Zenghelis D, Marijs C, Schopp A, Rogers J, Midgley A. 2020. Diversification and Cooperation in a Decarbonizing World: Climate Strategies for Fossil Fuel-Dependent Countries. Climate Change and Development Series. Washington, DC: World Bank Group. 153 p; [accessed 2023 Feb 23]. https://openknowledge.worldbank.org/bitstream/handle/10986/34011/9781464813405.pdf?sequence=2&isAllowed=y.

Petersen-Perlman JD. 2016. Water Conflict/Cooperation Case Study: Zambezi River Basin.

Petros A, Terefe B, Dico-Young T. 2017. Gender analysis for dourgt response in Ethiopia – Somali Region. https://oxfamilibrary.openrepository.com/bitstream/handle/10546/620394/rr-gender-analysis-ethiopia-drought-response-111217-summ-en.pdf?sequence=2.

Pham-Duc B, Sylvestre F, Papa F, Frappart F, Bouchez C, Crétaux J-F. 2020. The Lake Chad hydrology under current climate change. Scientific Reports.

Phiri F, Mucari M, Du Plessis C. 2023. Cyclone Freddy teaches deadly lessons on storm warnings, city sprawl. Blantyre/Maputo: REUTERS.

Piccolino G. 2016. Conference Report: The Legacy of Armed Conflicts: Southern African and Comparative Perspectives. Africa Spectrum. 51:123–134.

Pilling D, Schipani A. 2023. War in Tigray may have killed 600,000 people, peace mediator says. https://www.ft.com/content/2f385e95-0899-403a-9e3b-ed8c24adf4e7. Accessed 2023 Jun 26.

Pirio G, Pittelli R, Adam Y. 2019. The many drivers enabling violent extremism in northern Mozambique. African Centre for Strategic Studies: Spotlight. 20.

Porter M, Mwaipopo R, Faustine R, Mzuma M. 2008. Globalization and Women in Coastal Communities in Tanzania. Development. 51:193–198.

Prins FX, Etale A, Ablo AD, Thatcher A. 2022. Water scarcity and alternative water sources in South Africa: can information provision shift perceptions? Urban Water Journal:1–12.

Project Canopy. 2023. Africa's rainforest is under threat. https://www.projectcanopy.org/.

Puig Cepero O, Desmidt S, Detges A, Tondel F, Van Ackern P, Foong A, Volkholz J. 2021. Climate Change, Development and Security in the Central Sahel: CASCADES Report. 97 p.

Radha Adhikari, Sharma JR, Smith P, Malata A. 2019. Foreign aid, Cashgate and trusting relationships amongst stakeholders: key factors contributing to (mal) functioning of the Malawian health system. Health Policy and Planning.

Rahhou J. 2023. Morocco's Finance Minister: Gas Subsidies Reached $2.1 Billion in 2022. https://www.moroccoworldnews.com/2023/01/353686/moroccos-finance-minister-gas-subsidies-reached-2-1-billion-in-2022.

Raleigh C. 2010. Political Marginalization, Climate Change, and Conflict in African Sahel States. International Studies Review. 12:69–86.

Raleigh C, Choi HJ, Kniveton D. 2015. The devil is in the details: An investigation of the relationships between conflict, food price and climate across Africa. Glob Environ Change. 32:187–199.

Raleigh C, Kniveton D. 2012. Come rain or shine: An analysis of conflict and climate variability in East Africa. Journal of Peace Research. 49:51–64.

Rameshwaran Pea. 2021. How Might Climate Change Affect River Flows across West Africa. Climatic Change. 169.

Ranasinghe R, Ruane A, Vautard R, Arnell N, Coppola E, Cruz F, Dessai S, Islam A, Rahimi M, Ruiz Carrascal D, Sillmann J, Sylla M, Tebaldi C, Wang W, Zaaboul R. 2021. Climate Change Information for Regional Impact and for Risk Assessment. In: Masson-Delmotte V, Zhai P, Pirani A, Connors S, Péan C, Berger S, Caud N, Chen Y, Goldfarb L, Gomis M, Huang M, Leitzell K, Lonnoy E, Matthews J, Maycock T, Waterfield T, Yelekçi O, Yu R, Zhou B, editors. Climate Change 2021: The Physical Science Basis. Contribution of Working Group I to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change. Cambridge, United Kingdom, New York, NY: Cambridge University Press. p. 1767–1926.

Reardon C, Wolfe R, Ogbudu E. 2021. Can Mediation Reduce Violence? The Effects of Negotiation: Training for Local Leaders in North Central Nigeria. Washington, D.C.: Mercy Corps.

Refisch J. 2022. Mountain Gorilla Conservation and Environmental Peacebuilding: Conservation as a common objective for peacebuilding. Ecosystems for Peace. https://www.ecosystemforpeace.org/compendium/mountain-gorilla-conservation-and-environmental-peacebuilding-conservation-as-a-common-objective-for-peacebuilding. Accessed 2023 Aug 01.

Refisch J, Jensen J. 2016. Transboundary Collaboration in the Greater Virunga Landscape: From Gorilla Conservation to conflict sensitive transbondary landscape management. In: Muffett, C; Nichols, S. (eds.). Governance, natural resources and post-conflict peacebuilding. Earthscan from Routledge.

Reuters. 2020. Libyans face painful power cuts as years of chaos hit grid. https://www.reuters.com/article/us-libya-security-blackouts-idCAKCN24P141.

Reuters. 2023. Niger, Mali and Burkina Faso to move toward monetary alliance, Niger leader says. Reuters Media; [accessed 2024 Mar 14]. https://www.reuters.com/world/africa/niger-mali-burkina-faso-move-toward-monetary-alliance-niger-leader-says-2023-12-11/.

Richardson K, Calow R, Pichon F, New S, Osborne R. 2022. Climate risk report for the East Africa region: Met Office, Overseas Development Institute, Foreign, Commonwealth and Development Office. 126 p; [accessed 2023 Apr 17]. https://www.gov.uk/research-for-development-outputs/climate-risk-report-for-the-east-africa-region.

Richardson T. 2011. Pastoral Violence in Jonglei: ICE Case Study No. 274. https://mandalaprojects.com/ice/ice-cases/jonglei.htm. Accessed 2023 Jan 04.

Rodgers C. 2022. Equipped to adapt? A review of climate hazards and pastoralists´ responses in the IGAD region. https://www.rsc.ox.ac.uk/publications/equipped-to-adapt-a-review-of-climate-hazards-and-pastoralists2019-responses-in-the-igad-region.

Rohat G, Flacke J, Dosio A, Dao H, Maarseveen M. 2019. Projections of Human Exposure to Dangerous Heat in African Cities Under Multiple Socioeconomic and Climate Scenarios. Earth's Future. 7:528–546.

Roth V, Lemann T, Zeleke G, Subhatu AT, Nigussie TK, Hurni H. 2018. Effects of climate change on water resources in the upper Blue Nile Basin of Ethiopia. Heliyon. 4:e00771.

Roz Price. 2020. Lessons learned in promoting accountability and resolution of natural resource-based conflicts in Africa. Brighton, United Kingdom: K4D Knowledge, evidence and learning for development, International Development Studies. Help Desk Report Report No.: 921; [accessed 2023 Jun 19]. https://opendocs.ids.ac.uk/opendocs/bitstream/handle/20.500.12413/15816/921_Promoting_accountability_and_resolution_of_natural_resource_based_conflict_in_Africa.pdf?sequence=1&isAllowed=y.

RSPB. 2023. Conserving West Africa´s Forests. Royal Society for the Protection of Birds. https://www.rspb.org.uk/our-work/policy-insight/global-policy/conserving-west-africas-forests/.

Ruggiero L. 2014. Renewable energy and the euro-mediterranean partnership following the "Arban Spring":359–373.

Rusca M, Savelli E, Di Baldassarre G, Biza A, Messori G. 2023. Unprecedented droughts are expected to exacerbate urban inequalities in Southern Africa. Nature Climate Change. 13:98–105.

Russo J. 2022. The UN Environmental and Climate Adviser in Somalia: Issue Brief: International Peace Institute. 12 p.

Rüttinger L, Munayer R, Van Ackern P, Titze F. 2022. The nature of conflict and peace. The links between environment, security and peace and their importance for the United Nations. https://climate-diplomacy.org/sites/default/files/2022-05/WWF-adelphi_The%20Nature%20of%20Conflict%20and%20Peace_mid%20res_0.pdf.

