



Enhancing Prospects for Human Development through Regional Integration

2024 Regional Human Development Report for The Horn of Africa

Full Report

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Regional Bureau for Africa &
Regional Bureau for Arab States

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Foreword

The sub-regional human development report, *“Enhancing Prospects for Human Development through Regional Integration,”* considers strengthening regional cooperation as key to enhancing the ability of countries in the Horn of Africa to leverage resources and address common challenges. The report shows how regional integration can significantly increase growth, resilience and stability in the sub-region, accelerating human development and expanding opportunities, especially for the region’s young population.

The report proposes taking concrete steps towards trade liberalization and expansion within the sub-region, increasing collaborative management of natural resources and strengthening water, energy and food linkages, as well as adopting measures that can strengthen governance and peace. The report shows that such an approach can lead to more robust economic growth in the sub-region – with the possibility for GDP to grow by 3.9 percent and for one million new jobs to be added by 2030. In addition, regional cooperation on water, energy and food value chains, accompanied by investments in infrastructure and connectivity, can increase resilience to climate impacts, while providing better access to basic services. Strengthened ties between countries can facilitate cross-border exchanges, leading to enhanced development in borderlands. When supported by better governance of borders, devolution and decentralization initiatives, and electoral reforms that promote trust and legitimacy, such efforts can enhance prospects for sustained peace.

The report is a collaboration between UNDP’s two regional Bureaus - Africa and the Arab States. Focusing on the eight countries in the Horn – Djibouti, Eritrea, Ethiopia, Kenya, Somalia, South Sudan, Sudan, and Uganda – it enables looking beyond national frontiers to consider broader structural problems and their root causes. The report acknowledges the severity of prevailing challenges in the Horn of Africa, such as destructive conflicts which erupted in parts of the region even while the research was ongoing. We have chosen however, to focus on possibilities for changing the narrative - from one which emphasizes present challenges, to one that recognizes future opportunities.

UNDP supports integrated and system-wide approaches, seeking to connect development priorities horizontally across sectors, and vertically from regional to national to sub-national levels. Our programming in the Horn has enabled action on many key development issues, from recovery and reconstruction efforts, to supporting governance and peacebuilding, climate readiness and clean energy transition, to increasing sustainable livelihoods and supporting growth in the blue and green economies. Flagship regional programmes have demonstrated innovative approaches, such as the Africa Mini-Grids, Drought Resilience, Borderlands, and Prevention of Violent Extremism programmes, among others. Future programming can further support trade and investment critical for the sub-region’s structural transformation and leverage the water-energy-food nexus to build resilience, while continuing to support important governance and peace-building reforms.

There are also promising developments in the region, such as the expansion of the African Continental Free Trade Area, which can be an engine to drive new opportunities. The Inter-Governmental Authority for Development, with its strengthened and expanded mandate, is also poised to play a key role in promoting sustainable development in the Horn of Africa. The frameworks for peace and security supported by the United Nations, African Union, and League of Arab States will be crucial signposts to navigate the way out of crises and towards peace and development.



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Implementing the recommendations of this report will require concerted efforts from governments, regional bodies, the private sector, civil society, and international partners, and UNDP is keen to collaborate with all. By fostering intra-regional trade, ensuring sustainable resource management, and strengthening good governance, the Horn of Africa can create a foundation for lasting peace and development, ultimately transforming challenges into shared opportunities for a prosperous future.



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Acknowledgements

The **Horn of Africa Human Development Report 2024** represents a unique approach to analyzing the human development challenges and opportunities in a sub-region that straddles both Africa and the Arab States. It is based on a strong partnership between UNDP's Regional Bureau for Africa (RBA) and Regional Bureau for Arab States (RBAS) and builds on the valuable contributions of many over two years, during which several crises and shocks have impacted countries in the Horn of Africa.

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External Advisory Board

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Overview

The Horn of Africa (HoA) holds immense potential for development, boasting significant human and natural resources alongside promising economic growth opportunities. The region has the capacity for sustainable development in energy and water, particularly through renewable sources, and its young population, when equipped with quality education and employment opportunities, can become a key driver of inclusive growth. However, the HoA also faces considerable challenges, including fragility stemming from climate change, conflicts, and governance issues. These challenges have contributed to increased food insecurity and migration, highlighting the need for targeted strategies to unlock the region's full potential while addressing its vulnerabilities.

This Regional Human Development Report focuses on strengthening the sub-region's collective capabilities through expanded regional cooperation. Such efforts can enable the sub-region to better leverage its resources, address shared challenges, and unlock its development potential while building resilience. The socio-economic, political, and climate vulnerabilities faced by many HoA countries often transcend national borders, making regional collaboration essential for effective solutions. By investing in infrastructure, promoting the shared management of common resources, and fostering economic cooperation, deeper regional integration can create new development opportunities, enhance political stability, and reduce the likelihood of conflict.

Human development trends in the Horn of Africa

Part I of this report presents a brief introduction and conceptual framing of the report as well as a comprehensive overview of the region's progress and challenges.

The report finds that human development is impeded in the sub-region. The Human Development Indices in the HoA generally lag behind averages in Sub-Saharan Africa and globally, and only Kenya and Uganda classified under medium human development. Human development in the

subregion is also limited by inequalities, including gender disparities. HDI values are consistently lower for women than men, driven by differences in income and educational attainment. Inequalities in education and income also reduce HDI values significantly.

The report identifies key human development challenges in the Horn of Africa, including:

- *Limited Socio-Economic Opportunities:* Labour markets in the Horn of Africa generate few formal employment opportunities, and youth who are not employed are also not benefitting from education or training programmes.
- *Limited Access to Water and Energy:* Over a third lack basic drinking water, two-thirds lack sanitation, and reliance on biomass for cooking causes health and environmental risks.
- *Food Security Crisis:* Severe food insecurity affects millions, driven by drought, conflict, and economic instability, with rising numbers classified as food insecure.
- *Conflict, Disasters, and Displacement:* Prolonged conflicts, climate shocks, and resource disputes have displaced millions, destabilizing livelihoods and governance.
- *Multidimensional Vulnerability:* Economies face export dependence, low diversification, climate impacts, and logistical challenges for landlocked countries.

The report emphasizes the urgent need for sustained efforts to improve living conditions and address these multifaceted challenges, highlighting the importance of international support and investment in infrastructure and social services for the HoA.

Part II of the report presents the three interlinked themes that can enable the region to accelerate human development and buffer against future shocks and challenges. These three approaches – increasing intra-regional trade, enhancing the water-energy-food nexus, and promoting governance and peace – reinforce each other, and all require regional cooperation to advance progress towards human development.

Intra-regional trade

The report highlights the potential of intra-regional trade as a crucial driver for human development and reveals significant challenges that hinder progress. Key points include:

- *Limited Intra-Regional Trade:* Intra-regional trade remains low, with only 12 percent of exports and six percent of imports in 2022 occurring among HoA countries. This decline in trade since 2010 is due to complex regulations, inadequate infrastructure, informality, political instability, and conflicts.
- *Trade Complementarity:* HoA countries have complementary export profiles, particularly in agriculture and light industrial goods. Aligning export capacities with regional demand could enhance food security, reduce trade deficits, and promote economic diversification.
- *African Continental Free Trade Area (AfCFTA):* Effective since 2021, AfCFTA aims to eliminate tariffs on 90 percent of trade among member states and reduce non-tariff measures. Its ratification and implementation by all HoA countries will be crucial for enhancing trade.
- *Economic Integration and Stability:* Improved infrastructure can foster economic interdependence. Significant investments are needed in transport and logistics to facilitate trade. The HoA has initiated over 71 projects worth approximately US\$76 billion to enhance connectivity, with an emphasis on road construction and transport corridors.
- *Regional Projects:* Notable initiatives, such as the Djibouti-Ethiopia railway and the Lamu-Southern Sudan-Ethiopia Transport Corridor (LAPSSSET), aim to improve access to international trade routes, stimulate intra-regional trade, and attract foreign investment.
- *Potential Economic Gains:* A computable general equilibrium (CGE) model projects that eliminating tariffs and non-tariff measures could boost regional GDP by 3.9 percent by 2030 and generate an additional one million jobs.
- *Impact on Human Development:* GDP gains from trade reforms, if invested in public education and health, could significantly enhance human development. For example, in Kenya, this approach could accelerate progress by up to 8.9 years in human development outcomes by 2030.

Intra-regional trade holds promise for enhancing human development in the HoA, however realizing

this requires substantial infrastructure investment, effective policy implementation, and regional cooperation.

The water-energy-food nexus

The report highlights key challenges and opportunities for enhancing food, energy, and water security in the HoA including:

- *Climate Change Impact:* Severe droughts, including the worst in 40 years (2018–2023), have caused significant livestock losses and acute food insecurity for millions.
- *Interconnected Challenges:* Fragile conditions and overlapping issues threaten food, energy, and water security. For example, unsustainable food production strains water resources, especially in irrigation-dependent regions.
- *Integrated Management:* Sustainable management of water, energy, and food systems is crucial. Much of the region's water resources are within trans-boundary basins requiring regional collaboration, including through inter-state river basin commissions.
- *Renewable Energy Potential:* The HoA has a high share of renewables in its energy mix, largely from hydropower but with growing investments in solar, wind and geothermal. Investments in this sector have improved access to electricity, but significant gaps remain.
- *Infrastructure Needs:* Substantial investments in energy infrastructure and transmission networks are needed to boost connectivity and trade. Regional cooperation could facilitate high-voltage power connections for countries with low generation capacity.
- *Economic Opportunities:* Expanding intra-regional trade in food and electricity could enhance cooperation, build resilience, and leverage the African Continental Free Trade Area (AfCFTA).
- *Climate Resilience:* Regional collaboration is vital for managing climate risks and environmental shocks, and mitigating potential long-term GDP declines due to climate change.

Increased regional collaboration in managing the water-energy-food nexus is critical for addressing the complex challenges faced by HoA countries. Improved resource management along with infrastructure development can foster sustainable growth and improve resilience against climate change.

Fostering effective governance and peace

The report highlights significant governance challenges and conflicts that hinder human development and security in the HoA, with conflicts costing the HoA \$163 billion in economic losses as of 2022 — a figure that likely surged considerably in 2023 due to the escalation of the war in Sudan. These economic consequences undermine productivity, investment, and public revenues, displacing millions and eroding trust.

Effective governance and peace are essential for human development. Shared norms and accountability mechanisms can reduce conflict risks, while fostering democratic governance and promoting economic interdependence can enhance regional stability. Countries with strong economic ties are also less likely to engage in conflict, as the costs of war outweigh potential benefits.

Local governance initiatives, such as devolution and decentralization, empower citizens and enhance accountability, while transparent and inclusive electoral processes are essential for building trust in governance. Border governance is crucial to prevent militarization and conflict, with initiatives like the AU Border Governance Strategy supporting dispute resolution and transboundary cooperation. Regional and international bodies, including the African Union (AU), RECs, the League of Arab States (LAS), and the UN, play pivotal roles in peacebuilding. Frameworks like the AU Charter on Democracy and the African Governance Architecture are essential mechanisms for fostering stability and collaboration.

Improving governance and fostering peace requires prioritizing inclusivity, accountability, and human rights while leveraging regional frameworks to address these challenges effectively and support sustainable development.

Strategic Recommendations for Moving Forward

The Horn of Africa is rich in resources and holds significant geopolitical importance, although it grapples with climate shocks, conflicts, and humanitarian crises. To harness its potential for human development and economic growth, and to address shared challenges effectively, the region can reinforce cooperation across several key areas which are described in Part III of this report. These include the following:

1. **Increasing Intra-Regional Trade:** By implementing the AfCFTA and developing national strategies to enhance trade, particularly; completing integrative projects to enhance regional connectivity and trade; investing in skills development; and improving business environment to bolster micro, small, and medium enterprises (MSMEs) and reduce informality.
2. **Collaborative Natural Resource Management:** By enabling regional cooperative management of electric power transmission and generation, enabling power surplus countries to export electricity while addressing national energy needs in deficit countries; jointly exploring and managing groundwater reserves, to enhance agricultural productivity; taking steps to reduce food insecurity through diversification of crops, livestock, and income sources; strengthening climate information systems to buffer shocks and improve preparedness.
3. **Governance and Peacebuilding:** By designing national development strategies that integrate economic, social, and environmental goals addressing governance challenges and enhancing peace and security; investing in risk prediction and response to enhance resilience against threats; accelerating the adoption and implementation of cross-border treaties and strengthening the mandates and capacities of regional institutions like IGAD and EAC to effectively support governance, peace, and human development.

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List of Acronyms

AfCFTA	African Continental Free Trade Area
ARII	Africa Regional Integration Index
AU	African Union
AUDA	African Union Development Agency
AUBP	African Union Border Programme
DPPA	Department of Political and Peacebuilding Affairs of the UN
EAC	East African Community
EAPP	Eastern Africa Power Pool
ECOWAS	Economic Community of West African States
EU	European Union
EVI	Economic and Environmental Vulnerability Index
GII	Gender Inequality Index
GDI	Gender Development Index
GDP	Gross Domestic Product
GNI	Gross National Income
HDI	Human Development Index
HDR	Human Development Report
HOA	Horn of Africa
IGAD	Inter-Governmental Authority for Development
IFPRI	International Food Policy Research Institute
IHDI	Inequality Adjusted Human Development Index
IOM	International Organization for Migration

ILO	International Labour Organization
IMF	International Monetary Fund
IPCC	International Panel on Climate Change
LAPSSET	Lamu Port and Lamu-Southern Sudan-Ethiopia Transport Corridor
LAS	League of Arab States
LDC	Least Developed Country
MIC	Middle Income Country
NEPAD	New Partnership for Africa's Development
NTMs	Non-Tariff Measures
OCHA	UN Office for Coordination of Humanitarian Affairs
P-HDI	Planetary Pressures Adjusted Human Development Index
RSF	Rapid Support Forces
SAARC	South Asian Association for Regional Cooperation
SAF	Sudanese Armed Forces
SDG	Sustainable Development Goals
UN	United Nations
UNCTAD	UN Commission for Trade and Development
UNDP	United Nations Development Programme
UNEP	United Nations Environment Programme

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Part I

Conceptual framework and vulnerabilities

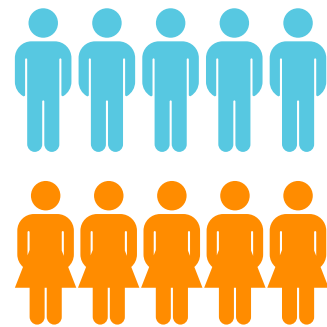
1 Introduction

The Horn of Africa (HoA) is often seen through the lens of vulnerability, in view of the region's many sources of diversity as well as multi-layered economic, environmental, and institutional/political challenges. However, the eight HoA countries¹ also have notable human and economic resources and important opportunities to increase resilience and prosperity. They therefore hold the potential for accelerated human development. With [70 percent](#) of its population under the age of 30, the region has many young people who can bring opportunities for growth and innovation. It has important potential for the sustainable development of energy and water resources, particularly via renewables. Strengthening the region's collective capabilities through regional integration can help the HoA countries to more effectively harness their national potential while also addressing shared challenges. Contrasting but compatible economic specializations offer opportunities for expanding intra-regional trade, via the implementation of the African Continental Free Trade Area (AfCFTA). This can help HoA countries to develop more diversified, resilient, intra-regional value chains that are more resilient to global supply chain disruptions, thereby reducing vulnerability to external shocks.

This Human Development Report (HDR) explores how regional integration can help to better harness the HoA's development potential, and to more effectively address vulnerabilities to shocks and setbacks. Given the importance of regional linkages for essential supply chains (particularly as concern food, water, and energy) and external shocks (including conflicts and natural disasters) that cross boundaries, vulnerabilities and resilience are influenced by regional dynamics. National efforts to address vulnerabilities, build resilience, and promote peace should therefore be complemented by expanded efforts at regional cooperation and integration. This can in turn make possible increased investments in people-centred policies which build capabilities and generate more human development opportunities for people in HoA countries.

National efforts to address vulnerabilities, build resilience, and promote peace should therefore be complemented by expanded efforts at regional cooperation and integration.

The region has many young people who can bring opportunities for growth and innovation.



70% of its population are under the age of **30**

1. In this report the HoA region is defined as the Intergovernmental Authority on Development (IGAD) member states—Djibouti, Eritrea, Ethiopia, Kenya, Somalia, South Sudan, Sudan, and Uganda.