Rwanda Green Fund. n.d. How The Fund Works. https://greenfund.rw/how-fund-works. Accessed 2023 Aug 02.

S&P Global. 2022. ANALYSIS: Egypt's move to increase wheat flour extraction may dent exporters' plans. https://www.spglobal.com/commodityinsights/en/market-insights/latest-news/agriculture/070622-analysis-egypts-move-to-increase-wheat-flour-extraction-may-dent-exporters-plans.

Sackyefio-Lenoch N. 2014. The politics of chieftaincy Authority and property in colonial Ghana, 1920-1950. NED – New edition. Rochester NY: University of Rochester Press.

Saferworld. 2014. Masculinities, conflict and peacebuilding: Perspectives on men through a gender lens. 55 p; [accessed 2023 Jun 14]. https://www.files.ethz.ch/isn/185845/masculinities-conflict-and-peacebuilding.pdf.

Salman SM. 2011. The Baardhere Dam and Water Infrastructure Project in Somalia—Ethiopia's objection and the World Bank response. Hydrological Sciences Journal. 56:630–640.

Salmone A. 2010. Conflict in the Senegal River Valley. https://www.culturalsurvival.org/publications/cultural-survival-quarterly/conflict-senegal-river-valley. Accessed 2023 Jun 28.

Sambe B, Samb Y, Thioune MM. 2022. Crise sahélienne et nouvelles dynamiques socioreligieuses dans la Moyenne-vallée du fleuve Sénégal: Timbuktu Institute, Konrad Adenauer Stiftung. https://timbuktu-institute.org/index.php/toutes-l-actualites/item/579-rapport-crise-sahelienne-et-nouvelles-dynamiques-socioreligieuses-dans-la-moyenne-vallee-du-fleuve-senegal.

Sambou O, Ceesay M. 2023. An In-Depth Analysis of Climate Change as a Driver of Natural Resource Conflict: A Study in Sambang—The Gambia. OALib. 10:1–10.

Sarfati A. 2022. Toward an Environmental and Climate-Sensitive Approach to Protection in UN Peacekeeping Operations: International Peace Institute; [accessed 2023 Jul 26]. https://www.ipinst.org/wp-content/uploads/2022/10/Environmental-and-Climate-Sensitive-Approach-to-UN-Peacekeeping-Operations.pdf.

Sarzana C, Melgar A, Laderach P, Pacillo G. 2022. Piloting the Climate Security Sensitiveness Scoring Tool (CSST): A case study assessing the climate security sensitiveness of climate-smart villages (CSV) in Nyando, Kenya: CGIAR Focus Climate Security. Dakar. 25 p. https://cgspace.cgiar.org/handle/10568/127046.

Sarzana C, Melgar A, Meddings G, Laderach P, Pacillo G. 2022. Piloting the Climate Security Sensitiveness Scoring Tool (CSST): A case study assessing the climate security sensitiveness of participatory rangeland management (PRM) in Baringo, Kenya: CGIAR Focus Climate Security. Dakar. 24 p. https://hdl.handle.net/10568/128019.

Savelli A, Schapendonk F, Gupta TD, Pacillo G, Läderach P. 2023. Climate change, mobility and violent conflict: a typology of interlinked pathways. International Development Planning Review.

Sax N, Madurga Lopez I, Liebig T, Carneiro B, Laderach P, Pacillo G. 2023. How does climate exacerbate root causes of conflict in Zambia? An impact pathway analysis. Pending Publication: CGIAR.

Sax N, Medina Santa Cruz L, Carneiro B, Liebig T, Läderach P, Pacillo G. 2022. How does climate exacerbate root causes of livestock-related conflicts in Kenya? An impact pathway analysis: Climate Security Observatory Series. Factsheet 2022/1: Consultative Group for International Agricultural Research. 17 p. https://hdl.handle.net/10568/128022.

Sayan RC, Nagabhatla N, Ekwuribe M. 2020. Soft power, discourse coalitions, and the proposed interbasin water transfer between Lake Chad and the Congo River. Water Alternatives.

Scales IR, Friess DA. 2019. Patterns of mangrove forest disturbance and biomass removal due to small-scale harvesting in southwestern Madagascar. Wetlands Ecology and Management. 27:609–625.

Schapendonk F, Sarzana C, Scartozzi C, Savelli A, Madurga-Lopez I, Pacillo G, Laderach P. 2022. Climate Security Policy Coherence and Awareness Analysis Report: East Africa and Kenya. 43 p; [accessed 2023 Jun 7]. https://hdl.handle.net/10568/128062.

Scheen T. 2011. Zimbabwean migrants destabilise the north of South Africa. Focus Rural.

Schewe J, Levermann A. 2022. Sahel Rainfall Projections Constrained by Past Sensitivity to Global Warming. Geophys. Res. Lett.

Schmidt P, Muggah R. 2021. CLIMATE CHANGE AND SECURITY IN WEST AFRICA: IGARAPÉ INSTITUTE. https://igarape.org.br/wp-content/uploads/2021/02/2021-02-04-AE-52-Climate-Change-and-Security-in-West-Africa.pdf.

Schneider V. 2020. Poor governance fuels 'horrible dynamic' of deforestation in DRC. https://news.mongabay.com/2020/12/poor-governance-fuels-horrible-dynamic-of-deforestation-in-drc/.

Schouten P, Verweijen J, Simpson F. 2022. Our Climate Future Depends on Conflict Dynamics in Congo: Danish Institute for International Studies. https://www.diis.dk/en/research/our-climate-future-depends-on-conflict-dynamics-in-congo.

Scoones I, Mavedzenge B, Murimbarimba F. 2019. Young people and land in Zimbabwe: livelihood challenges after land reform. Review of African Political Economy. 46:117–134.

Seiyefa E. 2019. How climate change impacts on regional security in West Africa: Exploring the link to organised crime. African Security Review. 28:159–171.

Semba B. 2021. The young are key to avoiding old mistakes in Central African Republic. https://www.thenewhumanitarian.org/opinion/2021/5/24/to-stop-conflict-in-central-african-republic-speak-with-youth. Accessed 2023 Jul 28.

Seneviratne S, Zhang X, Adnan M, Badi W, Dereczynski C, Di Luca A, Ghosh S, Iskandar I, Kossin J, Lewis S, Otto F, Pinto I, Satoh M, Vicente-Serrano S, Wehner M, Zhou B. 2021. Weather and Climate Extreme Events in a Changing Climate. In: Masson-Delmotte V, Zhai P, Pirani A, Connors S, Péan C, Berger S, Caud N, Chen Y, Goldfarb L, Gomis M, Huang M, Leitzell K, Lonnoy E, Matthews J, Maycock T, Waterfield T, Yelekçi O, Yu R, Zhou B, editors. Climate Change 2021: The Physical Science Basis. Contribution of Working Group I to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change. Cambridge, United Kingdom, New York, NY: Cambridge University Press. p. 1513–1766.

Sengupta D, Choudhury A, Fortes-Lima C, Aron S, Whitelaw G, Bostoen K, Gunnink H, Chousou-Polydouri N, Delius P, Tollman S, Gómez-Olivé FX, Norris S, Mashinya F, Alberts M, Study A-G, Consortium H, Hazelhurst S, Schlebusch CM, Ramsay M. 2021. Genetic substructure and complex demographic history of South African Bantu speakers. Nat Commun. 12.

Seychelles Marine Spatial Plan. 2018. Seychelles' Blue Economy Strategic Policy Framework and Roadmap: Charting the Future (2018-2030). 12 p; [accessed 2023 Jun 14]. https://seymsp.com/resources/blue-economy-roadmap/.

Seyuba K, Ferré Garcia T. 2022. Climate-related security risks in the SADC region. Stockholm: SIPRI; [accessed 2023 Jun 19]. https://www.sipri.org/commentary/topical-background/2022/climate-related-security-risks-sadc-region.

Shapiro AC, Bernhard KP, Zenobi S, Müller D, Aguilar-Amuchastegui N, d'Annunzio R. 2021. Proximate causes of forest degradation in the Democratic Republic of the Congo vary in space and time. Frontiers in Conservation.

Sheefeni J. 2022. South Africa's economy has taken some heavy body blows: can it recover? https://theconversation.com/south-africas-economy-has-taken-some-heavy-body-blows-can-it-recover-183165.

Siam MS, Eltahir EAB. 2017. Climate change enhances interannual variability of the Nile river flow. Nature Clim Change. 7:350–354.

Siddig K, Stepanyan D, Wiebelt M, Grethe H, Zhu T. 2018. Climate change and agriculture in the Sudan: Impact pathways beyond changes in mean rainfall and temperature: Middle East and North Africa Regional Program. Working Paper 13: International Food Policy Research Institute.

Siegfried K. 2022. Food shortages and aid cuts put more displaced women at risk of gender-based violence. https://www.unhcr.org/news/stories/food-shortages-and-aid-cuts-put-more-displaced-women-risk-gender-based-violence. Accessed 2023 Jul 24.

Silverstein RO. 1968. A note on the term "Bantu" as first used by W. H. I. Bleek. African Studies. 27:211–212.

Simatele D, Simatele M. 2015. Migration as an adaptive strategy to climate variability: a study of the Tonga-speaking people of Southern Zambia. Disasters. 39:762–781.

Simpson GB, Badenhorst J, Jewitt GPW, Berchner M, Davies E. 2019. Competition for land: The water-energy-food nexus and coal mining in Mpumalanga Province, South Africa. Frontiers in Environmental Science. 7:86.

Siyobi B. 2021. Stranded Assets: The Nexus Between Extractives, Climate, & the Circular Economy Within the African Extractives Sectors. Johannesburg South Africa: South African Institute of International Affairs. Policy Insights Report No.: 112; [accessed 2023 Jun 20]. https://saiia.org.za/wp-content/uploads/2021/07/Policy-Insights-112-siyobi.pdf.

Sneyd LQ, Legwegoh A, Fraser EDG. 2013. Food riots: Media perspectives on the causes of food protest in Africa. Food Sec. 5:485–497.

Soffiantini G. 2020. Food insecurity and political instability during the Arab Spring. Global Food Security.

Soliman A, Carlsson Rex H, Warren D. 2022. Climate change and gender-based violence -- interlinked crises in East Africa. https://blogs.worldbank.org/climatechange/climate-change-and-gender-based-violence-interlinked-crises-east-africa. Accessed 2023 Jul 26.

Sonno T. 2020. Globalization and Conflicts: The Good, the Bad and the Ugly of Corporations in Africa: CEP Discussion Papers (1670). London: Centre for Economic Performance, London School of Economics. Report No.: 1690; [accessed 2023 Jul 26]. http://eprints.lse.ac.uk/108225/1/dp1670.pdf.

Sonno T. 2023. Globalization and Conflicts: the Good, the Bad, and the Ugly of Corporations in Africa: Centre for Economic Performance London School of Economics; [accessed 2023 Jul 26]. https://www.tommasosonno.com/docs/GlobalizationConflict_TommasoSonno.pdf.

Sonno T, Zufacchi D. 2022a. Epidemics and rapacity of multinational companies. London: Centre for Economic Performance London School of Economics. Report No.: 1833; [accessed 2023 Jul 26]. http://www.tommasosonno.com/docs/Ebola_SonnoZufacchi.pdf.

Sonno T, Zufacchi D. 2022b. Peace or conflict? The impact of private investment in African countries. https://www.theigc.org/blogs/peace-or-conflict-impact-private-investment-african-countries. Accessed 2023 Jul 26.

South African Institute of International Affairs. 2022. Africa's mineral resources are critical for the green energy transition. https://saiia.org.za/research/africas-mineral-resources-are-critical-for-the-green-energy-transition/. Accessed 2023 Aug 01.

Southall R. 2013. Liberation movements in power: Party & state in Southern Africa. Woodbridge, Pietermaritzburg: James Currey Ltd; University of KwaZulu-Natal Press.

Southern Africa Consultation in Climate Security. 2023. Southern Africa Consultation in Climate Security. In presenece consultation. Gaborone, Botswana. 2023 Jun 07.

Southern African Customs Union. 2023. About SACU. https://www.sacu.int/.

Southern African Development Community. 2000. Revised Protocol on Shared Watercourses 2000. https://www.sadc.int/document/revised-protocol-shared-watercourses-2000-english.

Southern African Development Community. 2019. SADC The southern arrested development community?: enduring challenges to peace and security in Southern Africa: University of Cape Town, Institute for Democracy, Citizenship and Public Policy in Africa (IDCPPA), Cape Town, South Africa; Uppsala.

Southern African Development Community. 2020. The SADC Regional Resilience Framework 2020-2030. Gaborone, Botswana; [accessed 2023 Jun 19]. https://www.sadc.int/sites/default/files/2022-11/GIZ%20TOOL%20KIT%20-%20FRAMEWORK%20-%20SADC_Regional_Resilience_Framework%20-%202020.pdf.

Southern African Development Community. 2021. SADC Mission in Mozambique (SAMIM) in Brief. https://www.sadc.int/latest-news/sadc-mission-mozambique-samim-brief.

Southern African Development Community. 2022. Synthesis Report on the State of Food Security and Vulnerability in Southern Africa 2022. Regional Vulnerability Assessment & Analysis Programme. Inmforming Resilient Livelihoods. Gaborone, Botswana: SADC.

Sovacool B. 2017. Reviewing, Reforming, and Rethinking Global Energy Subsidies: Towards a Political Economy Research Agenda.

Spierenburg M. 2021. Strangers, spirits, and land reforms: Conflicts about land in Dande, Northern Zimbabwe: Brill.

Spinoni J, Barbosa P, Jager A de, McCormick N, Naumann G, Vogt JV, Magni D, Masante D, Mazzeschi M. 2019. A new global database of meteorological drought events from 1951 to 2016. Journal of Hydrology: Regional Studies. 22:100593.

Sreeraj P, Swapna P, Krishnan R, Nidheesh AG, Sandeep N. 2022. Extreme sea level rise along the Indian Ocean coastline: observations and 21st century projections. Environ. Res. Lett. 17:114016.

Statista. 2022. Gross Domestic Product (GDP) in North Africa from 2010 to 2027 (in billion U.S. dollars). https://www.statista.com/statistics/1306864/total-gdp-value-in-north-africa/.

Stoldt M, Göttert T, Mann C, Zeller U. 2020. Transfrontier Conservation Areas and Human-Wildlife Conflict: The Case of the Namibian Component of the Kavango-Zambezi (KAZA) TFCA. Scientific Reports. 10:7964.

Stop Illegal Fishing. n.d. Fish-i Africa. https://stopillegalfishing.com/initiatives/fish-i-africa/. Accessed 2023 May 31.

Strategic Foresight Group. 2022. Water and violence: Somalia: Blue Peace Bulletin: Strategic Foresight Group; [accessed 2023 Jul 27]. https://www.strategicforesight.com/publication_pdf/WATER%20AND%20VIOLENCE_%20SOMALIA%20.pdf.

Strouboulis A, Yayboke E, Edwards A. 2023. Conflict Prevention, Climate Change, and Why Ghana Matters Now. https://www.csis.org/analysis/conflict-prevention-climate-change-and-why-ghana-matters-now.

Sturridge C, Feijó J, Tivane N. 2022. Coping with the risks of conflict, climate and internal displacement in northern Mozambique.

Sultan B, Mlowezi M. 2019. Women's labour migration on the Africa-Middle East corridor: Experiences of migrant domestic workers from Tanzania mainland and Zanzibar. 18 p. https://idwfed.org/wp-content/uploads/2022/07/tanzania_and_zanzibar_country_report.pdf.

Swain A, Bali Swain R, Themnér A, Krampe F. 2011. Climate change and the risk of violent conflicts in Southern Africa: Global Crisis Solutions.

Tade O. 2020. What's triggered new conflict between farmers and herders in Nigeria. https://theconversation.com/whats-triggered-new-conflict-between-farmers-and-herders-in-nigeria-145055. Accessed 2023 Aug 04.

Tadie D, Fischer A. 2017. Natural resource governance in lower Omo, Ethiopia – negotiation processes instead of property rights and rules? International Journal of the Commons. 11:445–463.

Tan J. 2021. Gabon becomes first African country to get paid for protecting its forests. https://news.mongabay.com/2021/07/gabon-becomes-first-african-country-to-get-paid-for-protecting-its-forests/.