Since the research on the report commenced, the region has been impacted by new crises with wider ramifications. However, the HDR's central message—that regional integration and collaboration to strengthen peace and governance, foster deeper trade linkages, and more sustainably manage energy, water, and food nexus links—remains the best strategy for the region. This is explored in depth in the subsequent chapters.

1.1 Setting the stage

The Horn of Africa holds the potential for prosperity and human development driven by a wealth of natural and human resources. With 70 percent of its population under the age of 30, this demographic dividend could bring many opportunities for growth and innovation—provided youth (and especially young women) benefit from quality education and participate in the labour force. (The absence of such prospects is a major push factor in emigration from the region.) In addition to abundant renewable energy potential (the region already relies extensively on hydro and geothermal power), the HoA countries have important trans-boundary water bodies (including the Nile River) which provide water for hydropower, irrigation, and domestic use. Stronger regional cooperation can help HoA countries to more effectively harness their national potential as well as tackle shared challenges. Additionally, topographic and climatic variation as well as differing economic specializations across the region offer opportunities for expanding intra-regional trade, and for developing diversified, intra-regional value chains that can be more resilient to global supply chain disruptions.

Efforts to harness the development potential of the HoA countries are currently impeded by diverse and multifaceted sources of fragility. Drought conditions and floods have historically plagued the region: the International Panel on Climate Change (IPCC) projects that the Horn of Africa will be one of the regions to be most negatively affected by climate change. In addition to environmental challenges, wars and crises have increased food insecurity in the region, with prices of cooking oil, bread, and wheat flour hitting record highs on many local markets during 2023-2024. Moreover, the Horn is one of the world's most conflict-affected regions, as most HoA countries have experienced varying levels of military and political strife for decades. Several countries are currently facing difficult post-conflict, conflict-related, and transitional governance challenges.

Disruptions in maritime safety and shipping routes



12 -15%

of global shipping passed through the Suez Canal in 2023

Regional dynamics, including competition over water (and other strategic trans-boundary) resources exacerbate the region's fragility. The interplay of political, social, and economic vulnerabilities with climate change impacts and other shocks threatens hard-won development gains.

The devastating war in Sudan has led to massive human displacement, contributing to general regional instability—which is compounded by the ongoing war in the Levant and related attacks in the Red Sea. This has far-reaching geopolitical implications that extend to the Mediterranean, the Middle East and North Africa, and the Sahel region. This is crucial, as some 12-15 percent of global shipping passed through the strategic Suez Canal in 2023—a significant share of which has been disrupted by these developments (UNCTAD, 2024). As a result, shipping companies are delaying entry into this key maritime corridor, leading to heightened transport costs and increased war-risk premiums. Disruptions in maritime safety and shipping routes in the Red Sea and Gulf of Aden likewise affect peace and development prospects in the Horn of Africa, highlighting the security interdependence of the Middle East and Africa.

Stronger regional cooperation can help build resilience and unlock the region's human development potential in the face of these threats. This HDR explores how expanded cooperation can help to better manage common economic, environmental, and development challenges, address socioeconomic disparities that threaten stability, and strengthen resilience to climatic and

other emerging shocks. While considered separately in dedicated chapters below, these challenges are in fact closely linked. Without a stronger emphasis on regional cooperation, significant increases in intra-regional trade (and the associated income- and employment-generation benefits) are unlikely. Regional cooperation is also key to more sustainable natural resource management, which must underpin efforts to build resilience against climate (and other) shocks and increase food and energy production that can boost intra-regional food and energy trade in support of national food and energy security aspirations. Reforms to improve the quality of governance are likewise central to national and regional efforts to better manage the food-energy-water nexus, as well as to ensure competitive elections, peaceful transfers of power, and better managements of borderlands.

1.2 Current context and development challenges

1.2.1 The Horn of Africa

While all HoA countries except for Kenya are classified as Least Developed Countries (LDCs) by the United Nations, the region nonetheless presents a diverse economic landscape. Kenya has a robust service sector and an emerging technology industry, while Ethiopia has become the fastest-growing economy in the region. Djibouti benefits from its strategic geographic position, leveraging its location to promote investments in port infrastructure and foreign military bases. Ethiopia, South Sudan, Sudan, and Uganda are also landlocked countries—highlighting the importance of regional cooperation for both cross-border trade and better access to markets beyond the region. All the HoA economies are classified by the World Bank as low-income countries—except for Djibouti and Kenya (which are classified as lower middle-income countries). In UNDP’s most recent (2023–2024) Human Development Index (HDI) rankings, Kenya and Uganda are categorized as countries of medium human development, while Djibouti, Eritrea, Ethiopia, Somalia, South Sudan, and Sudan are in the low human development category.

1.2.2 Human development potential

Despite these challenges, the Horn of Africa has the human and natural resources needed for inclusive and sustainable growth, poverty reduction,

enhanced resilience, and human development progress. The region’s youthful population is a key resource. Decades of high fertility rates coupled with rapidly declining child mortality rates have created a demographic structure dominated by young people (IOM, 2021). A significant amount of the HoA population is under the age of 30, making the region among the youngest in the world. If provided with more opportunities and choices (through quality education and training), young people can be important catalysts for innovation, growth, and human development.

The region also possesses important trans-boundary water resources. Three-quarters of the people in the Horn of Africa live within one of seven river basins, and eleven major aquifers are shared by two or more countries (UNEP, 2023). This highlights the importance of regional cooperation for the sustainable management of trans-boundary water resources. The region also has the potential for rapid development of solar, wind, and geothermal energy. The HoA lies within the geologically active East African Rift system with substantial geothermal resources. Strong and consistent wind patterns, particularly in coastal and highland areas, make the region suitable for wind energy. It also has abundant sunlight throughout the year, making it ideal for solar energy development. All this would be on top of the region’s already extensive hydropower profile.

While four HoA countries are landlocked, the other four (Djibouti, Eritrea, Kenya, and Somalia) share extensive coastlines with deep natural ports connecting Africa, the Middle East, Europe, South Asia, and the Far East, offering abundant blue economy resources including shipping, tourism, and fisheries (as well as offshore oil and gas). With its strategic location at the junction of the Red Sea and the Gulf of Aden—key maritime domains with vital supply routes and security chokepoints—its geopolitical position makes the Horn of Africa an important factor in international peace and security questions.

There are important emerging opportunities for increased intra-regional trade, despite historical political tensions and logistical challenges. The integration of regional markets can facilitate better resource allocation, spur economic growth, and create new employment opportunities. The African Continental Free Trade Area (AfCFTA) (now under implementation in the Horn) seeks to reduce trade barriers and create unified regional markets, which can encourage businesses to invest in the region’s

future. Trade reforms focusing on reductions in (or, where possible, the elimination of) tariffs and non-tariff measures in the Horn of Africa can bring significant economic benefits to the region, which can be invested in human development. Investments in trade-related infrastructure are ongoing—many of which can be linked to regional transport initiatives like the Trans-African highway network.

1.2.3 Socio-economic challenges

Compounding sources of vulnerability have limited HoA governments' abilities to capture the region's human development potential. At times, long-standing conflicts driven by identity and power politics and resource competition have weakened governance systems and states' abilities to meet social needs and deliver public goods, including security and the rule of law. Political challenges have been aggravated by such climate shocks as prolonged drought, changing rain patterns, and rising temperatures. Population and economic growth have increased the demand for water and electricity, leaving many households without access to basic services. Increasing stresses on natural resources have weakened governance, which has complicated the implementation of more sustainable and resilient resource management strategies (SIPRI, 2021).

Recent shocks such as the COVID-19 pandemic, the economic fallout from Russia's invasion of Ukraine, and the repercussions of the war in Sudan have further intensified challenges, elevating prices of food, fuel, and other key commodities. Livelihoods have been impaired, and food and water insecurities have increased (World Bank/FAO data indicate that at least half of the region was moderately or severely food insecure during 2020-2022). Food insecurity and population displacements have aggravated existing vulnerabilities and accelerated internal and external migration. The HoA in 2024 accounted for the [largest](#) global humanitarian caseload, accounting for 22 percent of the world's needs identified by the UN Office for the Coordination of Humanitarian Affairs (OCHA) — due to severe climate shocks, conflict, widespread displacement, and critical food and health crises.

Despite its potential to address the sub-region's challenges, progress in regional integration has been limited and often accompanied by tensions and competition over access to water. This has weakened regional resilience to climate change

and other shocks, exacerbating localized conflicts, and intensifying poverty. Gaps in regional energy infrastructure and integration limit inter-state electricity transmission and hamper efforts to reduce reliance on fossil fuels. Despite its potential, intra-regional trade in the Horn of Africa remains relatively limited—UNDP calculations indicate that only 12 percent of HoA countries' (recorded) exports were directed to the region, and just six percent of their (recorded) imports came from within the region, in 2022. Limited intra-regional trade means that production shortfalls in some countries are not easily offset by surplus production in others, which contributes to food insecurity among other things.

1.2.4 Political challenges

The Horn of Africa has recently experienced a series of conflicts and geopolitical shifts that have had significant regional implications. The current Sudan conflict, which began in April 2023 between the Sudanese Armed Forces (SAF) and the Rapid Support Forces (RSF), has destabilized the country and caused widespread humanitarian crises, displacing over 10 million people and damaging social infrastructure. Ethiopia, South Sudan, Uganda, and other neighbouring countries have experienced refugee inflows that have strained resources, while the conflict has disrupted trade routes and regional economies. In the Red Sea, repercussions of the War in Gaza have caused intensified Houthi activities, disrupting shipping routes and causing economic losses for countries like Djibouti, Somalia, and Eritrea.

In January 2024, Ethiopia and Somaliland signed a deal granting landlocked Ethiopia access to the Gulf of Aden. While the agreement could spur economic development in Somaliland, it has heightened regional tensions—particularly in Somalia, which views the agreement as a threat to its sovereignty and territorial integrity. The agreement also raises the possibility of competition with other regional ports, such as Djibouti.

1.3 The HDR's approach

This HDR argues that strengthening the region's collective and individual capabilities through expanded regional cooperation and (where appropriate) integration could help the HoA countries to better address the the multitude of common challenges more effectively (covered in Part I of the report). By fostering socio-economic opportunities for people, ensuring equitable

access to resources, and promoting more effective governance, such collaboration can unlock development potential and strengthen resilience across the region.

Strengthening infrastructure, the shared management of common resources, and economic cooperation through deeper regional integration can open new development opportunities while also enhancing political stability and reducing the likelihood of conflict. By increasing economic interdependence among nations, regional integration can promote peace. As countries in the region grow more economically integrated, the shared benefits of cooperation (such as improved food, water and energy security) can strengthen resilience and generate incentives for peace. Recognizing that economic interdependence is critical to long-term stability, growth, and development, regional economic integration has been a cornerstone of IGAD's agenda. (The EAC has also been deeply involved in promoting intra-regional trade in the Horn of Africa.)

The HDR focuses on leveraging the region's development potential by focusing on three key areas of regional integration: increasing intra-regional trade, optimizing the use of water and energy resources, and promoting more effective governance in the Horn of Africa. These three aspects are briefly described below and dealt with extensively in dedicated chapters in Part II of this report. Overall conclusions and recommendations are presented in Part III, focusing on ways forward for enhancing human development and supporting a more prosperous future for people in the Horn of Africa.

1.3.1 Economic integration and trade potential

This HDR explores the potential for expanded intra-regional trade as a crucial driver for human development in the Horn of Africa. It posits that, with appropriate policies, intra-regional trade can significantly advance the well-being of individuals and communities by building more efficient and resilient value chains. This in turn can stimulate production capabilities, generate employment opportunities, raise incomes, reduce poverty, and strengthen access to basic services.

The HDR finds that intra-regional trade remains limited due to inadequate transportation infrastructure, regulatory complexities, informality,

political instability, tariffs, and non-tariff measures (NTMs). Additionally, unrecorded border trade (which according to World Bank estimates is much larger than officially recorded trade volumes) presents substantial challenges—particularly in terms of tax evasion, smuggling, and other border-related infractions. On the other hand, such informal trade provides important opportunities for small farmers and traders in border communities. Efforts to regulate intra-regional trade should therefore focus on easing and formalizing cross-border trade and access to border markets—linking supply chains to facilitate growth—rather than imposing excessive trade restrictions.

The HDR finds that eliminating tariffs and NTMs could boost economic growth in the region. Investing these gains from trade into education and health could significantly improve human development. By fostering closer economic ties through streamlining trade policies, harmonizing standards, and improving infrastructure to reduce logistical costs, the HoA countries can create a more cohesive and robust economic bloc, attracting investments and making the region more globally competitive.

1.3.2 Environmental security and sustainable resource management

Trade expansion and socio-economic development in the Horn of Africa must be aligned with environmental sustainability, especially considering the region's reliance on natural resources (fertile lands, water bodies, mineral deposits). Sustainable management of the interplay between water, energy, and food systems (the so-called water-energy-food nexus) is critical to accelerating human development and building resilience amid increasing climate shocks and other environmental pressures. This HDR emphasizes the need to balance the interrelated nature of these systems and make critical choices on resource management.

Efforts to ensure universal access to reliable and clean energy in the region face many challenges. Extensive reliance on biomass for cooking has adverse health and environmental implications, especially for women who bear the brunt of collecting firewood and cooking. The lack of clean cooking fuels has significant negative health implications for both women and children. The HDR also highlights the uneven distribution of natural resources and the associated impact on economic

development. Water resources, which are vital for electricity generation and agriculture, vary across the region, influencing each country's development potential. Demands for water, energy, and food are increasing with population and economic growth. If not managed effectively, these demands can exacerbate crises and conflicts. More effective cooperation in managing transboundary resources, such as through shared river basin commissions and power pool systems, can lead to more effective and sustainable outcomes.

1.3.3 Stronger governance and peace

More effective governance is needed to realize the development potential of the region, and to translate prospective gains from increased trade and more sustainable resource management into tangible improvements in the quality of life for people in the Horn of Africa. In many parts of the region, governance systems have been weakened by conflicts, while they confront challenges including large population displacements, disruption of livelihoods, and exacerbated household vulnerabilities. Conflicts and political instability seen in the HoA are often byproducts of ethnic, clan-based, and populist politics, that have polarized political landscapes and impeded effective governance. Moreover, the Horn's geopolitical importance elicits significant international interest. While this can bring development assistance, foreign interference can also exacerbate conflicts and deepen external dependencies.

Many HoA governments therefore lack capacity and are often unable to enforce laws, provide basic services, and maintain security. In the worst cases, human rights abuses, including arbitrary detention and unjustified restrictions on freedom of expression, are seen. Legal and judicial systems in many HoA countries are weak or lack independence, thus limiting effective access to justice and in worst cases resulting in impunity for atrocity crimes and corruption. Productive investments (in human as well as physical capital) in such circumstances may be unable to prosper.

This HDR argues that further investments in regional infrastructure—roads, air and marine ports, and railways, as well as in 'softer' infrastructure (e.g., data, ICTs, marketing)—can foster economic interdependence and reduce the likelihood of conflict. Such investments can also help reduce regional disparities and make borderlands

more prosperous. Regional integration can help improve the quality of governance by facilitating the exchange of best practices and encouraging collaborative approaches to common challenges. By contrast, without governance reforms, regional integration is unlikely to deepen. Support for regional institutions like the Intergovernmental Authority on Development (IGAD) is therefore essential—particularly in terms of preventing and mediating conflicts, coordinating development efforts, and promoting good governance across the region.

1.4 Conclusion

It is by addressing the root causes of low human development that countries in the Horn of Africa can strengthen prospects for peace and prosperity. Regional cooperation and integration can accelerate economic growth, improve natural resource management, build greater resilience to risks, and strengthen peace and security. When accompanied by supportive policies and investments in people-centred development, HoA countries can further develop capabilities and generate opportunities for people to lead lives they value. Higher levels of human development can in turn spur socio-economic progress, improve environmental sustainability, and contribute to effective governance, thereby creating virtuous circles of stability and development, paving the way for a more prosperous future.