Tanchum M. 2021. The Fragile State of Food Security in Maghreb: Implication of 2021 Cereal Grains Crisis in Tunisia, Algeria, and Morocco: MEI. https://www.mei.edu/sites/default/files/2021-11/The%20Fragile%20State%20of%20Food%20Security%20in%20the%20Maghreb-%20%20Implication%20of%20the%202021%20Cereal%20Grains%20Crisis%20in%20Tunisia%2C%20Algeria%2C%20and%20Morocco%20.pdf.

Tapsoba TA, Hubert DB. 2022. International Remittances and Development in West Africa: The Case of Burkina Faso. In: Migration in West Africa.

Tarif K. 2023. Climate Change and Security in West Africa: Regional Perspectives on Addressing Climate-related Security Risks; [accessed 2012 Aug 15]. https://sipri.org/publications/2023/partner-publications/climate-change-and-security-west-africa-regional-perspectives-addressing-climate-related-security.

Taylor CM, Belušić D, Guichard F, Parker DJ, Vischel T, Bock O, Harris PP, Janicot S, Klein C, Panthou G. 2017. Frequency of extreme Sahelian storms tripled since 1982 in satellite observations. Nature.

Tchamba M, Foguekem D. 2012. Human Elephant conflict in the Waza-Logone region of Northern Cameroon: an assessment of management effectiveness. Tropicultura. 30:79–87.

Tchoumba GB, Tibaldeschi P, Izquierdo, P. Nsom Zamo, A.C., Bigombe Logo P, Doumenge C. 2021. Extractive industries and protected areas in Central Africa: for better or for worse? In: Doumenge C., Palla F., Itsoua Madzous G-L., editor. State of Protected Areas in Central Africa 2020.

Terada S, Yobo CM, Moussavou G-M, Matsuura N. 2021. Human-Elephant Conflict Around Moukalaba-Doudou National Park in Gabon: Socioeconomic Changes and Effects of Conservation Projects on Local Tolerance. Tropical Conservation Science. 14:194008292110267.

Teye JK. 2022. Migration in West Africa : IMISCOE Regional Reader. https://doi.org/10.1007/978-3-030-97322-3.

The World Bank. 2021a. Think Regionally, Act Locally: A New $350 Million Project Supports Community-Based Recovery and Stability in the Sahel. https://www.worldbank.org/en/news/press-release/2021/06/15/think-regionally-act-locally-a-new-350-million-project-supports-community-based-recovery-and-stability-in-the-sahel. Accessed 2023 Aug 18.

Thiede BC, Ronnkvist S, Armao Aea. 2022. Climate anomalies and birth rates in sub-Saharan Africa. Climatic Change.

Thoya P, Horigue V, Möllmann C, Maina J, Schiele KS. 2022. Policy gaps in the East African Blue economy: Perspectives of small-scale fishers on port development in Kenya and Tanzania. Frontiers in Marine Science. 9:933111.

Toupane PM, Faye AK, Kanté A, Kane M, Ndour M, Sow C, Ndaw B, Tabara Cissokho et Younoussa Ba. 2021. Prévenir l'extrémisme violent au Sénégal: Les menaces liées à l'exploitation aurifère: Institute for Secruity Studies. https://issafrica.org/fr/recherches/rapport-sur-lafrique-de-louest/prevenir-lextremisme-violent-au-senegal-les-menaces-liees-a-lexploitation-aurifere.

TradingEconomics. 2023. Libya – Employment In Agriculture (% Of Total Employment). https://tradingeconomics.com/libya/employment-in-agriculture-percent-of-total-employment-wb-data.html. Accessed 2023 Feb 22.

Tramblay et al. 2022. Changes in flood hazards in North Africa and implications for flood frequency analysis: Plinius Conference on Mediterranean Risks; [accessed 2023 Feb 22]. https://doi.org/10.5194/egusphere-plinius17-87.

Transnational Alliance to Combat Illicit Trade. 2019. Mapping the Impact of Illicit Trade on the Sustainable Development Goals. https://unctad.org/system/files/non-official-document/DITC2019_TRACIT_IllicitTradeandSDGs_fullreport_en.pdf.

Treaty on the Conservation and Sustainable Management of Forest Ecosystems in Central Africa and to establish the Central African Forests Commission. COMIFAC (2005).

TreeAid. 2023. Burkina Faso: project overview. https://www.treeaid.org/projects/burkina-faso. Accessed 2023 Aug 17.

Trego R. 2011. The functioning of the Egyptian food-subsidy system during food-price shocks. Development in Practice.

Trogisch L, Fletcher R. 2022. Fortress tourism: exploring dynamics of tourism, security and peace around the Virunga transboundary conservation area. Journal of Sustainable Tourism. 30:352–371.

Tsakok I. 2023. Implications of Food Systems for Food Security During a Time of Multiple Crises: The Republic of Mauritius: Policy Center for the new South; [accessed 2023 Aug 2]. https://www.policycenter.ma/sites/default/files/2023-02/PB_10_23_Tsakok.pdf.

Tsebia, Mohammed, Bentarzi, Hamid,. International Journal of Power Electronics, Systems D. 2023. Reduction in the use of fossil fuels by improving the interconnection power system oscillation. International Journal of Power Electronics and Drive Systems (IJPEDS).

Turok I, Visagie J, Scheba A. 2021. Social inequality and spatial segregation in Cape Town. Urban Socio-Economic Segregation and Income Inequality: A Global Perspective:71–90.

Turpie J, Kroeger T, De Risi R, de Paola F, Letley G, Forsythe K, Day L. 2016. Promoting Green Urban Development in Africa: Enhancing the relationship between urbanization, environmental assets and ecosystem services. Return on investment in green urban development amelioration of flood risk in the Msimbazi river catchment, Dar Es Salaam, Tanzania. Washington, D.C.: International Bank for Reconstruction and Development, World Bank. 162 p.

Tyukavina A, Hansen MC, Potapov P, Parker D, Okpa C, Stehman SV, Kommareddy I, Turubanova S. 2018. Congo Basin forest loss dominated by increasing smallholder clearing. Sci Adv. 4:eaat2993.

U.S. Energy Information Administration. 2022. Country analysis: Egypt. https://www.eia.gov/international/analysis/country/egy.

Uexkull N von. 2016. Climate, conflict and coping capacity: The impact of climate variability on organized violence. Uppsala: Uppsala Universitet.

Ukkola AM, Kauwe MG de, Roderick ML, Abramowitz G, Pitman AJ. 2020. Robust Future Changes in Meteorological Drought in CMIP6 Projections Despite Uncertainty in Precipitation. Geophys. Res. Lett. 47.

UN News. 2022. Migrant deaths in Libyan desert 'wake-up call' for stronger protections. https://news.un.org/en/story/2022/07/1121832. Accessed 2023 Feb 22.

UN Water. 2021. Progress on Transboundary Water Cooperation: Global status of SDG indicator 6.5.2 and acceleration needs. Geneva: UN; [accessed 2023 Jun 19]. https://unece.org/sites/default/files/2021-12/SDG652_2021_2nd_Progress_Report_ENG_web.pdf.

UN WOMEN. 2013. Women and natural resources: unlocking the peace building potential. 92807336.

UNCTAD. 2021. Reaping the potential benefits of the African Continental Free Trade Area for inclusive growth. https://unctad.org/system/files/official-document/aldcafrica2021_en.pdf.

UNDP. 2019. Ensuring climate resilient water supplies in the Comoros Islands. https://www.adaptation-undp.org/projects/ensuring-climate-resilient-water-supplies-comoros-islands.

UNEP. 2017a. UNEP Study Confirms DR Congo's Potential as Environmental Powerhouse but Warns of Critical Threats. https://www.unep.org/news-and-stories/story/unep-study-confirms-dr-congos-potential-environmental-powerhouse-warns.

United Nations. 2021. COP26: Landmark $500 million agreement launched to protect the DR Congo's forest. https://www.un.org/africarenewal/magazine/december-2021/cop26-landmark-500-million-agreement-launched-protect-dr-congo%E2%80%99s-forest.

United Nations. 2022a. Madagascar: Recovering from one deadly cyclone, bracing for another: UN News. https://news.un.org/en/story/2022/02/1111292. Accessed 2023 May 26.

United Nations. 2022b. South Africa 'on the precipice of explosive xenophobic violence', UN experts warn. South Africa.

United Nations Capital Development Fund. 2023. The Kibira Peace Sanctuary. PBF/BDI/C-1. https://mptf.undp.org/project/00129741. Accessed 2023 Aug 01.

United Nations Conference on Trade and Development. 2018. Economic Development in Africa: Migration for Structural Transformation: United Nations Conference on Trade and Development. https://unctad.org/news/economic-development-africa-migration-structural-transformation.

United Nations Convention to Combat Desertification. 2010. Planned Grazing through Herding (PGH) [Namibia]. Namibia: UNCCD; [accessed 2023 Jun 19]. https://qcat.wocat.net/en/unccd/view/unccd_46/.

United Nations Convention to Combat Desertification. 2017. Restoration of traditional pastoral management forums: Angola. Angola: UNCCD; [accessed 2023 Jun 17]. https://qcat.wocat.net/en/wocat/approaches/view/approaches_3173/.

United Nations Convention to Combat Desertification. 2020. The great green wall implementation status and way ahead to 2030: United Nations Convention to Combat Desertification; [accessed 2023 Aug 4]. https://catalogue.unccd.int/1551_GGW_Report_ENG_Final_040920.pdf.

United Nations Department of Economic and Social Affairs. 2020. International Migrant Stock. Accessed 2023 Feb 23.

United Nations Department of Economic and Social Affairs. 2022a. 2022 Revision of World Population Prospects. https://population.un.org/wpp/.

United Nations Department of Economic and Social Affairs. 2022b. World Population Prospects 2022. https://population.un.org/wpp/. Accessed 2023 Apr 12.

United Nations Development Programme. 2010. Emergency support to the energy sector: United Nations Development Programme; [accessed 2023 Aug 18]. https://mptf.undp.org/sites/default/files/documents/10000/pbf-sle-i-1_undp_sl_pbf_energy_final_report.pdf.

United Nations Development Programme. 2016. Overview of linkages between gender and climate change. https://www.undp.org/sites/g/files/zskgke326/files/publications/UNDP%20Linkages%20Gender%20and%20CC%20Policy%20Brief%201-WEB.pdf.

United Nations Development Programme. 2021a. Climate finance for sustaining peace: Making climate finance work for conflict-affected and fragile contexts. New York, NY: UNDP. https://www.undp.org/publications/climate-finance-sustaining-peace-making-climate-finance-work-conflict-affected-and.

United Nations Development Programme. 2021b. Sahel Resilience Project: United Nations Development Programme; [accessed 2023 Aug 1]. https://www.undp.org/africa/publications/sahel-resilience-project#:~:text=With%20funding%20from%20Sweden%20and%20UNDP%2C%20the%20initiative,climate%20change%20risks%2C%20as%20well%20as%20urban%20risks.

United Nations Development Programme. 2022a. Human Development Report 2021-22: Uncertain Times, Unsettled Lives: Shaping our Future in a Transforming World. New York: United Nations Development Programme; [accessed 2023 Aug 4]. https://hdr.undp.org/content/human-development-report-2021-22.

United Nations Development Programme. 2022b. The Karamoja Cluster: Rapid Conflict Analysis and Gender Assessment (Kenya and Uganda). 71 p.

United Nations Development Programme. 2023a. Enhancing Climate Change Adaptation in the North Coast of Egypt. https://www.adaptation-undp.org/projects/enhancing-climate-change-adaptation-north-coast-egypt#.

United Nations Development Programme. 2023b. Mali launches project aimed at enhancing climate security and sustainable management of natural resources. https://www.adaptation-undp.org/mali-launches-project-aimed-enhancing-climate-security-and-sustainable-management-natural-resources.

United Nations Development Programme. 2023c. Mapping of Climate Security Adaptations at Community Level in the Horn of Africa. 84 p; [accessed 2023 May 31]. https://www.undp.org/africa/publications/mapping-climate-security-adaptations-community-level-horn-africa.

United Nations Development Programme, Oxford Poverty & Human Development Initiative. 2022. Global Multidimensional Poverty Index 2022: Unpacking deprivation bundles to reduce multidimensional poverty. https://hdr.undp.org/system/files/documents/hdp-document/2022mpireporten.pdf.

United Nations Economic and Social Commission for Western Asia. 2019. Moving towards Water Security in the Arab Region. https://archive.unescwa.org/publications/moving-towards-achieving-water-security-arab-region.

United Nations Economic Commission for Africa. n.d.a. EAC – Free Movement of Persons. https://archive.uneca.org/pages/eac-free-movement-persons. Accessed 2023 Jun 06.

United Nations Economic Commission for Africa. n.d.b. ECOWAS – Free Movement of Persons. https://archive.uneca.org/pages/ecowas-free-movement-persons. Accessed 2023 Jul 25.

United Nations Economic Commission for Africa. 2019. Sahel 2043: Towards a resilient, inclusive and prosperous Sahel region. Addis Ababa: UNECA. 77 p; [accessed 2022 Apr 21]. https://repository.uneca.org/bitstream/handle/10855/43654/b11981854.pdf?sequence=7&isAllowed=y.

United Nations Economic Commission for Africa. 2020. Harnessing renewable energy for industrialization and economic diversification in Central Africa. https://repository.uneca.org/bitstream/handle/10855/49370/b1202420x.pdf?sequence=1&isAllowed=y.

United Nations Economic Commission for Africa. 2022. Macroeconomic and Social Developments in Eastern Africa 2022: Building Resilience in a Hostile Global Context. 106 p.

United Nations Educational, Scientific and Cultural Organization, Intergovernmental Oceanographic Commission. 2020. Technical report on the Status of Coastal Vulnerability in Central African Countries. https://unesdoc.unesco.org/ark:/48223/pf0000373623/PDF/373623eng.pdf.multi.

United Nations Environment Programme. 2013. Africa's adaptation Gap: Technical Report: Climate-change impacts, adaptation challenges and costs for Africa. Nairobi: UNEP; [accessed 2023 Jun 20]. https://climateanalytics.org/publications/africas-adaptation-gap-climate-change-impacts-adaptation-challenges-and-costs-for-africa.

United Nations Environment Programme. 2015a. Côte d'Ivoire: Post-Conflict Environmental Assessment: United Nations Environment Programme; [accessed 2023 Aug 4]. https://wedocs.unep.org/bitstream/handle/20.500.11822/9835/-C%c3%b4te_d%e2%80%99Ivoire_Post-Conflict_Environmental_Assessment-2015C%c3%b4te_d%e2%80%99Ivoire_Post-Conflict_Environmental_Assessment.pdf.pdf?sequence=6&isAllowed=y.

United Nations Environment Programme. 2015b. Green Economy Scoping Study – Egypt: Green Growth Knowledge; [accessed 2023 Feb 22]. https://www.greenpolicyplatform.org/sites/default/files/downloads/resource/Green_Economy_Scoping_Study_Egypt_UNEP.pdf.

United Nations Environment Programme. 2017b. Côte d'Ivoire: Post-Conflict Environmental Assessment: United Nations Environment Programme; [accessed 2023 Aug 18]. https://www.unep.org/resources/assessment/cote-divoire-post-conflict-environmental-assessment-0.

United Nations Environment Programme. 2023. Critical ecosystems: Congo Basin peatlands. https://www.unep.org/news-and-stories/story/critical-ecosystems-congo-basin-peatlands.

United Nations Environment Programme, Sudan Higher Council for Environment and Natural Resources. 2020. Sudan. First State of Environment and Outlook Report 2020: Environment for Peace and Sustainable Development: United Nations Environment Programme.

United Nations Environment Programme, United Nations Great Lakes, Mission de l'Organisation des Nations Unies en République Démocratique du Congo. 2015. Experts' Background Report on Illegal Exploitation and Trade in Natural Resources Benefiting Organized Criminal Groups and Recommendations on MONUSCO's Role in Fostering Stability and Peace in Eastern DR Congo. https://wedocs.unep.org/bitstream/handle/20.500.11822/22074/UNEP_DRCongo_MONUSCO_OSESG_final_report.pdf?sequence=1&isAllowed=y.