2 Human development in the Horn of Africa

2.1 What is human development?

Human development is a paradigm that focuses on people's abilities to live long, healthy, productive lives, in which individuals are understood to be both the means and ends of development. Human development also emphasizes the importance of expanding people's capabilities, choices, agency, and freedoms. It goes beyond narratives that reduce development to increases in per-capita incomes and focuses on increases in individuals' capacities to benefit from health, education, and other policy measures.² As human development is concerned with the welfare of future (as well as current) generations, and because it recognizes the trade-offs (as well as synergies) between rising living standards, climate change, and environmental sustainability, the human development paradigm can be seen as another form of sustainable development.³

Human development metrics centre on the human development index (HDI),⁴ which ranks countries by their internationally accepted data on life expectancy and education (measured in terms of actual and expected years of formal education completed), as well as on per-capita gross national income (GNI). The HDI is complemented by a family of human development measures, including the:

- Inequality-adjusted HDI (measuring the variance around the HDI's income, education, and longevity components—the greater the variance, the greater the reduction in the I-HDI, relative to the HDI);

- Gender inequality index (measuring the extent to which data for women lag behind data for men in the HDI's income, education, and longevity components); and
- HDI adjusted for national planetary pressures (under which the HDI is reduced by the extent of a country's per-capita material footprint and greenhouse gas emissions).

These place human development metrics close to the targets and indicators of several of the Sustainable Development Goals, particularly SDGs 1 (poverty eradication), 3 (health), 4 (education), 5 and 10 (reducing gender and other inequalities, and women's empowerment), 8 (sustainable economic growth), 12 (sustainable production and consumption), and 13 (climate action).

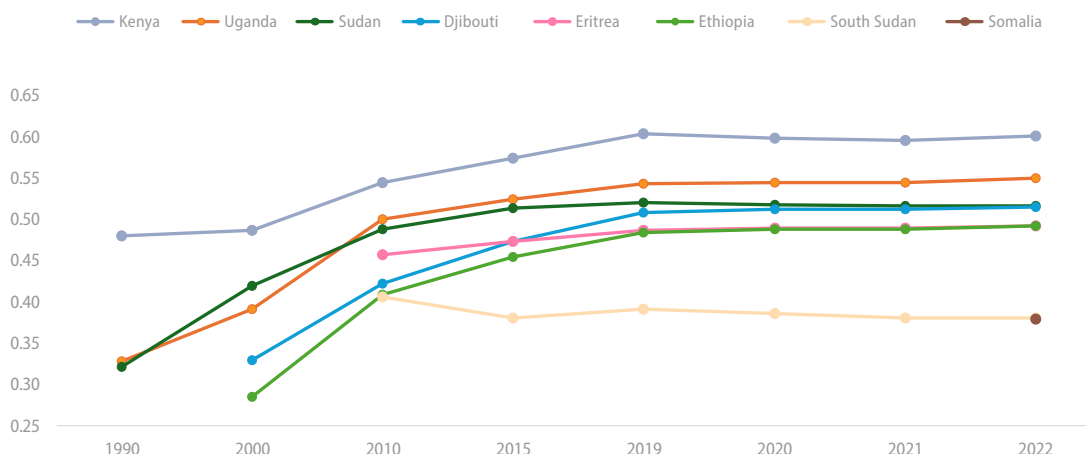


2. For more on the roots and content of human development, see UNDP (1990).

3. For more on human development and sustainable development, see Neumayer (2010).

4. The HDI is the geometric mean of normalized indices for each of its three dimensions (a long and healthy life, being knowledgeable, and having a decent standard of living). The health dimension is assessed by life expectancy at birth. The education dimension is measured by mean of years of schooling for adults aged 25 years and more, and expected years of schooling for children of school entering age. The standard of living dimension is measured by per-capita gross national income. The scores for the three HDI dimension indices are then aggregated into a composite index. For more on the HDI and its cousins, see <https://hdr.undp.org/data-center>.

Figure 1 HoA HDI trends (1990-2022)



Source: UNDP Human Development Report Office.

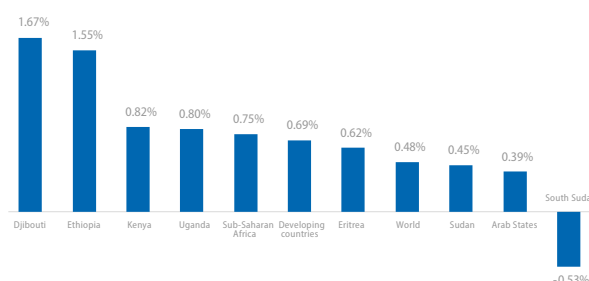
2.2 Impeded human development in the Horn of Africa

Political and economic insecurities have hindered human development progress in the Horn of Africa, where HDIs generally lag behind averages for Sub-Saharan Africa, North Africa, the Arab States, and the world. A sign of recent progress was Somalia's inclusion in the HDI for the first time since the index was established, reflecting progress in statistical reporting following a period of relative stability in the country. However, Somalia along with South Sudan are ranked as the lowest on the HDI, while Djibouti, Sudan, Ethiopia, and Eritrea also remained within the low human development rankings. Of the eight countries in the HoA only Uganda (ranked 159th) and Kenya (ranked 146th) are included within the medium human development range. All HoA countries have HDI values placing them in the bottom 25 percent of countries worldwide; and while progress was noted for most HoA countries prior to 2020, the onset of the COVID-19 pandemic in that year seems to have set back prospects for human development advances (Figure 1).

Moreover, this pre-pandemic human development progress was quite uneven across the region. Whereas average annual growth in national HDIs in Djibouti, Ethiopia, Kenya, and Uganda during 2010-2022 compares favourably with many other countries (Figure 2), HDI trends for other HoA countries (especially South Sudan) are much less sanguine.

In terms of life expectancy, modest advances are evident, with South Sudan having nearly doubled life expectancy over the 60 years to 2019, while Ethiopia and Eritrea saw increases exceeding 50 percent. Despite these gains, while life expectancy in the Horn on average (63.8 years) surpasses that of Sub-Saharan Africa (60.6 years), it still trails global averages (global life expectancy in 2022 averaged 72.0 years), as well as those for Arab States (71.3 years) and developing countries generally (70.5 years). These gaps highlight the region's urgent need for sustained efforts and support to the region to improve living conditions and increase access to quality healthcare.

Figure 2 Average annual HDI changes in HoA countries



Source: UNDP Human Development Report Office. Pre-2022 data for Somalia are unavailable.

The COVID-19 pandemic that took hold in 2020 led to declines in life expectancy across the region (Figure 3)—particularly for Somalia (which experienced a reduction of 1.8 years) and Kenya (which experienced a 1.5-year decline). These drops reflect the broader health crises induced by the pandemic, which strained already fragile health systems and disrupted essential services. These effects were compounded by ongoing political and economic instabilities, further slowing improvements in health outcomes and life expectancy.

Expected and mean years of schooling data show significant variation across the Horn of Africa (Figure 4). While Uganda and Kenya report education outcomes that compare favourably with other Sub-Saharan African countries, in 2022 expected and mean years of schooling data for the other HoA countries look less positive, relative to averages for both Sub-Saharan Africa and Arab States (as well as vis-à-vis global averages). These disparities highlight the region’s ongoing educational challenges.

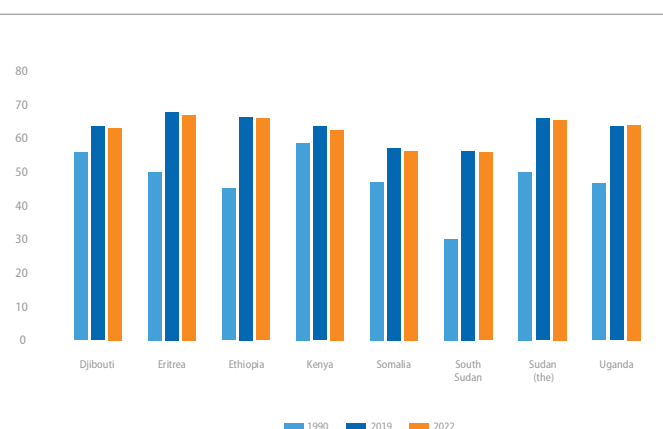
The greatest divergences in HoA human development metrics lie in per-capita incomes (Figure 5), reflecting the diverse economic trajectories and challenges within the region. South Sudan and Somalia remain low-income countries (as per World Bank classification), with per-capita GNI of US\$691 and \$1,072 (at market exchange rates) respectively. At the other end of the spectrum, Kenya and Djibouti have achieved lower middle-income countries status, with 2023 per-capita GNIs reported at \$7040 and \$6220, respectively.

In Sudan, household incomes have declined sharply since the most recent conflict erupted in April 2023, according to a study by UNDP and the International Food Policy Research Institute (IFPRI). Reports indicate income declines of over 40 percent in rural areas, exacerbating already dire economic situations and increasing the number of people living in poverty.

2.2.1 Human development losses due to inequalities

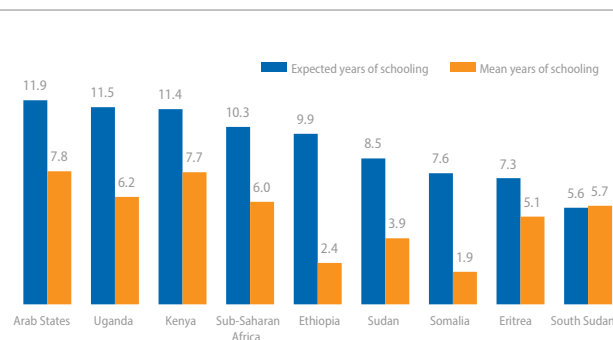
Inequalities remain a significant challenge in the Horn of Africa. In 2022, all countries in the region had high human development losses due to inequalities (as measured by the difference between their HDIs and inequality-adjusted HDIs). These losses in 2022 ranged from 26 percent in Kenya to 42 percent in South Sudan (which was the third largest loss caused by inequality globally).

Figure 3 Life expectancy in the Horn of Africa (2019-2021, years from birth)



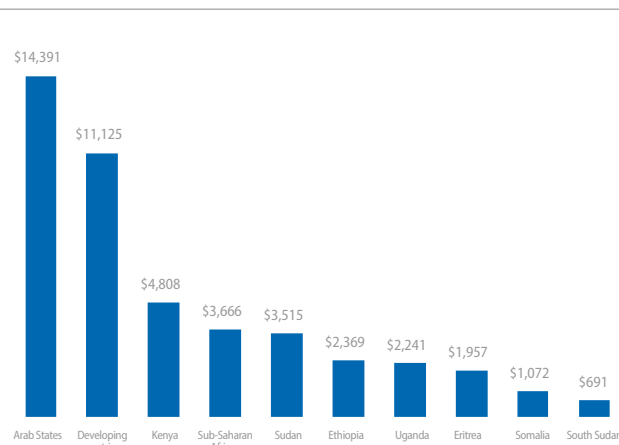
Source: World Bank.

Figure 4 Education outcomes (2022)



Source: UNDP Human Development Report Office.

Figure 5 Per-capita GNI (2022, in market exchange rates)



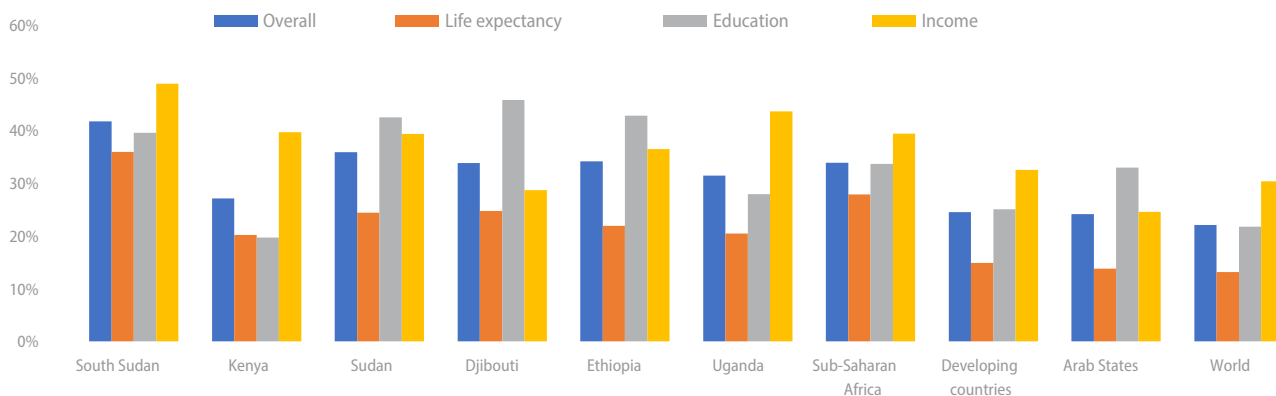
Source: UNDP Human Development Report Office.

As shown in Figure 6, most of these losses were due to inequalities in education and income, rather than in life expectancy. In Djibouti, Ethiopia, and Sudan, the primary driver of human development losses due to inequality has been disparities in education; whereas in Kenya, South Sudan, and Uganda, it is income inequalities have been the dominant factor. These inequalities not only hinder overall development, but can also exacerbate vulnerabilities, particularly in times of crisis.

2.2.2 HDIs lower for women than for men

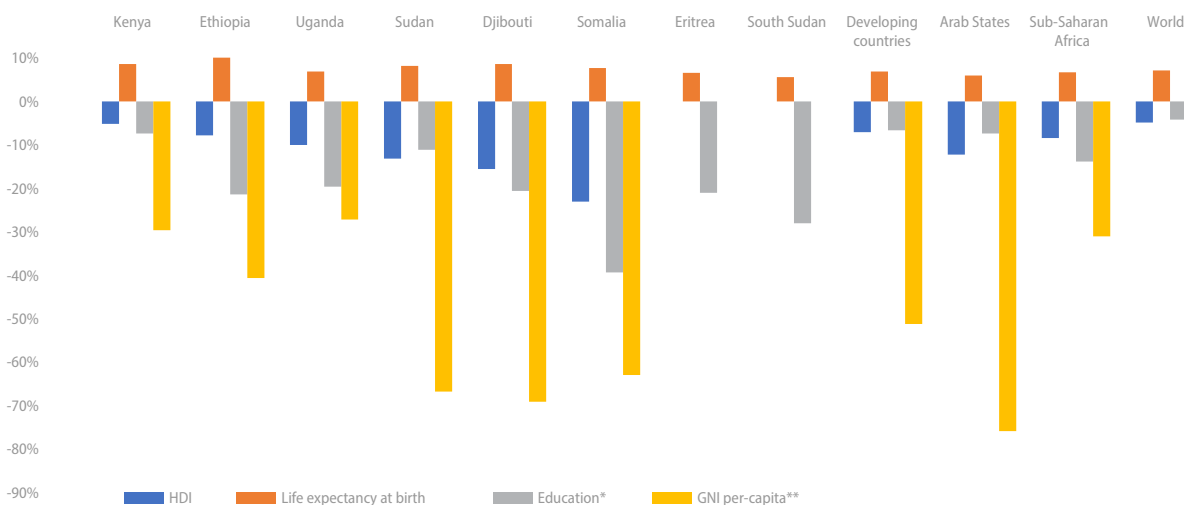
Many of these inequalities can be traced to gender-based differences in income, education, and life expectancy. As is the case globally, women in HoA countries tend to outlive men (by some 4.7 years in 2002; the global average was 4.9 years). However, comparisons of education outcomes and (especially) per-capita GNI show that women in the Horn are doing less well than men (Figure 7)—particularly in Sudan, Djibouti, and Somalia.

Figure 6 Percentage losses in HDI due to inequalities—overall, and by HDI components (2022)



Source: UNDP Human Development Report Office.

Figure 7 Differences between women's and men's HDIs and HDI components (2022—positive numbers indicate women's values exceed men's; negative numbers indicate women's values are less than men's)



* Average of differences between women's and men's scores for expected and mean years of education.

** HDRO estimate.

Source: UNDP Human Development Report Office.

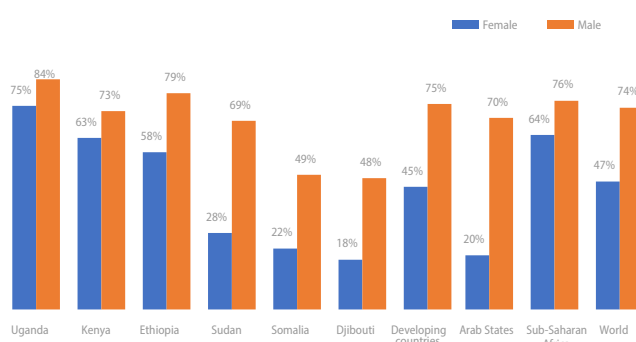
For much of the region these gaps are well above global averages—for developing countries, as well as for the world. In addition to posing significant human development challenges, these differentials highlight the gains that could be realized through more robust promotion of gender equality.