United Nations Framework Convention on Climate Change. 2015. The People's Democratic Republic of Algeria: Intended Nationally Determined Contribution. https://unfccc.int/sites/default/files/NDC/2022-06/Algeria%20-%20INDC%20%28English%20unofficial%20translation%29%20September%2003%2C2015.pdf.

United Nations Framework Convention on Climate Change. 2021. Seychelles' Updated Nationally Determined Contribution: United Nations Framework Convention on Climate Change; [accessed 2023 Aug 2]. https://unfccc.int/sites/default/files/NDC/2022-06/Seychelles%20-%20NDC_Jul30th%202021%20_Final.pdf.

United Nations High Commissioner for Refugees. 2021. Deadly clashes over scarce resources in Cameroon force 30,000 to flee to Chad. https://www.unhcr.org/news/briefing-notes/deadly-clashes-over-scarce-resources-cameroon-force-30000-flee-chad.

United Nations High Commissioner for Refugees. 2022. Annual Report on Climate Action in Mozambique. Maputo: UNHCR.

United Nations High Commissioner for Refugees. 2023a. Operational Data Portal: country profile Cameroon. https://data.unhcr.org/en/country/cmr.

United Nations High Commissioner for Refugees. 2023b. Operational Data Portal: country profile Niger. https://data.unhcr.org/en/country/ner.

United Nations Office for Disaster Risk Reduction. 2021. IGAD Climate Centre Unveils Disaster Operations Centre. https://www.preventionweb.net/news/igad-climate-centre-unveils-disaster-operations-centre. Accessed 2023 Jul 26.

United Nations Office for Disaster Risk Reduction. 2022a. Early warnings for all of Africa. https://www.undrr.org/news/early-warnings-all-africa. Accessed 2023 Aug 01.

United Nations Office for Disaster Risk Reduction. 2022b. Global Asssessment Report on Disaster Risk Reduction: Our World at Risk: Transforming Governance for a Resilient Future. Geneva: UNDRR; [accessed 2023 Jun 20]. https://www.undrr.org/media/79595/download?startDownload=true.

United Nations Office for Disaster Risk Reduction. 2022c. Heeding the call for 'Early Warnings For All', African Multi-Hazard Advisory Centre Established in Niger. https://www.undrr.org/news/heeding-call-early-warnings-all-african-multi-hazard-advisory-centre-established-niger. Accessed 2023 Aug 01.

United Nations Office for the Coordination of Humanitarian Affairs. 2020. Eastern Africa: Humanitarian Snapshot: October 2020. 1 p; [accessed 2023 Apr 17]. https://reliefweb.int/report/sudan/eastern-africa-humanitarian-snapshot-october-2020.

United Nations Office for the Coordination of Humanitarian Affairs. 2022. Humanitarian Report. https://www.unocha.org/southern-and-eastern-africa-rosea/about-ocha-rosea. Accessed 2022 Oct 27.

United Nations Office for the Coordination of Humanitarian Affairs. 2023. Southern Africa: snapshot of tropical cyclone freddy's impact: United Nations Office for the Coordination of Humanitarian Affairs.

United Nations Office of the High Representative for the Least Developed Countries, Landlocked Developing Countries and Small Island Developing States. 2022. Accessing Climate Finance: Challenges and opportunities for Small Island Developing States: Office of the High Representative for the Least Developed Countries, Landlocked Developing Countries and Small Island Developing States. https://www.un.org/ohrlls/sites/www.un.org.ohrlls/files/accessing_climate_finance_challenges_sids_report.pdf.

United Nations Office of the Special Coordinator for Development in the Sahel, United Nations High Commissioner for Refugees. 2022. Moving from Reaction to Action: Anticipating Vulnerability Hotspots in the Sahel: A Synthesis Report from the Sahel Predictive Analytics Project in Support of the United Nations Integrated Strategy for the Sahel. 106 p; [accessed 2023 Jun 26]. https://unis-sahel.org/2022/11/02/sahel-predictive-analytics-report-moving-from-reaction-to-action-anticipating-vulnerability-hotspots-in-the-sahel-in-support-of-uniss/.

United Nations Office on Drugs and Crime. 2023. World drug report 2023: United Nations Office on Drugs and Crime; [accessed 2023 Aug 2]. https://www.unodc.org/unodc/en/data-and-analysis/world-drug-report-2023.html.

United Nations Peacebuilding Fund. 2023. Project overview for Mali and Niger. https://mptf.undp.org/fund/pb000. Accessed 2023 Aug 17.

United Nations Regional Office for Central Africa. 2023. Unpublished input provided for ACRA.

United Nations Security Council. 2018. Resolution 2408 (2018), adopted by the Security Council at its 8215th meeting, on 27 March 2018: United Nations Security Council. 7 p; [accessed 2023 Jan 18]. https://digitallibrary.un.org/record/1479010.

United Nations South Africa. 2023. Addressing Statelessness in Southern Africa. Pretoria: UN. https://southafrica.un.org/en/156766-addressing-statelessness-southern-africa.

United Nations Women. 2020. Adoption du plan d'action national de deuxième génération de l'agenda Femmes Paix et Sécurité au Niger. https://africa.unwomen.org/fr/news-and-events/stories/2020/11/communique-niger. Accessed 2023 Aug 18.

United Nations Women. 2023. Somalia launches National Action Plan on UNSCR 13 for women and security. https://africa.unwomen.org/en/stories/news/2023/01/somalia-launches-national-action-plan-on-unscr-13-for-women-and-security. Accessed 2023 Jun 07.

United States Agency for International Development. 2020. Pathways to peace: addressing conflict and strengthening stability in a changing climate, lessons learned from resilience and peacebuilding programs in the Horn of Africa: United States Agency for International Development; [accessed 2023 Aug 2]. https://www.preventionweb.net/publication/lessons-learned-resilience-and-peacebuilding-programs-horn-africa.

UNOCA. 2022. Soutenir la paix en Afrique centrale en répondant à l'impact négatif du changement climatique sur la paix et la stabilité. https://unoca.unmissions.org/sites/default/files/soutenir_la_paix_en_afrique_centrale_en_repondant_a_limpact_negatif_du_changement_climatique_sur_la_paix_et_la_stabilite_2.pdf.

UNODC. 2005. Transnational Organized Crime in the West African Region. https://www.unodc.org/pdf/transnational_crime_west-africa-05.pdf.

UNODC. 2021a. Abused and Neglected – A Gender Perspective on Aggravated Migrant Smuggling and Response. https://www.unodc.org/unodc/en/human-trafficking/Webstories2021/unodc-highlights-lack-of-justice-for-migrants-abused-on-smuggling-routes.html.

UNODC. 2021b. Human trafficking in West Africa: three out of four victims are children says UNODC report. https://www.unodc.org/nigeria/en/human-trafficking-in-west-africa_-three-out-of-four-victims-are-children-says-unodc-report.html.

UNOWAS. 2022. UNOWAS and its partners call for concrete action to tackle the challenges of climate change. https://medium.com/@unowasmagazine/unowas-and-its-partners-call-for-concrete-action-to-tackle-the-challenges-of-climate-change-ecb0633cb7db.

Ursu A-E. 2018. Under the gun: Resource conflicts and embattled traditional authorities in Central Mali. Resource conflict and radical armed governance in central Mali. The Hague: Netherlands Institute of International Relations Clingendael; [accessed 2023 Jul 25]. https://www.clingendael.org/sites/default/files/2018-07/under-the-gun.pdf.

USAID. 2018. Climate Risk Profile West Africa. https://www.climatelinks.org/sites/default/files/asset/document/West_Africa_CRP_Final.pdf.

USAID. 2021. Artisanal Gold Mining in the Democratic Republic of the Congo: A Biodiversity and Extractives Political Economy Assessment Summary. https://pdf.usaid.gov/pdf_docs/pa00mbrj.pdf.

USGS. 2019. Saltwater Intrusion. https://www.usgs.gov/mission-areas/water-resources/science/saltwater-intrusion.

Uzu J, Bettinger P, Siry J, Mei B. 2022. Timber business in West Africa: a review and outlook. International Forestry Review.