Gender gaps in per-capita incomes reflect in part barriers to women’s economic engagement. Women’s labour force participation rates⁵ in HoA countries are below those for men (Figure 8); in Djibouti, Sudan, and Somalia, they are also below global averages for women’s labour force participation. By contrast, women’s labour force participation rates in Uganda, Kenya, and Ethiopia are above global averages, both for other developing countries and for the world. Despite these differences, these gender gaps in labour-force participation rates highlight continuing barriers to women’s economic engagement (reflecting cultural, educational, and economic factors) in HoA countries. These also suggest that considerable gains could accrue to national labour markets and GDPs if female labour force participation rates could be raised.

2.2.3 Limited human development losses due to planetary pressures

The planetary pressures-adjusted Human Development Index reduces the HDI in light of national per-capita greenhouse gas (carbon)

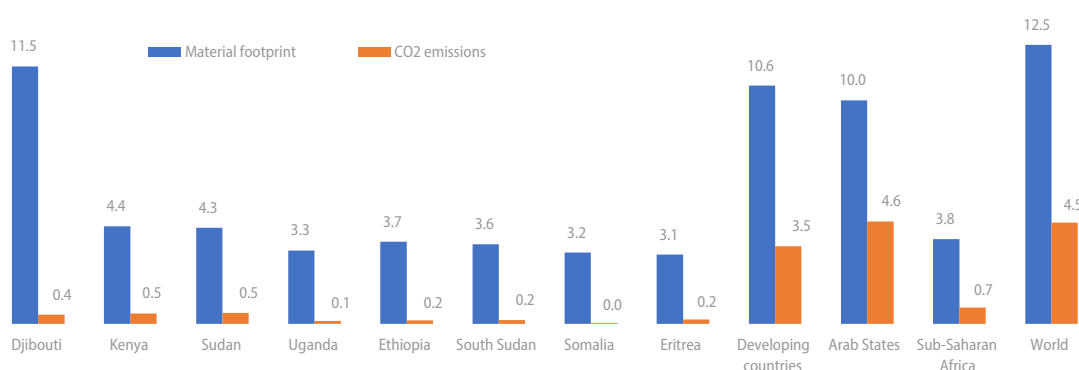
Figure 8 Differences between women’s and men’s labour force participation rates (2022)



Source: UNDP Human Development Report Office.

emissions and material footprint data. As economies in the Horn of Africa (as in most other developing countries) have much lower per-capita carbon emissions and material footprints than developed economies, environmental losses due to planetary pressures in the Horn are modest (Figure 9). HoA countries nonetheless face daunting environmental sustainability challenges, due to their reliance on natural resources and vulnerability to climate shocks—particularly along the water-energy-food nexus (see Chapter 4).

Figure 9 Per-capita greenhouse gas emissions and material footprints (2022, in tonnes)



Source: UNDP Human Development Report Office.

5. The labour force participation rate is the labour force as a percent of the working-age population, as estimated by the ILO. The labour force is the sum of all persons employed and unemployed.

2.3 Roots of human development challenges in the Horn of Africa

2.3.1 Limited socio-economic opportunities

HoA countries are among the planet’s youngest, with some 70 percent of their populations comprised of people younger than 25. This highlights the importance of youth as a possible source of economic growth and dynamism—provided enough education, training, and jobs are created to harness this potential demographic dividend (World Bank, 2020a).

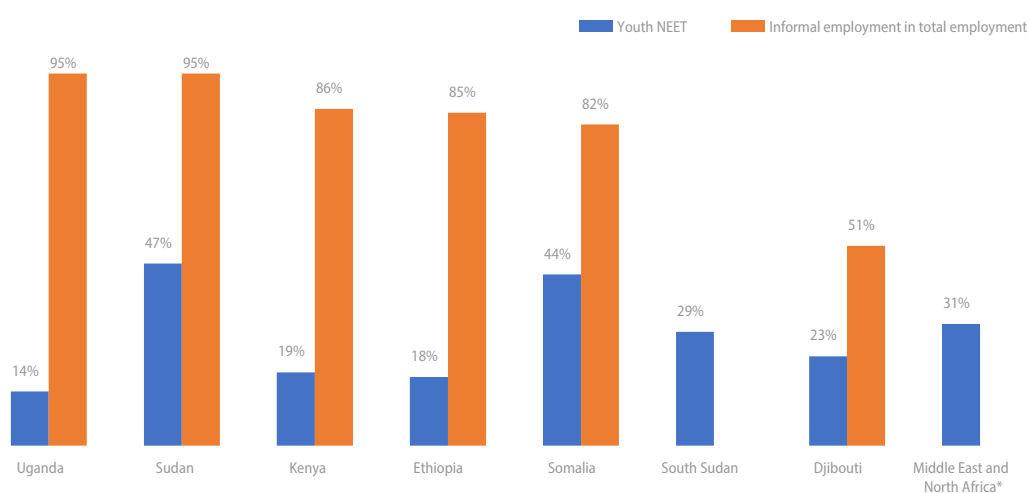
However, the possibility of capturing this dividend faces some important limitations. Labour markets in the Horn of Africa are heavily influenced by political and economic instability and generate few formal employment opportunities (Figure 10). Even in Djibouti, where public-sector and port employment play relatively large roles in the labour market, ILO and World Bank data indicate

that roughly half of the jobs are still in the informal sector.⁶ (Djibouti’s youth unemployment rate in 2017 was estimated at 73 percent.) Secondly, available data indicate that most HoA youth who are not employed are also not benefitting from education or training programmes.

This raises concerns about the quality of education systems in the Horn—particularly regarding vocational education and training. In parts of the region, conflict, socio-economic and political instability, and limited access to water and productive land constrain formal employment opportunities, making it difficult for young people to find stable and well-paying jobs. Informal-sector reliance on subsistence agriculture (particularly in rural areas) and small-scale trade (inter alia in border communities) continues to be significant across the region.

These dynamics underscore the need for broader economic opportunities that can connect communities, enhance market access, and support more sustainable livelihoods for the region’s youth.

Figure 10 Share of youth populations not in employment, education, or training (NEET), and shares of informal employment in total employment (data for most recent year)



* Not including high-income countries.
Sources: World Bank, ILO.

6. Under ILO definitions, the informal economy refers to “all economic activities . . . that are – in law or in practice – not covered or insufficiently covered by formal arrangements. It thrives mostly in a context of high unemployment, underemployment, poverty, gender inequality and precarious work . . . Low quality employment, inadequate social protection, poor governance and low productivity are some of the obstacles that workers and enterprises face when caught in the informality trap”.

2.3.2 Limited access to water, food, and energy

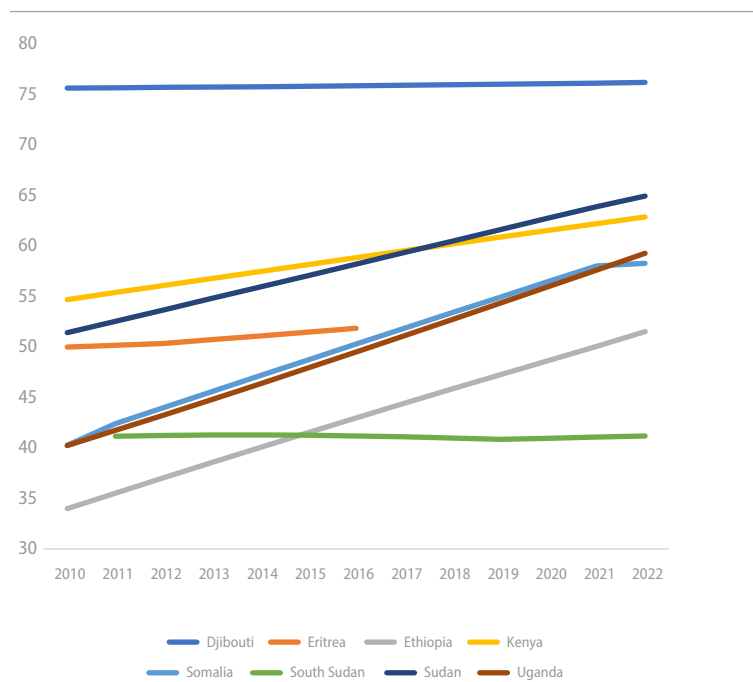
Governments in the Horn of Africa face significant challenges in providing clean drinking water, sanitation, and other basic services. This is exacerbated by climate change which has resulted in periods of severe water scarcity, while armed conflicts have damaged water infrastructure and displaced populations. Underinvestment in water infrastructure has likewise hindered access to improved water sources which also remain unaffordable for many, especially in drought-affected areas. Meanwhile, rapid population and economic growth have increased water demands, straining municipal systems (particularly in informal settlements).

All this has intensified water insecurities—affecting millions. Despite important progress in extending basic services, the most recent data indicate that at least one-third of the population in HoA countries (except Djibouti) lack access to basic drinking water services (Figure 11). The situation is particularly challenging in rural areas and among displaced populations, where water scarcity and contamination challenges are more prevalent.

Access to sanitation services likewise remains limited (Figure 12). In all HoA countries except Djibouti, more than two-thirds of the population lack access to basic sanitation services. Before the current conflict, 65 percent of Sudan’s population lacked access to basic sanitation services. War-related damage to sanitation infrastructure and population displacements have further exacerbated these challenges.

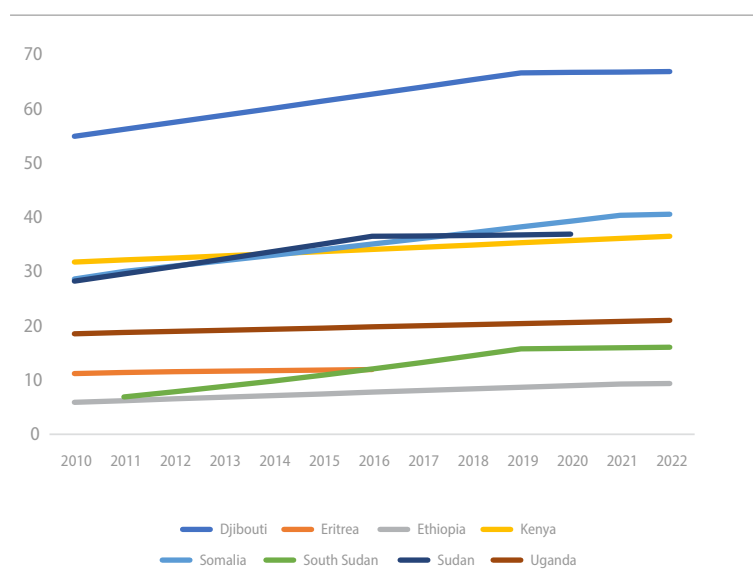
Women and girls are disproportionately affected by the lack of access to clean water and adequate sanitation facilities. They are often responsible for collecting water, which exposes them to waterborne diseases and other health risks.⁷ Inadequate sanitation

Figure 11 Shares of population using basic drinking water services (percentages)



Source: WHO.

Figure 12 Shares of population using basic sanitation services (percentages)



Source: WHO.

7. The increasingly regular outbreaks of hemorrhagic fevers, mpox, and other epidemics in the region (including also those affecting livestock trade) underscore the broader socio-economic importance of these health issues.

facilities also make it difficult for women to manage menstrual hygiene safely and privately, increasing their vulnerability to infections and other health issues. Meanwhile, girls who bear water collecting and preparation responsibilities are more likely to miss school and suffer reduced education gains.

HoA countries face significant challenges in providing widespread and reliable electricity access, which is crucial for socio-economic development, enhancing quality of life, and supporting modern infrastructure. Despite some progress (Figure 13), more than a third of the population continues to have inconsistent and unreliable access to electricity, with significant gaps in rural areas. In addition to reducing the quality of life, unreliable electricity access also impedes business formation and expansion.

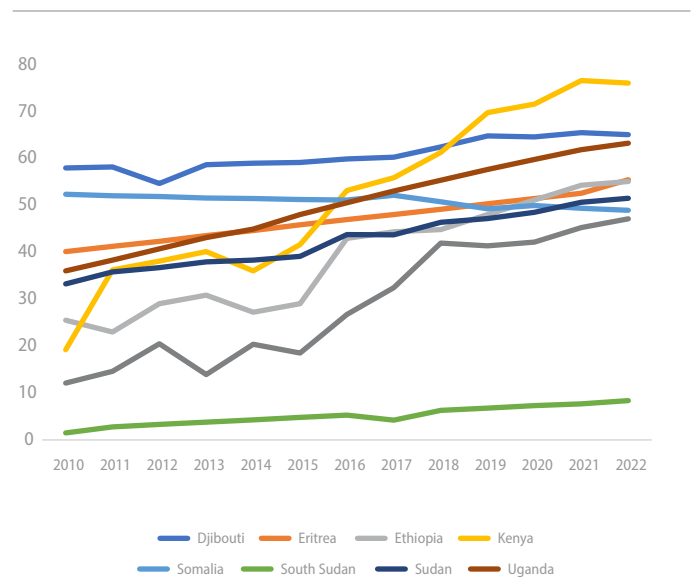
Kenya has made substantial progress in increasing electricity access, bringing power to three-quarters of the population. The government's Last Mile Connectivity Project and investments in renewables have contributed to this progress. Kenya's electricity balance includes significant contributions from geothermal, hydropower, wind, and solar energy, with two-thirds of its energy consumption coming from renewables (Figure 14). Efforts are ongoing to extend the grid to remote areas and improve the reliability of power supply.

Djibouti stands out with relatively high electricity access (compared to its neighbours), primarily due to its small population and strategic investments in energy infrastructure. About 65 percent of Djibouti's population had access to electricity in 2022, thanks in part to power imports from Ethiopia. Djibouti is also exploring renewable energy sources, which currently cover about 28 percent of its energy consumption.

Uganda has seen improvements in electricity access, reaching about 45 percent of the population in 2021. The government's Rural Electrification Programme aims to increase this rate by expanding grid connections and promoting off-grid solutions like solar home systems. Hydropower remains the primary source of electricity, with ongoing projects to harness more of Uganda's significant hydropower potential.

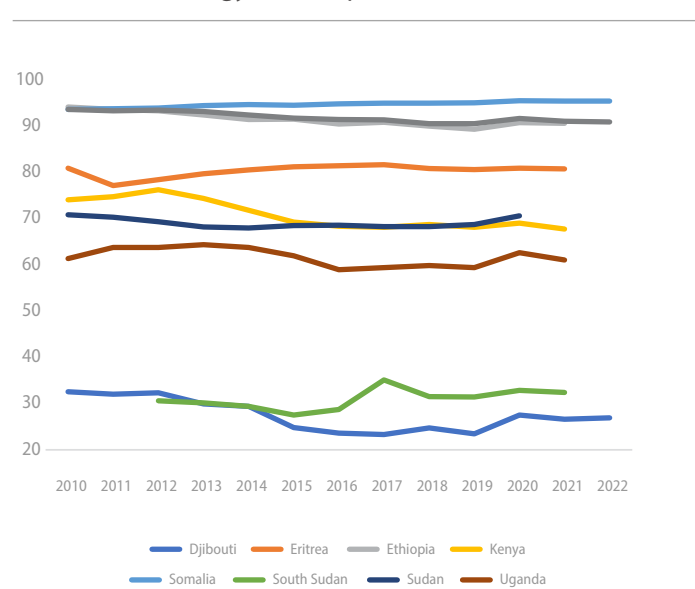
Ethiopia has made notable strides in expanding electricity access, achieving an electrification rate of about 55 percent in 2022. The government's ambitious electrification program aims to achieve universal access by 2025. Ethiopia's energy sector

Figure 13 Access to electricity (percentage of population)



Source: World Bank.

Figure 14 Renewable energy consumption (percentage share in total energy consumption)



Source: World Bank.

is dominated by hydropower (with additional contributions from wind and solar), so that 90 percent of its energy consumption comes from renewables. The Grand Ethiopian Renaissance Dam is expected to significantly boost power generation capacity.

Approximately half of Somalia's and Eritrea's populations have electricity access. Much of Somalia's electricity comes from expensive diesel generators, and many rural areas remain off-grid. Eritrea relies heavily on imported fuel for electricity generation, making it expensive and unreliable.

Sudan's electrification rate was about 63 percent in 2022 (according to World Bank data), with significant disparities between urban and rural areas. Sudan relies primarily on hydropower and thermal power plants for electricity generation and is exploring renewable energy sources to further diversify its energy mix and improve access in underserved areas.

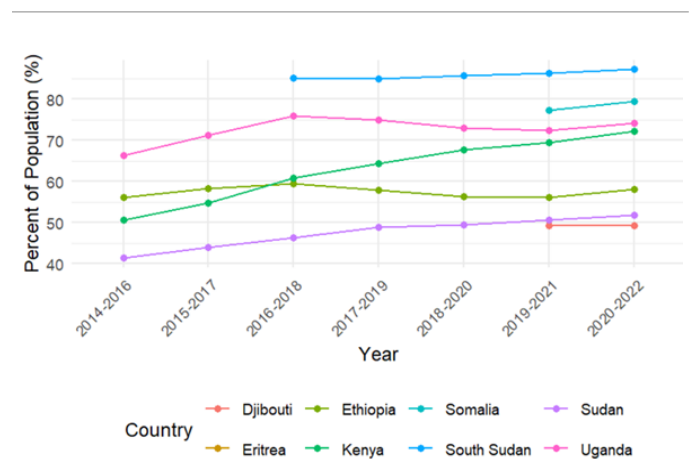
South Sudan faces perhaps the most severe challenges in the region, with less than 10 percent of the population having access to electricity in 2022. Its renewable energy consumption was likewise the lowest in the region, at 27 percent. Conflict and lack of infrastructure have made it difficult to develop and maintain a reliable power supply. The government, with support from international partners, is working to expand solar energy and small hydropower, especially in rural areas.

Expanding access to electricity remains a critical goal for the region, requiring continued investment in infrastructure, renewable energy projects, and international cooperation to expand sustainable and reliable power supplies. The expansion of renewable energy is especially important considering the significant renewable energy resources of the region, namely wind power and various coastal areas.

The Horn of Africa is currently experiencing one of the world's most severe food crises, driven by a combination of prolonged drought, conflict, and political and economic instability. Millions of people in the region are experiencing acute, conflict- and climate-related food shortages, with dire consequences for health, livelihoods, and human development.

Shares of populations classified as moderately or severely food insecure in HoA countries have generally been rising in the past decade—particularly in Ethiopia, Kenya, South Sudan, and

Figure 15 Prevalence of moderate or severe food insecurity in the total population

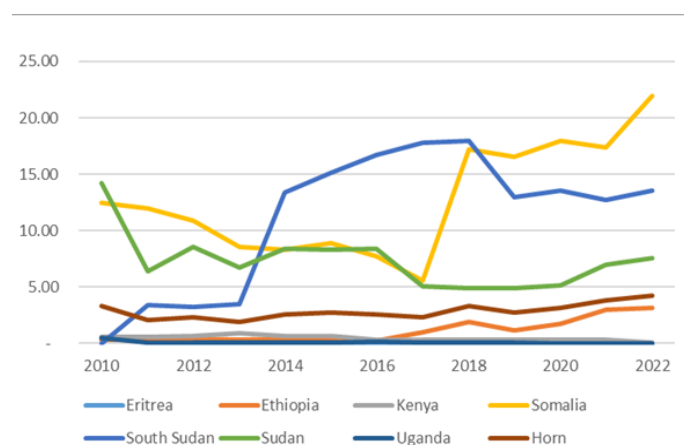


Source: World Bank.

Sudan (Figure 15). Between 2020 and 2022, it was estimated that at least half of the population of all countries in the region were moderately or severely food insecure. As of March 2024, it was estimated that there were 54 million food-insecure people in Eastern Africa. Countries of particular concern include Sudan (17.7 million people), Ethiopia (15.8 million), and South Sudan (5.7 million). Some 23.4 million people were displaced internally or abroad, including five million refugees and asylum seekers and 18.4 million internally displaced persons (IDPs).

Since the 2023 conflict started in Sudan, more than six million have been displaced internally, and 1.7 million have been forced to flee across borders. As

Figure 16 Internally displaced persons, total displaced by conflict and violence (numbers of people, in millions)



Sources: World Bank, UNHCR.

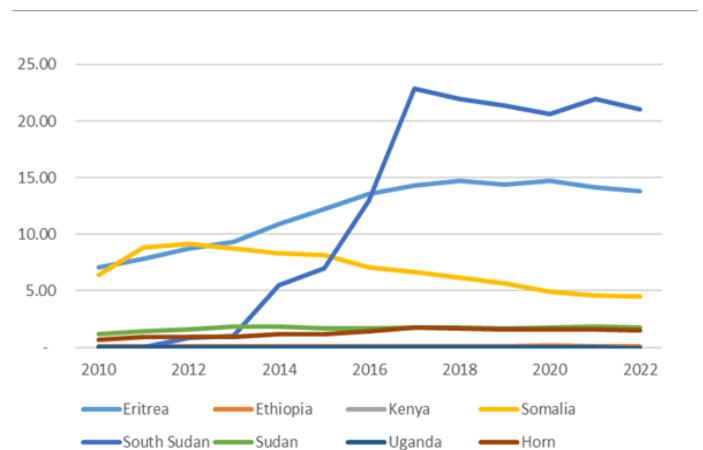
of July 2024, IOM data indicated that nearly eight million people had been displaced internally in Sudan, while 2.3 million had been forced to flee the country. The war in Sudan has become a leading cause of malnutrition and mortality in the region.

2.3.3 Conflict, disasters, and displacement

The Horn of Africa has had a long history of conflict, which has resulted in large numbers of both internal and external migrants (Figures 16 and 17). In the last decade, conflict and violence have led to the internal displacement of 10-20 percent of the populations in South Sudan and Somalia (and now Sudan). Eritrea and Somalia have been large sources of refugees from the Horn since 1990, with 10-25 percent of their population leaving at one point. The share of South Sudan's population seeking refuge outside its borders rose from around five percent in 2014 to over 20 percent since 2017. Heavy reliance on humanitarian assistance has also resulted in Ethiopia, Somalia, South Sudan, and Sudan requiring high volumes of aid.⁸ Many of these needs have been underfunded, which has slowed or prevented policy and programming transitions from crisis management to development.

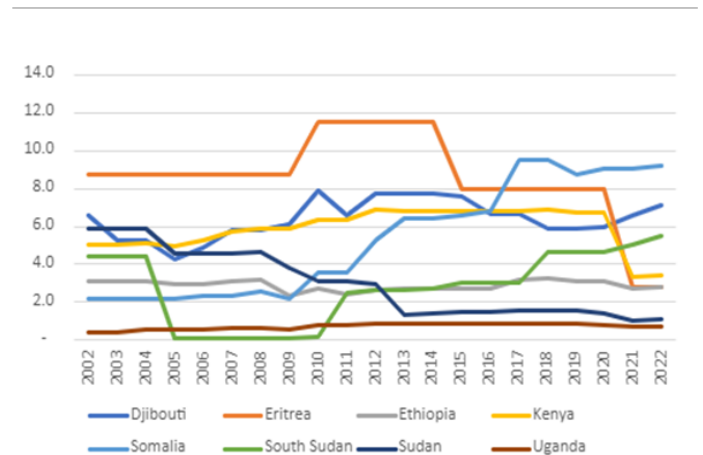
Over the past 20 years, the countries of the Horn have also been subjected to many disasters—both natural and man-made (Figure 18). The number of people in Somalia affected by disasters (many of which can be linked to prolonged drought) surged to approximately 10 percent of the population in 2022. Djibouti and South Sudan have also experienced increases in their population shares affected by disasters, with around six percent of South Sudan's population and eight percent of Djibouti's population affected. The increase in Djibouti is primarily due to its recurrent droughts and water scarcity issues. Risks posed by the country's arid climate and lack of freshwater resources have been exacerbated by climate change, leading to more severe drought conditions. In South Sudan, the rise in disaster-affected populations is driven by ongoing conflict and severe flooding.

Figure 17 Refugee populations by country of origin (in millions)



Sources: World Bank, UNHCR.

Figure 18 Victims of disasters (percentage of total population)



Source: UN Committee on Development Policy, LDC dataset.

8. See <https://www.unocha.org/publications/report/world/global-humanitarian-overview-2024-enarfrres>.

Kenya and Eritrea have reduced their disaster-affected populations since 2020, from around eight percent in Eritrea and seven percent in Kenya to approximately three percent in both countries by 2022. Kenya's success can be attributed to investments in disaster preparedness, early warning systems, and infrastructure improvement, along with efforts to diversify livelihoods. Eritrea's reduction could be due to improved water management and infrastructure development, such as building dams and water conservation projects, which have mitigated the impact of droughts.

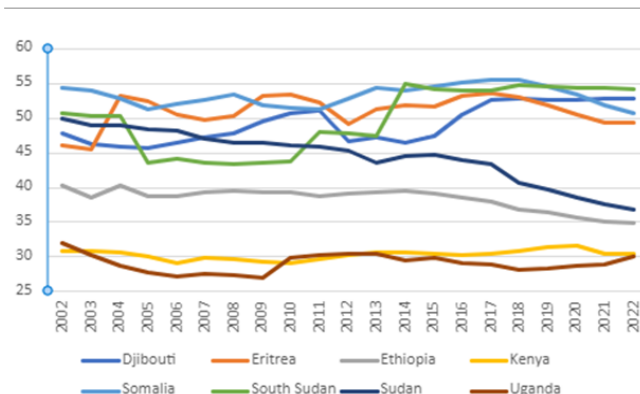
In the decade since 2012, Sudan's vulnerability to disasters decreased from approximately three percent of the population to one percent. (Data for this indicator are unavailable after 2022.) The conflict that began in April 2023, which caused significant losses of lives and displacement, has likely also led to an increase in the number of people affected by disasters. Uganda and Ethiopia have had relatively low shares of their populations affected by disasters, at 0.7 percent and 2.9 percent in 2022, respectively.

2.4 Multidimensional vulnerability

The multidimensional nature of structural vulnerabilities lies at the heart of the challenges facing HoA countries. The United Nations' Economic and Environmental Vulnerability Index⁹ (EVI) reveals that most countries in the region experience multidimensional vulnerability.

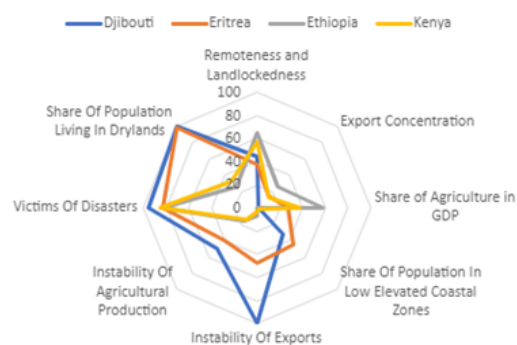
Uganda and Kenya have shown low EVI scores for the past two decades (Figure 19), while Ethiopia has seen its moderate level of vulnerability decline over this period. Sudan began with a high EVI of over 50 but had reduced this to less than 40 by 2022. By contrast, the EVI values for the other HoA countries have consistently ranged between 45 and 55, making them some of the most multidimensionally vulnerable in the world.

Figure 19 Environmental vulnerability index trends



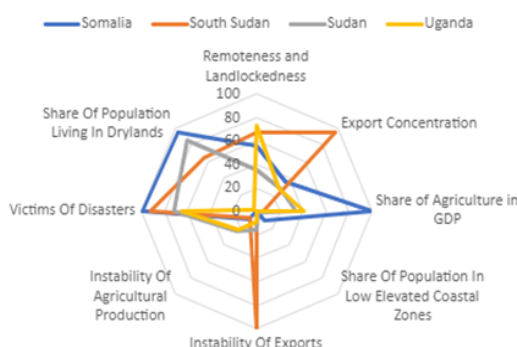
Source: United Nations

Figure 20 Sources of multidimensional vulnerability



Source: United Nations

Figure 21 Sources of multidimensional vulnerability



Source: United Nations

9. The EVI is based on sub-indices for economic and environmental vulnerability, both of which consist of four equally weighted indicators. Economic vulnerability indicators include the share of agriculture, forestry and fisheries in GDP; remoteness and landlockedness; merchandise export concentration; and instability in goods and services exports. Environmental vulnerability indicators include the proportion of the population living in low-elevation coastal zones and drylands, agricultural production instability, and disaster-affected individuals. EVI indicator values are then converted into index numbers using a max-min procedure. An EVI value of 36 or higher is needed to include a country in the LDC list. A value of 32 or lower is needed for graduation from LDC status, although other variables (on income, health, education, and gender equality) can also be used.

To better understand the sources of this vulnerability, a decomposition of the EVI dimension is needed (Figures 20, 21). Djibouti has the highest score possible for instability of exports (100 of 100) due to its narrow export base, small size, high dependence on Ethiopia, competition from neighbouring ports, and vulnerability to economic and environmental shocks. In the last 20 years, some seven percent of its population (all of whom live in drylands) has been affected by disasters. Eritrea shares these last two sources of vulnerability but has a lower level of export instability. However, 16 per cent of its population lives in low-lying coastal zones, making them vulnerable to hurricanes and similar shocks.

Ethiopia has a high score (65) on remoteness and landlockedness, higher than any other country in the Horn. It also has a score of 83 on victims of disasters, due to the high frequency of droughts, floods, and other meteorological disasters that have led to famines and displacements.

2.5 Conclusion

It is against this backdrop of multi-faceted development challenges and diverse sources of vulnerability—interspersed with evidence of notable yet sporadic progress in some sectors or countries—that the report invites readers to consider how opportunities to accelerate human development progress could be leveraged. Part II of this report presents three key areas of opportunity: increasing intra-regional trade; optimizing the use of water, energy, and other natural resources; and promoting more effective governance. When approached in an integrated manner, strategies to address these challenges can help to foster the regional integration needed to accelerate progress.

Part II

Pillars for sustainable human development

3 Increasing opportunities for intra-regional trade

3.1 Introduction

Intra-regional trade can be a pivotal driver for human development in the Horn of Africa. With the right policies in place, intra-regional trade may advance the well-being of individuals and communities alike. However, despite its potential, trade among HoA countries remains limited due to regulatory complexities, inadequate infrastructure, informality, political instability, and conflicts.

Currently, HoA countries are not effectively leveraging each other's strengths and resources to benefit more strategically and extensively from mutual trade. Moreover, current HoA trading regimes produce significant unrecorded border trade, the volumes of which may be up to 20 times larger than what is officially recorded (World Bank, 2020a). Poorly regulated cross-border trade may support millions of people along various value chains. However, in the absence of stronger incentives for formalizing such trade flows, HoA governments miss out on potential fiscal revenues that could be reinvested in health, education, and other key social services and infrastructure.

While many of the region's economies are primarily based on agriculture and services, processing capabilities and connectivity in these sectors could be strengthened. Moreover, skills enhancement in manufacturing, logistics, and information technology can facilitate economic diversification. By developing specialized skills that meet the demands of rising innovative sectors, the region can enhance its trade capabilities, both intra-regionally and globally. A good example is Ethiopia's investment in technical and vocational education and training programmes that support manufacturing, a key sector in its export strategy.

Good practices from Kenya and Uganda (as well as from other East African states like Tanzania and Rwanda) with trade facilitation, harmonization of macroeconomic policies, access to finance, and other behind-the-border reforms can be particularly important in this respect. Likewise, the possibilities for more directly including the private sector in regional integration efforts—inter alia by ensuring that their representatives have a seat at the table alongside governments when trade liberalization is discussed—should also be explored and where possible deepened.

This chapter evaluates the potential economic benefits of enhanced mutual trade among the HoA countries, and explores how these benefits can be put to work for human development. Currently, intra-regional HoA trade is restricted by multiple factors. UNDP analysis (based on computable general equilibrium modelling) indicates that increased HoA regional integration (as per AfCFTA implementation) would boost the region's GDP 3.8 percent (cumulatively) by 2030, create one million jobs, and buttress the income component of national HDIs. The base case considered conservatively assumes the continuation of prevailing conflicts and political instability in the region. However, a second scenario in which these conflicts are resolved and peace in the region is restored, with additional gains for economic growth and human development potential, is also considered (see Box 1).