Vaccaro I, Chapman CA, Nyboer EA, Luke M, Byekwaso A, Morgan C, Mbabazi D, Twinomugisha D, Chapman LJ. 2013. An interdisciplinary method to harmonise ecology, economy and co-management: fisheries exploitation in Lake Nabugabo, Uganda. African Journal of Aquatic Science. 38:97–104.

van Baalen S, Mobjörk M. 2018. Climate Change and Violent Conflict in East Africa: Integrating Qualitative and Quantitative Research to Probe the Mechanisms. International Studies Review. 20:547–575.

van Daalen KR, Kallesøe SS, Davey F, Dada S, Jung L, Singh L, Nilsson M. 2022. Extreme events and gender-based violence: a mixed-methods systematic review. The Lancet Planetary health. 6.

van Riet G. 2012. Recurrent drought in the dr ruth segomotsi mompati district municipality of the north west province in South Africa: An environmental justice perspective. Jàmbá: Journal of Disaster Risk Studies. 4:1–9.

van Ruijven BJ, Cian E de, Wing IS. 2019. Amplification of future energy demand growth due to climate change. Nature Communications.

Verme P, El-Massnaoui K. 2017. An Evaluation of the 2014 Subsidy Reforms in Morocco and a Simulation of Further Reforms.

Verweijen J, Marijnen E. 2017. Why fighting fire with fire in DRC's Virunga Park isn't helping conservation. https://theconversation.com/why-fighting-fire-with-fire-in-drcs-virunga-park-isnt-helping-conservation-72295.

Verweijen J, Marijnen E. 2018. The counterinsurgency/conservation nexus: guerrilla livelihoods and the dynamics of conflict and violence in the Virunga National Park, Democratic Republic of the Congo. The Journal of Peasant Studies. 45:300–320.

Verweijen J, Schouten P, O'Leary Simpson F, Chakirwa Zirimwabagabo P. 2022. Conservation, conflict and semi-industrial mining: the case of eastern DRC. IOB Analyses & Policy Briefs.

Vidya PJ, Ravichandran M, Murtugudde R, Subeesh MP, Chatterjee S, Neetu S, Nuncio M. 2021. Increased cyclone destruction potential in the Southern Indian Ocean. Environ. Res. Lett. 16:14027.

Villa M, Pavia A. 2023. Irregular migration from North Africa: Shifting local and regional dynamics. https://www.atlanticcouncil.org/in-depth-research-reports/report/irregular-migration-from-north-africa-shifting-local-and-regional-dynamics/.

Vinke K, Cambell L, Schirwon D, Seyuba K, Frampe F, Maalim H, Mbungwal G.I. 2023. Climate and Environmental Security in the Democratic Republic of Congo: Competing over Abundant Resources – Adapting to Change: German Council on Foreign Relations. https://dgap.org/en/research/publications/climate-and-environmental-security-democratic-republic-congo.

Vivekananda J, Wall M, Sylvestre F, Nagarajan C. 2019. Shoring up stability: Addressing climate and fragility risks in the Lake Chad region. Berlin: adelphi; [accessed 2023 Jul 26]. https://shoring-up-stability.org/wp-content/uploads/2019/06/Shoring-up-Stability.pdf.

Vousdoukas MI, Clarke J, Ranasinghe R, Reimann L, Khalaf N, Duong TM, Ouweneel B, Sabour S, Iles CE, Trisos CH, Feyen L, Mentaschi L, Simpson NP. 2022. African heritage sites threatened as sea-level rise accelerates. Nature Climate Change. 12:256–262.

Waal A. 2019. Sudan: A Political Marketplace Framework Analysis.

Waeber PO, Schuurman D, Ramamonjisoa B, Langrand M, Barber CV, Innes JL, Lowry PP, Wilmé L. 2019. Uplisting of Malagasy precious woods critical for their survival. Biological Conservation. 235:89–92.

Walker T. 2021. Africa must get on board as world attention turns to maritime security. https://issafrica.org/iss-today/africa-must-get-on-board-as-world-attention-turns-to-maritime-security.

Walther OJ. 2021. Urbanisation and demography in North and West Africa, 1950-2020. West African Papers.

Wario DK. 2017. The effects of livestock rearing on livelihood of the Borana community, Funaan Qumbi village, Marsabit county, Kenya: Maseno University.

Wenger and Abulfotuh. 2019. Rural migration in the Near East and North Africa: FAO; [accessed 2023 Feb 22]. https://agris.fao.org/agris-search/search.do?recordID=XF2020000993.

Wensing A. 2022. Fuelling the Crisis in Mozambique: How Export Credit Agencies contribute to climate change and humanitarian disaster. Maputo: Friends of the Earth Europe, Friends of the Earth Mozambique; [accessed 2023 Jun 20]. https://friendsoftheearth.eu/wp-content/uploads/2022/05/Fuelling-the-Crisis-in-Mozambique.pdf.

Werenfels I, Westphal K. 2010. Solar Power from North Africa: Frameworks and Prospects: SWP. https://www.swp-berlin.org/publications/products/research_papers/2010_RP03_wrf_wep_ks.pdf.

Whitaker E, Destrijcker L, Dieffenbacher JC, Kurnoth HE. 2023. Climate Security Study: Kenya: Weathering Risk. Berlin: adelphi. 65 p.

Whitaker E, Steinkraus A. 2023. Building climate and conflict resilient livelihoods and food systems: Insights from East Africa. Berlin: adelphi. 11 p.

White T, Lee J, Masudi EB, Ndongo JD, Matondo R, Soudan-Nonault A, Ngomanda A, Averti IS, Ewango CEn, Sonké B, Lewis SL. 2021. Congo Basin rainforest — invest US$150 million in science. Nature.

World Bank. 2016. Uganda Offers Refugees a Home Away From Home. https://www.worldbank.org/en/news/feature/2016/08/31/uganda-offers-refugees-home-away-from-home. Accessed 2022 May 20.

World Bank. 2017a. Problems of Population Growth and Climate Change Converge in Dar-es-Salaam. https://www.worldbank.org/en/news/feature/2017/05/31/problems-of-population-growth-and-climate-change-converge-in-dar-es-salaam. Accessed 2023 May 26.

World Bank. 2017b. Third South West Indian Ocean Fisheries Governance and Shared Growth Project (SWIOFish3)—Process Framework for SWIOFish3 Project: World Bank Group, Ministry of Finance, Trade and Economic Planning Republic of Seychelles.

World Bank. 2018. Beyond Scarcity: Water Security in the Middle East and North Africa; [accessed 2023 Feb 22]. https://openknowledge.worldbank.org/handle/10986/27659.

World Bank. 2021b. Climate Risk Country Profile: Egypt: World Bank Group; [accessed 2023 Feb 22]. https://climateknowledgeportal.worldbank.org/sites/default/files/2021-04/15723-WB_Egypt%20Country%20Profile-WEB-2_0.pdf.

World Bank. 2021c. Demographic Trends and Urbanization. https://www.worldbank.org/en/topic/urbandevelopment/publication/demographic-trends-and-urbanization.

World Bank. 2021d. Employment in agriculture (% of total employment) (modeled ILO estimate) - Morocco. https://data.worldbank.org/indicator/SL.AGR.EMPL.ZS?locations=MA. Accessed 2023 Feb 22.

World Bank. 2021e. Leveraging the Power of Energy to Light up Africa. https://www.worldbank.org/en/news/feature/2021/07/22/leveraging-the-power-of-energy-to-light-up-africa.

World Bank. 2021f. World Bank and Republic of Congo Sign Agreement to Reduce Carbon Emissions and Preserve Forests. https://www.worldbank.org/en/news/press-release/2021/05/03/world-bank-and-republic-of-congo-sign-agreement-to-reduce-carbon-emissions-and-preserve-forests.

World Bank. 2021g. World Bank Engagement in Transboundary Waters in West Africa Retrospective and Lessons Learned. Washington, DC: World Bank; [accessed 2023 Jul 26]. https://www.ciwaprogram.org/wp-content/uploads/CIWA_World-Bank-Engagement-Transboundary-Waters-West-Africa.pdf.

World Bank. 2022. West Africa food insecurity demands climate-smart response amid multiple crises.: https://www.worldbank.org/en/news/feature/2022/09/08/west-africa-food-insecurity-demands-climate-smart-response-amid-multiple-crises.

World Bank. 2023a. Ease of Doing Business rankings. https://archive.doingbusiness.org/en/rankings.

World Bank. 2023b. Factsheet: Eskom Just Energy Transition Project in South Africa. Washington, D.C.