The African Continental Free Trade Area (AfCFTA) came into force in 2021. 54 African Union countries had signed and ratified the AfCFTA as of January 2024.¹⁰ The AfCFTA seeks to reduce non-tariff barriers¹¹ and eliminate tariffs on 90 percent of member state trade.¹² As of August 2024, Djibouti,

10. The African Union's [Agenda 2063](#) identifies regional integration among its five key transitions, seeking the freer movement of goods, services and capital, and increases in intra-African trade.

11. In trade policy making both tariff and non-tariff measures (NTMs) should be considered together, since the removal of NTMs in intra-regional trade agreements has been shown to play a significant role in promoting intra-regional trade (Uwakata and Aregbeshola, 2022).

12. OCHA 2024.

Ethiopia, Kenya, and Uganda had signed and ratified AfCFTA, while Somalia, South Sudan, and Sudan had signed the agreement but not yet ratified it. An ex ante IMF assessment (IMF, 2023) found that AfCFTA could boost intra-African trade by 52 percent by 2025, increase Africa's income by \$450 billion by 2035, and lift 30 million Africans out of extreme poverty. (See also World Bank, 2020b.) While AfCFTA implementation is still in its early stages, many experts seem to expect full implementation by 2030. In addition to securing the agreement's ratification by all member states, AfCFTA's success hinges on developing the transport and logistics infrastructure needed for expanded trans-continental trade, and on reducing or removing unjustified NTMs (e.g., unnecessarily complex customs procedures).

Infrastructure development is a key precondition for expanding trade among HoA countries. While this means investments in transportation networks, logistics, and communication systems, it also means investments in enhancing people's capabilities to benefit from trade, to strengthen links between trade and human development.

Several ongoing initiatives seek to facilitate regional trade and integration by improving connectivity across the Horn of Africa. The Lamu Port-South Sudan-Ethiopia Transport (LAPSSET) Corridor, initiated in 2012, is a comprehensive infrastructure project aimed at bolstering connectivity and economic integration in the Horn of Africa. It includes the development of a new port in Lamu on the Kenyan coast, designed to better connect landlocked South Sudan and Ethiopia to the Indian Ocean, thus facilitating direct access to international trade routes. The corridor envisions an expansive network of roads, railways, oil pipelines, and airports, stretching from Lamu through various parts of Kenya, extending towards South Sudan and Ethiopia. By strengthening logistical capabilities and reducing transportation costs, the Corridor expects to stimulate intra-regional trade and attract foreign investment, particularly in sectors like agriculture and energy. The improved infrastructure is expected to foster economic growth, attract global trade partnerships, and promote regional stability by enhancing economic integration among the participating countries.

The Horn of Africa Initiative, launched in 2019 by Djibouti, Ethiopia, Kenya, Somalia, and Eritrea (with support from international partners like the World Bank and African Development Bank—as well as from IGAD, in which all HoA countries are members), promotes regional integration, stability, and development. Flagship projects under this initiative include the Ethiopia-Djibouti Corridor—a vital road and rail transport route strengthening connections between Ethiopia to Djibouti's port.

3.1.1 Trade and human development

Much of the literature on the relationship between trade and development focuses on economic growth as the dependent variable. While this research generally shows that openness to trade often has positive impacts on the growth in developing economies, the channels through which this effect works and the broader policies needed to accompany and manage this openness (Frankel and Romer, 1999; Greenaway et al., 2002; Falvey et al., 2012) are less clear.

Other research has traced the links between human development and economic growth (Suri et al., 2011), treating investments in human development both as ends in themselves and as instruments for accelerating GDP growth. Faster growth, in turn, generates more fiscal and household incomes that can be invested in human development. Together, these findings support the endogenous growth hypothesis¹³ (Aghion and Howitt, 1998).

A three-way relationship between trade, economic growth, and human development has been highlighted by some authors (Mustafa et al., 2017), while others have focused on the role of institutions as key long-term drivers of growth and development (Acemoglu et al., 2005). These studies suggest that an early focus on human development can support sustainable economic growth, whereas trade openness has a positive impact if institutional quality and socioeconomic conditions are both high. Kerebana and Krama (2021) found that recurrent public investments in health and education, as well as trade openness, had positive impacts on growth in Nigeria. Looking at 38 Sub-Saharan countries over

13. Endogenous growth theory holds that economic growth is primarily the result of policy decisions, rather than resulting from exogenous factors beyond policymakers' control (e.g., natural resource endowments). It emphasizes inter alia investments in human capital, innovation, and knowledge as significant contributors to economic growth.

11 years, Mbabazi (2017) likewise finds a positive impact of increased trade on life expectancy, education, and income.

These studies focus on trade openness in general, usually measured by total trade (exports + imports as a share of GDP). There is less research on the impacts of intra-regional trade on either economic growth or human development. While questions of intra- and extra-regional trade and its impact on growth in the HOA are not well explored in the literature, research from other regions can be brought to bear. For example, Wooster et al. (2008) found that trade between 13 countries in the European Union between 1980 and 2003 had a 30 percent lower impact on per-capita economic growth than extra-regional trade. Kumar (2020) and the Asia Foundation (2021) find that trade among South Asian Association for Regional Cooperation (SAARC) member countries had a significant positive impact on economic growth, both in the short and long term.

Okoro et al. (2020) found that intra-regional trade had a positive and statistically significant impact on future economic growth in the Economic Community of West African States (ECOWAS). By contrast, extra-regional trade was found to have a negative (but statistically insignificant) impact on growth. This study supports the hypothesis that regional trade is more critical for development than global trade (Krugman, 1991).

3.2 Regional integration in the Horn of Africa

3.2.1 Limited intra-regional trade among HoA countries

Despite its potential, mutual trade among HoA countries remains relatively limited—especially in terms of reported trade flows. According to UN COMTRADE data, only 12 percent of (reported) HoA country exports were directed to the region, while just six percent of (reported) imports came from the region, in 2022.¹⁴ Moreover, reported intra-regional trade has been declining since 2010, with a notable

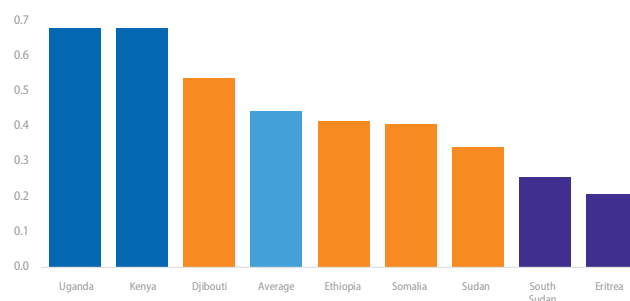
drop occurring between 2021 and 2022. In 2022, countries mainly traded manufactured goods (57 percent of traded goods regionally and 62 percent of total traded goods in 2022), followed by processed food (11 percent of traded goods regionally and 11 percent of total traded goods in 2022). Ethiopia and Kenya are the largest markets for imports and suppliers of exports in the region.

The limited role of intra-regional trade implies that HoA countries are not effectively leveraging each other's strengths and resources to address imbalances in production and consumption, expand production for export, or secure needed components and technologies.

Regional integration necessitates cooperation on multiple fronts. The Africa Regional Integration Index (ARII, managed by IGAD) measures progress in trade integration, production integration, macroeconomic integration, infrastructural integration, and the free movement of people. The ARII can also be used to measure the extent to which HoA countries are meeting their commitments under various pan-African integration frameworks, such as the African Union's [Agenda 2063](#) and the 1991 [Abuja Treaty](#) establishing the African Economic Community.

As shown in Figure 22, the ARII indicates that Uganda and Kenya have progressed the furthest in regional integration—mainly due to the existence

Figure 22 ARII country ranking by IGAD (2020—higher scores mean more progress in regional integration)



Source: Regional Integration Index

14. A 2021 World Bank study found that unregistered or under-reported HoA border trade can be up to 20 times larger than officially recorded volumes (World Bank, 2021). While informality limits the reporting of intra-regional trade flows, it can also bias extra-regional trade metrics. Whether/how much these data problems distort reported intra- versus extra-regional HoA trade shares is unclear.

and performance of specific institutions working towards regional integration in these countries. Kenya leads in trade statistics in the HoA, due to its large economy and ongoing negotiations on an agreement to simplify informal trading procedures. (For example, customs duties for transactions under a certain value have been waived, and one-stop shop posts have been established at internal borders, to ease trade.) Kenya also allows cashless payments at borders and has established bodies to oversee the implementation of non-tariff measures that unintentionally limit trade—practices that other countries in the region could adopt.

By contrast, other HoA countries report lower levels of regional integration. This suggests that these countries are less interconnected and coordinated with their neighbours in areas such as trade, infrastructure, political cooperation, and social and cultural exchanges.

The most recent data for trade in services as well as goods indicate that trade among HoA countries in 2021 reached \$3.5 billion, with \$3.3 billion in merchandise trade and \$220 million in services. Despite this relatively small proportion, regional trade shows promising growth potential and could play an important role in strengthening the region's resilience vis-à-vis economic shocks. By further developing intra-regional trade, governments in the HoA region can create more opportunities for economic growth and human development.

A closer look at agricultural production at the national level shows significant potential for intra-regional trade, food security, and production of staple crops such as maize, sorghum, millet, teff, wheat, and barley. In addition to strengthening food security, expanded cultivation of these crops would present new opportunities for growth in trade, incomes, and employment (particularly in rural areas), in light of the region's high population growth. Key commodities with potential for expanded trade within the HoA markets include:

- Maize (corn) production in Kenya, Ethiopia, and Uganda;
- Ethiopian coffee, teff, and pulses; and
- Livestock production (particularly camel and goat meat) in Kenya and Somalia.

3.2.2 Trade complementarity

Trade complementarity indices (TCIs) between HoA countries may offer insights into potential trade synergies within the region. These indices, which measure how well the export profiles of countries align with the import needs of others, can offer a nuanced understanding of the trade relationships and opportunities for economic cooperation. The data in Table 1 suggests significant HoA product-level trade complementarity—particularly for Kenya, and particularly for trade in foodstuffs, metallurgical, chemical, and light industrial goods.

Table 1 Trade complementarity index scores (2022)

Origin Country	Partner Country	Product	TCI
Djibouti	Ethiopia	Chemical products	95.6
	Kenya	Chemical products	95.8
Ethiopia	Djibouti	Vegetables, fruit, nuts	90.1
	Djibouti	Wearing apparel	93.3
	Kenya	Transport equipment nec*	99.9
	Kenya	Wearing apparel	93.2
	Sudan	Wearing apparel	94.1
	Somalia	Vegetables, fruit, nuts	93.2
	Somalia	Wearing apparel	92.7
	Uganda	Transport equipment nec	98.8

Origin Country	Partner Country	Product	TCI
Kenya	Djibouti	Chemical products	91.8
	Djibouti	Ferrous metals	96.4
	Djibouti	Food products nec	95.4
	Djibouti	Mineral products nec	97.4
	Djibouti	Vegetable oils and fats	91.8
	Djibouti	Vegetables, fruit, nuts	95.2
	Djibouti	Wearing apparel	96.3
	Eritrea	Chemical products	98.3
	Eritrea	Food products nec	94.5
	Eritrea	Mineral products nec	99.3
	Ethiopia	Chemical products	93.1
	Ethiopia	Ferrous metals	99.2
	Ethiopia	Food products nec	95.8
	Ethiopia	Vegetable oils and fats	98.0
	Sudan	Chemical products	98.3
	Sudan	Food products nec	98.0
	Sudan	Metals nec	99.9
	Sudan	Mineral products nec	99.7
	Sudan	Paper products, publishing	99.3
	Sudan	Wearing apparel	97.1
	Somalia	Beverages and tobacco products	92.5
	Somalia	Chemical products	96.5
	Somalia	Ferrous metals	98.1
	Somalia	Food products nec	97.1
	Somalia	Mineral products nec	100.0
	Somalia	Vegetable oils and fats	98.5
	Somalia	Vegetables, fruit, nuts	98.3
	Somalia	Wearing apparel	95.7
	Uganda	Chemical products	95.4
	Uganda	Ferrous metals	98.0
	Uganda	Food products nec	97.6
	Uganda	Mineral products nec	98.7
Uganda	Paper products, publishing	99.1	
Uganda	Vegetable oils and fats	98.5	
Somalia	Ethiopia	Food products nec	95.9
	Kenya	Food products nec	95.4
Uganda	Ethiopia	Chemical products	88.9
	Ethiopia	Food products nec	98.7
	Kenya	Chemical products	88.7
	Kenya	Food products nec	98.2

* Not elsewhere classified.
UNDP estimates.

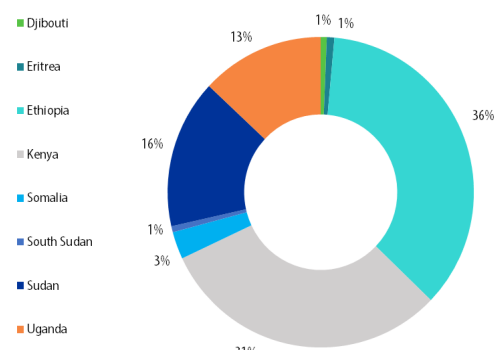
3.2.3 Intra-regional trade challenges

Efforts to increase mutual trade among HoA countries should begin with an understanding of their relative economic size (Figure 23). As Ethiopia and Kenya together account for about two-thirds of HoA GDP, import growth in these economies is best able to boost intra-regional exports (and trade-related incomes) of other HoA countries. While Ethiopian and Kenyan import growth experienced considerable fluctuation during the past decade, IMF forecasts suggest more stable import dynamics after 2023 (Figure 24).

As suggested above, there is significant potential for increasing intra-regional agricultural trade among HoA countries, in order to increase food security—particularly as concerns trade in maize (corn), sorghum, millet, teff, wheat, and barley. While maize is grown in abundance in Kenya, Ethiopia, and Uganda (African Development Bank et al., 2015) it is also quite sensitive to variability in rainfall patterns. Crop diversification, and greater trade in more local varieties (e.g., sorghum, millet, etc.) can offer greater climate resilience as well as food security. Ethiopia and Kenya both export coffee, teff, and pulses, while Somalia's livestock sector exports camel and goat meat. Djibouti and Somalia are both exporters of animals and animal products (World Bank, 2021), benefitting from Djibouti's strategic port location. However, for most HoA countries (Somalia is the outlier), neighbouring HoA countries are not significant agricultural traders (ibid). Many food exporters find it easier to ship their goods out of the region, than to sell it to their neighbours.

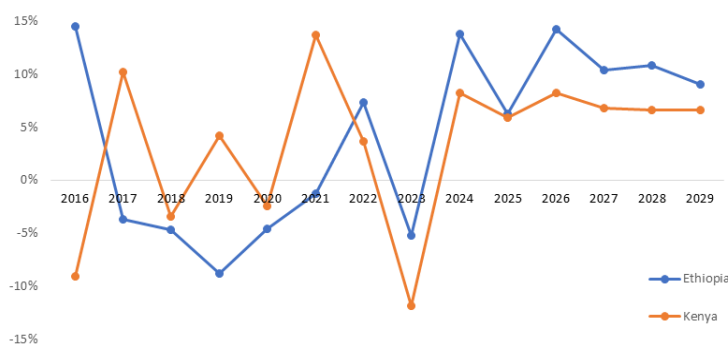
Tariffs, non-tariff measures (NTMs), and customs inefficiencies constitute barriers to intra-regional HoA trade. Lack of trade policy harmonization (e.g., disparities in tariff rates among countries, differences in customs procedures and degrees of their enforcement) hinders intra-regional trade. NTM coverage ratios range from less than 10 percent to more than 90 percent globally, with no clear pattern based on income levels. The European Union has high NTM coverage (over 85 percent) of imports from outside the EU, which can be partly attributed to such concerns as environmental and consumer protection. For HoA countries, however, the rationale for wide NTM coverage is less clear—

Figure 23 National shares of HoA GDP, in purchasing-power-parity terms (2023)



Source: UNDP calculations, based on the IMF World Economic Outlook database (April 2024 version).

Figure 24 Annual average growth rates in Ethiopian and Kenyan goods and services import volumes



Source: IMF World Economic Outlook data base (April 2024 version). Data after 2023 are IMF estimates or projections.

especially in light of commitments to reduce NTMs made under AfCFTA (World Bank, 2021).

Outcomes also differ by sector. A 2012 World Bank study highlights dairy as a sector in which international harmonization efforts may have inadvertently created new NTMs (instead of removing them) for developing country exporters. The East African Community (EAC)¹⁵ has been working to eliminate NTMs, especially after removing tariffs on intra-regional trade. In the dairy sector, the EAC has received donor funding to harmonize its standards with international ones, with support from government agencies in EAC member states. The World

Bank (ibid) also warns that adopting additional food safety standards could become a significant barrier to trade in dairy products, as quality requirements could be too stringent for all but a handful of producers. Livestock's economic (and socio-cultural) significance for many HoA rural households highlights the importance of getting dairy NTMs right.

The region's transportation infrastructure, which moves goods primarily via trucks, is an important obstacle to intra-regional trade. Road networks are often congested, unsafe, and poorly maintained, leading to frequent accidents and breakdowns. Moreover, many routes outside major cities lack fuelling stations and other essential roadside infrastructure, further impeding trade flows. Inadequate processing and storage facilities are also a challenge for trade in agro-food and other perishable products. The regulatory landscape is marked by a lack of coordination among border agencies handling health, veterinary, and sanitary inspections, both within and across countries. Scarce regulatory information (often unavailable in all the languages spoken by HoA traders) also complicates cross-border trade. Obtaining the necessary documentation is both costly and time-consuming, discouraging formal trade processes.

Informality therefore dominates the HoA trade landscape, with as much as 80 percent of cross-border trade going unrecorded. Cumbersome documentation processes and high costs drive traders toward informality, avoiding border procedures altogether. In addition to distorting trade statistics, informality impedes the region's growth and development prospects. On the other hand, informality can also be an important coping mechanism for vulnerable traders.

Political instability poses a significant obstacle to intra-regional trade in the HoA. For example, the protracted conflict in Somalia, which has resulted in population displacement and the fragmentation of governance structures, has worked against consistent trade policies and regulatory frameworks. Longstanding political tensions between Eritrea and Ethiopia have likewise strained bilateral trade

relations. More recently, the violent conflict that erupted in Sudan in April 2023 has resulted in border closures and other conflict-related insecurities that have disrupted both trade and transit (Sudan plays an import transit country role in the region). These conflicts and their associated uncertainties make it difficult for businesses to plan and invest in cross-border trade initiatives, leading to a reluctance to engage in long-term partnerships.

These (and other)¹⁶ intra-regional trade lacunae pose multifaceted challenges. They increase the vulnerability of individual countries to economic shocks and disruptions, as regional collaboration is insufficient to mitigate them. The lack of robust intra-regional trade networks also exacerbates issues of resource scarcity and food insecurity. On the other hand, limited intra-regional trade also offers potential opportunities for increased regional trade integration and collaboration.

3.2.4 Trade and borderland communities

HoA borderland communities face a unique set of challenges and opportunities. A 2020 World Bank report characterized these regions as facing isolation, poverty, and insecurity—but also found that they possess significant economic potential due to their natural resources and proximity to some of the world's most rapidly growing economies. The main challenges include conflict, displacement, poverty, inadequate access to finance, and rapid population growth—particularly within the Karamoja, Borana, Somali/Mandera, and Dikhil clusters, which have historically suffered from underinvestment.

A 'borderlands perspective' reflecting the specific historical, political, social, and economic contexts of border regions is therefore essential in promoting regional integration in the Horn of Africa. For instance, infrastructure projects like roads, railways, and irrigation have the potential to significantly affect (both negatively and positively) livelihoods and trading relationships in border communities. Human insecurity and violence, ranging from interstate conflict to localized resource competition, also

15. In addition to Kenya, South Sudan, and Uganda, the EAC also covers the DRC, Burundi, Rwanda, and Tanzania.

16. These include lack of product diversification, low trade complementarity, high trade costs, lack of access to trade finance, and incompletely harmonized trade policies.

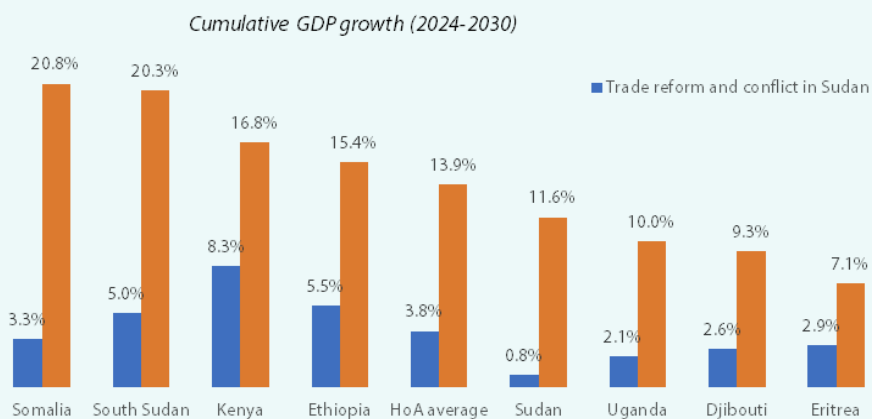
profoundly affect these communities. However, resilience is evident in some key trading sectors (e.g., livestock exports), and in informal cross-border trade, which is crucial for the livelihoods of more than 100 million people in border areas (World Bank, 2020a). Regional cooperation is also needed to mitigate geographic isolation by easing flows of capital, labour, goods, and services across borders. Strengthening the capacity of formal and informal conflict management institutions in border areas is likewise vital, especially considering the gender implications of conflict and insecurity.

Intra-regional trade in the Horn of Africa can offer significant opportunities for empowering women and enhancing their livelihoods, particularly in the agrifood sector. Women in sub-Saharan Africa are

heavily involved in agrifood systems, constituting 66 percent of employment in this sector and representing 70 percent of informal cross-border traders. However, in their critical roles as producers, processors, traders, and 'agripreneurs', women face numerous challenges, including limited access to land, finance, and market information, and insecure working conditions. With the proper enabling environment, expanded intra-regional trade can help integrate women traders into larger, formal markets where they can secure better returns for their agricultural products (FAO, 2023). By facilitating women's engagement in the processing of agricultural products, intra-regional trade can help women benefit from participating in higher-value activities. All this could help reduce gender

Box 1 The potential economic impact of peace in Sudan

As explained above, the base case for these simulations conservatively assumes the continuation of prevailing conflicts and political instability in the region. Gains in GDP and human development under this scenario are attributable to the implementation of the AfCFTA trade reforms, and other related policy and infrastructure measures. However, a second scenario in which the conflict in Sudan is resolved (bringing with it additional growth and human development benefits), was also examined by the CGE model—with the below results.



Predicted cumulative regional GDP growth during 2024-2030 under the 'peace in Sudan' scenario more than triples compared to the conflict scenario, rising from 3.8 percent (conflict) to 13.9 percent (peace). While peace would handsomely benefit Sudan (where GDP growth is predicted to rise from 0.8 percent to 11.6 percent), all HoA economies would gain—particularly Somalia (where GDP growth would rise from 3.3 percent to 20.8 percent), and South Sudan (where GDP growth would rise from 5.0 percent to 20.3 percent). Even Eritrea (for whom the growth benefits would be smallest) would see its cumulative GDP growth more than double.

Peace is of course immensely desirable in and of itself. However, these simulations indicate that the macroeconomic benefits of a 'peace dividend' in Sudan can be quantified, and that all HoA countries would share in them.

disparities and promote human development in the region. By addressing gender-specific challenges and promoting inclusive policies, the region can ensure that women fully benefit from the economic opportunities provided by increased trade.

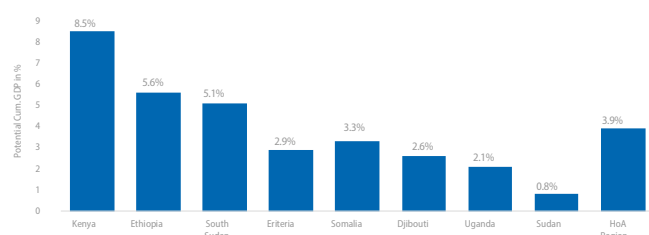
3.3 Simulation of trade reform impact

3.3.1 Computable general equilibrium (CGE) modelling, trade reforms, and infrastructure investment

Thanks to multiple trade agreements, import tariffs on many HoA markets are already relatively low. However, NTMs are much higher, and since many of them stem from otherwise desirable public policies (e.g., concerning product, environmental, or worker safety), they can be more difficult to eliminate. Moreover, unlike tariffs, NTMs do not vary with the value of exports and are therefore difficult to measure. A 2018 UNCTAD/World Bank report found that NTMs disproportionately hurt low-income countries (such as those in the Horn of Africa) as well as smaller producers and traders (who play large roles in the HoA economies), for whom the relative burden of NTMs are greater than in higher-income countries. (This reflects the prevalence of NTMs in agriculture, minerals, light industry, and other sectors in which developing countries often have comparative advantages, as well as the large role of informal cross-border trade in HoA countries.)

The policy reforms to reduce trade barriers called for by the AfCFTA can bring numerous benefits to HoA countries. To estimate the size of these benefits, computable general equilibrium (CGE) modelling was applied to the HoA region (using the 2017 GTAP standard CGE model and dataset, version 11). The GDP impact of the complete removal of tariffs and NTMs on trade in HoA countries was simulated, in order to give an upper-bound estimate of potential trade policy reform impact.¹⁷

Figure 25 Potential cumulative GDP gains during 2024-2030 from trade reforms

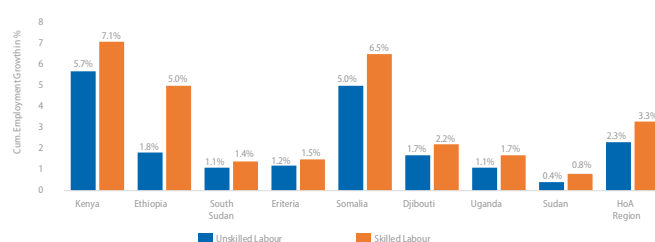


Source: UNDP estimates.

As shown in Figure 25, the CGE model¹⁸ estimates that the removal of tariffs and NTMs as per the AfCFTA would generate a cumulative increase in HoA regional GDP of 3.9 percent by 2030. Kenya, Ethiopia, and South Sudan would benefit from additional cumulative GDP growth of 8.5 percent, 5.6 percent, and 5.1 percent, respectively; while growth in the other HoA countries would be somewhat below this regional average.

Figure 26 shows the cumulative (2024-2030) simulated HoA employment growth, disaggregated by skilled and unskilled workers,¹⁹ predicted by the

Figure 26 Predicted cumulative employment growth (2024 - 2030)



Source: UNDP estimates.

17. The CGE model simulations assume that the NTM add-valorem equivalents estimated for the Africa continent by the World Bank (2022) also apply to the HoA countries (see Annex 2-b for details).

18. The GTAP model provides GDP data for Ethiopia, Kenya, Sudan, and Uganda; South Sudan, Eritrea, Djibouti, and Somalia are grouped together under a single 'rest of the Horn of Africa' heading. To determine the individual impacts for these countries, their respective contributions were disaggregated based on their share of HoA regional GDP in 2017 (as measured by World Bank data).

19. As per the International Labour Organization (ILO) definition, skilled labour refers to "workers who have specialized knowledge, training, and experience in a particular trade or profession". Skilled labourers possess the expertise needed to perform complex tasks and often require formal education or on-the-job training to develop their skills. Skilled labour is essential for industries that rely on specialized abilities and technical knowledge, such as construction, manufacturing, healthcare, and information technology.

CGE model. Skilled workers in all HoA countries are projected to benefit from faster employment growth than unskilled workers (an average 3.3 percent increase compared to 2.3 percent for unskilled workers), indicating both additional overall employment growth and increasing labour force sophistication and capabilities. In keeping with the CGE model's estimates of GDP growth, Kenya and Ethiopia have the highest predicted increases for both unskilled and skilled employment.

For the HoA region as a whole, the CGE model predicts that some one million new jobs would be created (above baseline levels) in the formal sector by 2030. This employment growth would increase private consumption expenditures by some two percent (relative to the baseline).

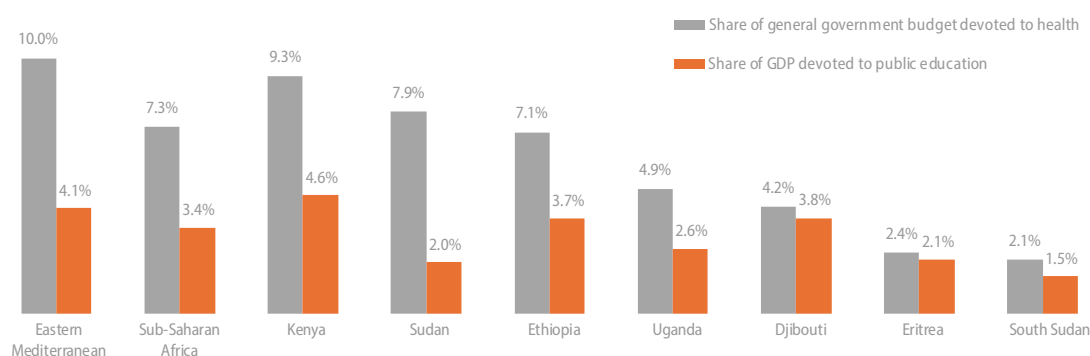
3.3.2 Investing in human development

The CGE modelling results indicate that trade among HoA countries can be expected to increase with AfCFTA implementation, and that economic growth should accelerate as well. However, growth that is not accompanied by investments in people can leave significant portions of the population behind. Unequal income distribution, as documented by Birdsall et al. (1995), can hinder

human development progress despite economic expansion. Milanović (2006) demonstrates how rising inequality within countries can dampen the positive effects of economic growth on human development indicators like health and education. Research also points to the positive impact of public spending on human development. Filmer and Pritchett (1999) found that increased public spending on education, particularly for girls, led to higher female employment and earnings.

These considerations are particularly relevant for the Horn of Africa, where shares of GDP and government budgets devoted to public health and education in many HoA countries are below regional averages (for Sub-Saharan Africa and the Middle East—see Figure 27). Afrobarometer data likewise show significant public dissatisfaction with the quality of/ access to health and education services in many HoA countries. Moreover, individuals in HoA countries have been covering a significant portion of their health expenses out-of-pocket (Figure 28). In 2020 (the most recent year for which data are available), people in the region were covering, on average, 35 percent of their health expenditure out-of-pocket—surpassing the averages for both Sub-Saharan Africa (30 percent) and the world (16 percent). Since 2015, the percentage of health expenditure paid out-of-

Figure 27 Shares of GDP, government budgets devoted to public health and education



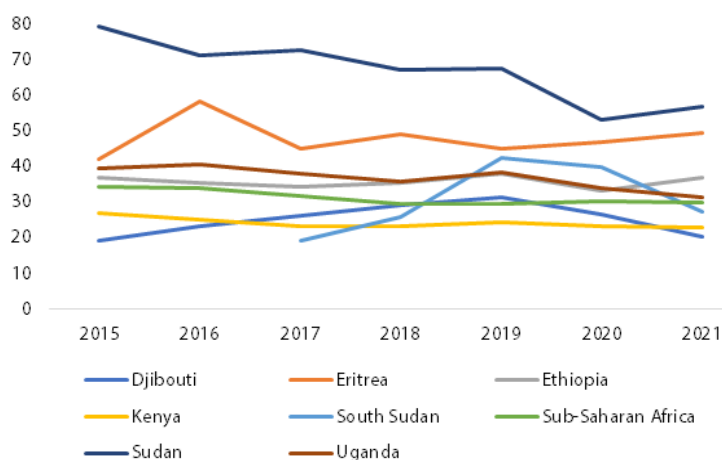
Sources: World Bank and WHO. Data are for the most recent year available.

pocket in all countries of the region (except for Kenya and Djibouti) has exceeded both Sub-Saharan and global averages.

The importance of investing in social protection systems in the Horn of Africa was highlighted by the World Social Protection Report 2020-22 (ILO, 2022) considering the region’s fragility and susceptibility to shocks and risks. Devoting significant shares of the increased government budget revenues that would accrue from more rapid economic growth under AfCFTA implementation to health and education (and other social sectors) could help to close these gaps.