World Bank. 2023c. Food imports (% of merchandise imports). https://data.worldbank.org/indicator/TM.VAL.FOOD.ZS.UN.

World Bank. 2023d. GDP (current US$) - North Africa. https://data.worldbank.org/indicator/NY.GDP.MKTP.CD?locations=M2.

World Bank. 2023e. Poverty headcount ratio at $2.15 a day (2017 PPP) (% of population). https://data.worldbank.org/indicator/SI.POV.DDAY.

World Bank. 2023f. The World Bank in Western and Central Africa. https://www.worldbank.org/en/region/afr/western-and-central-africa.

World Bank. 2023g. Tracking SDG7: The Energy Progress Report 2023. https://www.irena.org/Publications/2023/Jun/Tracking-SDG7-2023.

World Bank. 2023h. Tunisia: Reforming Energy Subsidies to Enhance Economic Resilience. https://www.worldbank.org/en/news/press-release/2023/03/30/tunisia-reforming-energy-subsidies-to-enhance-economic-resilience.

World Bank Data. 2023. Electricity production from renewable sources, excluding hydroelectric (% of total) - Libya, Egypt, Arab Rep., Tunisia, Algeria, Mauritania, Morocco | Data. https://data.worldbank.org/indicator/EG.ELC.RNWX.ZS?locations=LY-EG-TN-DZ-MR-MA. Accessed 2023 Feb 23.

World Economic Forum. 2023. Global Gender Gap Report. World Economic Forum: World Economic Forum; [accessed 2023 Aug 18]. https://www.weforum.org/reports/global-gender-gap-report-2022.

World Food Programme. 2019. Decentralized Evaluation: Evaluation of the Satellite Index Insurance for Pastoralists in Ethiopia (SIIPE) Programme: Impact Evaluation of the SIIPE Pilot (2017 – 2019): World Food Programme. 50 p.

World Food Programme. 2021a. Climate Change in Southern Africa. Johannesburg South Africa: WFP.

World Food Programme. 2021b. The R4 Rural Resilience Initiative. Geneva: WFP; [accessed 2023 Jun 20]. https://www.wfp.org/r4-rural-resilience-initiative.

World Food Programme. 2022. Implications of the conflict in Ukraine on food access and availability in the East Africa region: Update #3: World Food Programme. 16 p.

World Food Programme. 2023. WFP Madagascar Cyclone Response Update. As of 8 March 2023, 12:00 EAT. 3 p.

World Food Programme, Overseas Development Institute. 2015. Food in an uncertain future: the impacts of climate change on food security and nutrition in the Middle East and North Africa. https://www.preventionweb.net/files/46974_46974odiwfpimpactofcconfnsinmena201.pdf.

World Food Programme Sao Tope and Principe. 2023. Climate change overview, March 2023: World Food Programme; [accessed 2023 Aug 2]. https://docs.wfp.org/api/documents/WFP-0000147714/download/.

World Health Organization. 2022. Cholera-Global Situation. Geneva: WHO; [accessed 2023 Jun 20]. https://www.who.int/emergencies/disease-outbreak-news/item/2022-DON426.

World Health Organization. 2023. Climate change and noncommunicable diseases in small island developing states: SIDS Ministerial Conference on NCDs and Mental Health; [accessed 2023 Jul 27]. https://cdn.who.int/media/docs/default-source/ncds/sids-event/climate-change-sids-policy-brief-v2.pdf?sfvrsn=ea09ca65_3.

World Meteorological Organization. 2021. State of the Climate in Africa 2020.

World Meteorological Organization. 2022. State of the Climate in Africa 2021 (WMO-No. 1300): WMO; [accessed 2023 Feb 22]. https://library.wmo.int/?lvl=notice_display&id=22125#.Y_YaDB-ZO5c.

World Meteorological Organization. 2023. Economic costs of weather-related disasters soars but early warnings save lives. https://wmo.int/media/news/economic-costs-of-weather-related-disasters-soars-early-warnings-save-lives. Accessed 2023 Jul 27.

World Weather Attribution. 2022. Climate change exacerbated heavy rainfall leading to large scale flooding in highly vulnerable communities in West Africa. https://www.worldweatherattribution.org/climate-change-exacerbated-heavy-rainfall-leading-to-large-scale-flooding-in-highly-vulnerable-communities-in-west-africa/.

World Wide Fund for Nature. 2022. Embedding Human Rights in Nature Conservation: From Intent to Action. Report of the Independent Panel of Experts of the Independent Review of allegations raised in the media regarding human rights violations in the context of WWF's conservation work: World Wide Fund for Nature; [accessed 2023 Aug 1]. https://www.worldwildlife.org/pages/embedding-human-rights-in-conservation.

World Wide Fund for Nature. 2023. Fact Sheet: Congo Basin. https://www.worldwildlife.org/places/congo-basin.

Woroniecki S, Wendo H, Brink E, Islar M, Krause T, Vargas A-M, Mahmoud Y. 2020. Nature unsettled: How knowledge and power shape 'nature-based' approaches to societal challenges. Global Environmental Change. 65:102132.

WRI. 2021. Egypt: Transitioning Away from Subsidizing Fossil Fuels. https://www.wri.org/update/egypt-transitioning-away-subsidizing-fossil-fuels.

Yabi G. 2023. The Niger Coup's Outsized Global Impact. https://carnegieendowment.org/2023/08/31/niger-coup-s-outsized-global-impact-pub-90463.

Yayboke E, Aboneaaj R. 2020. Peril in the Desert: Irregular Migration through the Sahel. https://www.csis.org/analysis/peril-desert-irregular-migration-through-sahel#:~:text=Necessarily%20more%20circuitous%20and%20clandestine%20post-2016%20irregular%20migration,to%20water%20and%20at%20greater%20risk%20of%20death.

Yishak M. 2019. Climate-Fragility Risk Brief: Ethiopia. Berlin: adelphi. 20 p. Climate Security Expert Network; [accessed 2022 Apr 20]. https://climate-security-expert-network.org/sites/climate-security-expert-network.org/files/documents/csen_climate_fragility_risk_brief_-_ethiopia.pdf.

Yitbarek Y. 2020. Clashing values: The 2015 conflict in Hamar district of South Omo Zone, southern Ethiopia. In: Epple S, Assefa G, editors. Legal Pluralism in Ethiopia: Actors, Challenges and Solutions. Bielefeld: transcript Verlag. p. 371–398.

Yoshida Y. 2013. Interethnic conflict in Jonglei State, South Sudan. https://www.accord.org.za/ajcr-issues/interethnic-conflict-in-jonglei-state-south-sudan/. Accessed 2023 Jan 04.

Zaki L. 2008. Maroc: dépendance alimentaire, radicalisation contestataire, répression autoritaire: Centre Tricontinental. https://www.cetri.be/Maroc-dependance-alimentaire?lang=fr.

Zhang T, van der Wiel K, Wei T, Screen J, Yue X, Zheng B, Selten F, Bintanja R, Anderson W, Blackport R, Glomsrød S, Liu Y, Cui X, Yang X. 2022. Increased wheat price spikes and larger economic inequality with 2°C global warming. One Earth.

Zhang T, Veening W. 2014. Climate Security and Justice for Small Island Developing States: An Agenda for Action. The Hague: The Hague Institute for Global Justice; [accessed 2023 Jul 27]. https://www.sustainablesids.org/wp-content/uploads/2018/06/Climate-security-and-justice.pdf.

Zhou L, Tian Y, Myneni RB, Ciais P, Saatchi S, Liu YY, Piao S, Chen H, Vermote EF, Song C, Hwang T. 2014. Widespread decline of Congo rainforest greenness in the past decade. Nature.

Zikhali T. 2019. Power, Hydro-hegemony and the Construction of Cooperative Transboundary Water Relations: The Case of the Incomati International River Basin: University of the Witwatersrand, Faculty of Humanities.

Zittis et al. 2021. Climate Change and Weather Extremes in the Eastern Mediterranean and Middle East. Reviews of Geophysics.

Zvobgo L, Johnston P, Williams PA, Trisos CH, Simpson NP, Global Adaptation Mapping Initiative Team. 2022. The role of indigenous knowledge and local knowledge in water sector adaptation to climate change in Africa: a structured assessment. Sustainability Science. 17:2077–2092.

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