If half of the GDP gains estimated from the CGE model were to be directed towards public education and health spending (and if reforms would be able to improve governance in the health, education and other relevant social areas, to boost public sector efficiency), human development progress in HoA countries could accelerate significantly (Table 2). In the short term (2024-2027) Kenya’s human development trajectory could accelerate by up to 6.2 years, Ethiopia’s by up to 2.3 years, and Uganda’s

Figure 28 Out-of-pocket health expenses as a percent share of total health expenses



Source: World Bank.

by up to 1.3 years. Over the medium term (2028-2030), these investments could accelerate Kenya’s human development trajectory by up to 8.9 years, Ethiopia’s by up to 3.2 years, Djibouti’s by up to 2.8 years, and Uganda’s by up to 1.9 years. (Please refer to Annex 2.c for the methodology.)

Table 2 Potential HoA human development progress

	Future scenarios					
	No Trade		Short Term (2024-2027)		Medium Term (2028-2030)	
	HDI 2027	HDI 2030	HDI 2025	Years gained	HDI 2030	Years gained
Djibouti	0.532	0.563	0.535	0.4	0.580	2.8
Ethiopia	0.506	0.531	0.517	2.3	0.547	3.2
Kenya	0.609	0.622	0.625	6.2	0.646	8.9
Sudan	0.516	0.515	0.517	0.3	0.517	0.5
Uganda	0.560	0.576	0.564	1.3	0.583	1.9

Source: UNDP estimates.

3.4 Conclusion

While the potential for intra-regional trade to accelerate human development in the Horn of Africa is substantial, it is currently underutilized. To realize these benefits, concerted efforts are needed to address the multifaceted challenges that both hinder intra-regional trade and limit the effectiveness of public health, education, and other relevant social spending. This includes investing in transport and communication infrastructure, harmonizing trade regulations, improving customs procedures, and enhancing political stability. More actively including private sector representatives in regional integration and trade policy discussions can also help to realize this potential.

Enhancing resilience in water, energy, and food systems

4.1 Introduction

This chapter examines the challenges and opportunities facing governments and communities in the Horn of Africa in the management of their water, energy, and food systems, so as to address both current and future needs while building resilience to withstand increasingly frequent and severe climate (and other) shocks. Examining these three sectors (often referred to as the water-energy-food nexus) can help to understand how they interact with each other and with the natural environment sustaining them. As these sectors are mutually interdependent, understanding their interactions is needed to identify synergies, trade-offs, and vulnerabilities—particularly in light of their importance for human development.

While the Horn of Africa has taken great strides forward to improve the management of these sectors (and the ecosystems underpinning them), climate and environmental pressures and shocks and compounding sources of fragility threaten to not only slow but reverse progress. Slow onset pressures related to rising temperatures and changing rain patterns can combine with sudden onset events (e.g., droughts, floods, conflict) to challenge the integrity of underlying ecosystems. When successive waves of these events occur, they create poly-crisis that afford little time for systems and societies to recover. Unless more investments are made to enhance preparedness, existing resilience capacities can be depleted, further increasing the likelihood of crisis and conflict.

For the purposes of this chapter, the term ‘environmental security’ is used to examine the impact of natural resource scarcity and degradation on human security (Scott and Thapa, 2015). This

includes exploring the relationship between environmental degradation and climate change, as well as how these dynamics affect and are affected by human activity and governance. Environmental security also examines how these dynamics, if ineffectively managed, can contribute to social instability and insecurity (UNDP *et al.*, 2020). The term is closely related to the concept of human security which refers to how people and communities can live with dignity and freedom from fear.²⁰ It is similarly seminal to human development as the needs of humanity continue to be reliant on ecosystem-based services (Barnett, 2009). These services include a range of natural processes that allow for the continued exploitation of water, energy and food.

4.2 The water-energy-food nexus

Managing the interrelated nature of water, energy, and food systems as well as the trade-offs that may occur across these sectors is vital in making critical development choices (Goldemberg and Lucon, 2009). This nexus is particularly important in the Horn of Africa, due to its frequent incidents of drought, famine, and energy scarcity.

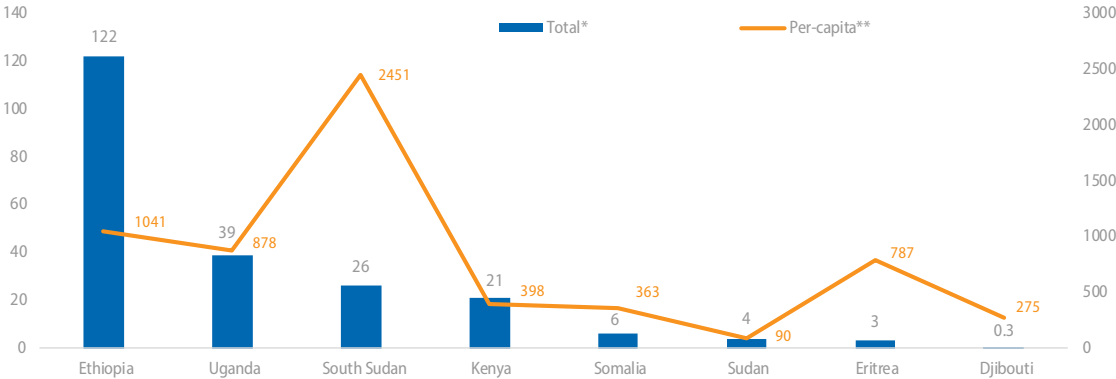
Nowhere is this understanding of the potential trade-offs more important than in food security. Many countries promote food production, both to satisfy domestic food needs and to boost food export revenues. However, more food production can mean less of something else—particularly if that production requires irrigation in regions relying on hydropower and facing water scarcity. Similarly, energy is vital for both food security and development. Globally, there is a

20. The UN General Assembly resolution 66/290 of 2012 defined human security as the right of people to live in freedom and dignity, free from poverty and despair²⁰. For more on human security and human development, see UNDP (2022, 1994).

Although currently under-exploited, the transboundary features of the region's groundwater systems, including its deeper aquifers, are of emerging importance in cooperative water management (Nijsten et al, 2018). These systems are a vital source of resilience as they afford access to water even during times of drought. One of the current areas of concern with aquifer management is the risk of salinization, particularly in coastal areas. (Salinization results from rising sea levels induced by global warming, as well as from anthropogenic overexploitation and contamination.) Within the region, this risk is greatest for Somalia, with some 50 percent of its population exposed to unsafe salinity levels (Araya et al, 2023). Children and pregnant women are most vulnerable to the health effects of salinity.²¹

Riparian countries often view river basin management in terms of national security and economic sovereignty. However, access to water does not necessarily guarantee security or prosperity. For example, South Sudan has extensive water resources (especially on per-capita basis, see Figure 30), as it benefits both from Nile flood plains and from seasonal rains. However, because it has faced challenges in managing these resources, water insecurity in South Sudan remains high.²² Weak water governance, low levels of investment in water infrastructure,²³ and frequent episodes of political instability and population displacements are widely seen as responsible for this.

Figure 30 Renewable internal freshwater resources (2020)



* In billion cubic metres.
 ** In cubic metres.
 Sources: World Bank, FAO.

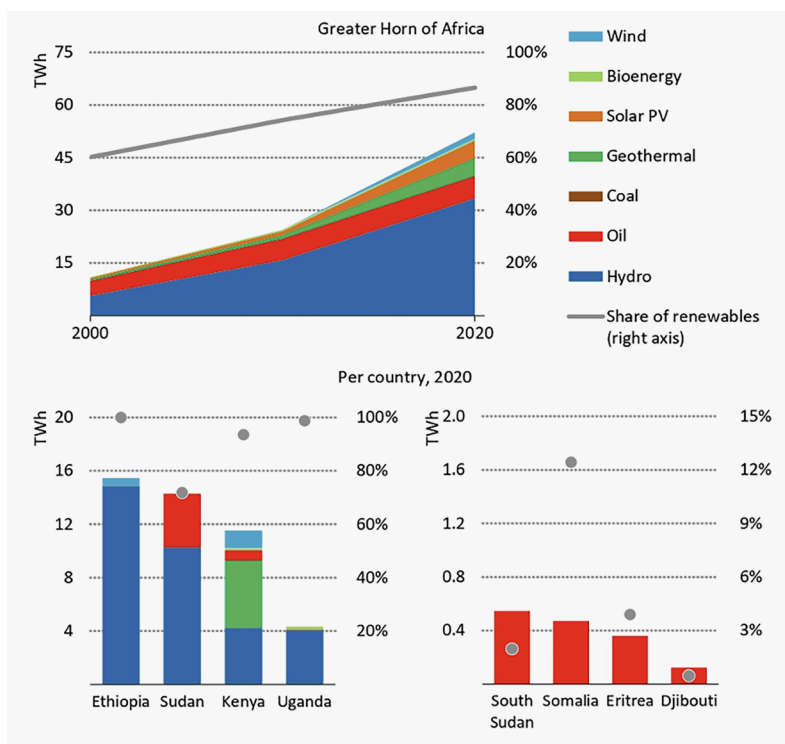
21. High salinity in water creates stress on the kidneys and can lead to high blood pressure and hypertension as well as skin diseases and acute respiratory infection.
 22. The World Resource Institute lists Somalia and South Sudan among the seven countries facing the highest levels of water insecurity globally.
 23. Nearly all public water investments in South Sudan are funded by external grants, rather than the state budget.

4.3.2 Energy systems

Water in the Horn of Africa is vital to energy security. The region has one of world's highest shares of renewables in its energy mix at over 85 percent, due to its extensive reliance on hydropower (Figure 31). Electricity generation in three of the four largest HoA economies (Ethiopia, Sudan, and Uganda) is largely based on hydropower, with Ethiopia and Uganda producing nearly all their electricity from this source. Even Sudan, whose primary export is oil, generates most of its power through dams on the Nile. Investments in hydropower (and, in Kenya geothermal electricity²⁴) have greatly contributed to these countries' development and job creation, as well as to basic services.

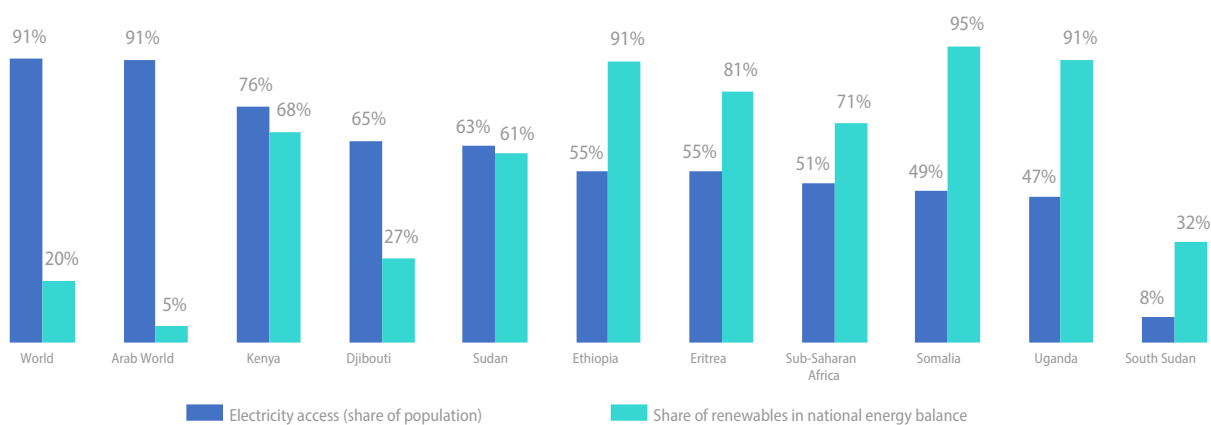
Investments in hydro (and other renewables) have certainly helped these countries to provide electricity to growing shares of their population (Figures 31, 32). Ethiopia and Kenya have been able to significantly increase the percentage of the population with access to electricity (from 10 percent to 54 percent and 17 percent to 77 percent, respectively) between 2010 and 2020. Uganda has also made great strides in electrification through investments in hydropower, increasing the share of its population with access to electricity from nine percent to 45 percent during this time.

Figure 31 HoA electricity generation by fuel source (2020)



Source: IAE (2022).

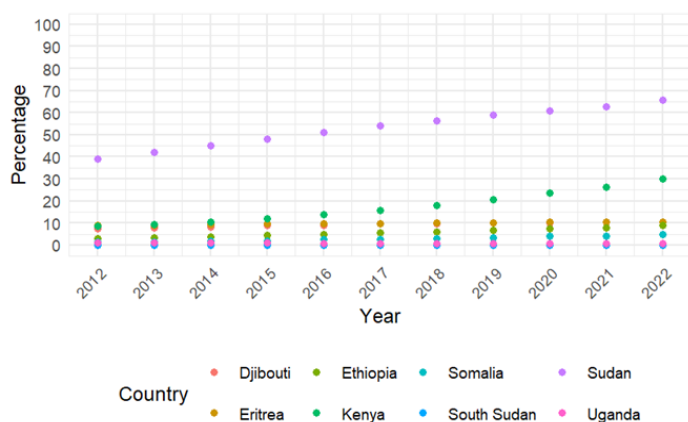
Figure 32 Electricity access and shares of renewables in national energy balances



Source: World Bank. Data are for 2022 or the most recent year.

24. Kenya, which also belongs to the region's top four in terms of GDP, generates about a quarter of its electricity from hydro, and another third from geothermal power.

Figure 33 Access to clean cooking fuels and technologies



Source: World Bank.

Somalia is a special case as it lacks a national power grid outside its main cities. This highlights the importance of additional investments in electricity transmission and distribution (a need that is shared by many of its neighbours). Despite this challenge, however, Somalia’s electrification rate has risen to around 50 percent (thanks in part to the emergence of an [active off-grid power market](#)). However, the vast majority of off-grid operations rely on diesel generators, which has adverse environmental and health effects and does not benefit from the technological progress that is driving down the costs of renewables. Meanwhile, World Bank data indicate that only eight percent of the population in South Sudan had access to electricity in 2022.

The picture is less rosy when it comes to energy for cooking and (where relevant) heating (Figure 33). In 2022, only Sudan was able to provide more than half of its population with access to clean cooking fuels, while in other HoA countries this share was less than a third. In Ethiopia, Eritrea, Somalia, and South Sudan, less than ten percent of the population had access to clean fuels and technologies. These disparities pose significant challenges, particularly for women who usually bear primary responsibilities for household cooking and heating. Limited access to clean fuels

reinforces traditional reliance on biomass (e.g., wood, charcoal, dung), which not only contributes to deforestation but also expose women to harmful indoor air pollution. According to the World Health Organization, indoor air pollution from cooking with solid fuels is a leading cause of respiratory diseases, with women and children (who spend more time indoors) at particular risk.

Despite these advances, the region continues to experience major shortfalls in access to sustainable and reliable energy. Some 140 million people remaining without access to electricity and most people lack access to modern cooking fuels and technologies (IEA, 2022). Meanwhile, thanks to population and economic growth, electricity consumption in the HoA region has been growing by three percent annually over the last decade—growth that seems likely to continue (if not accelerate) for the foreseeable future (Ibid). As power generation from fossil fuels in most HoA countries is now much more expensive than from renewables (in [Kenya](#), for example, a kilowatt hour of electricity generated from diesel- or gas-fired thermal power is four times as expensive as electricity generated from hydropower), demands on the region’s hydropower resources (and on the water underpinning them) seem destined to grow. While other renewables (geothermal, solar, wind) may be able to meet some of these demands, energy-related pressures on the region’s water resources seem destined to grow in perpetuity.

At the same time, Ethiopia, Kenya, and (to a lesser extent Uganda) are bringing more renewable power generation capacity on-line, and as such, are becoming (or could become) net electricity exporters. This highlights the need for regional cooperation to increase investments in the regional power transmission grid. HoA countries’ abilities to import power from neighbours with surplus generation capacity could further increase electrification, lower costs, and increase reliability of supply while also keeping regional carbon emissions low.

The Horn of Africa: A Legacy of Low Carbon Development

The high level of investments in hydropower, along with the additional renewable capacity from geothermal and solar, make the Horn of Africa uniquely capable of demonstrating how to achieve low carbon development. Despite its high vulnerability to climate change, the region maintains incredibly low levels of carbon emissions. In 2020, the greater Horn contributed only 57 Mt CO₂ to global emissions—roughly equal to the emissions of New York City. Even within sub-Saharan Africa and despite its population and economic growth, the HoA countries accounted for only 6.5 percent of all energy-related CO₂ emissions in 2020. Its per capita emissions are similarly low, with the highest regional emitters, Kenya, Sudan and Djibouti, only emitting 0.5 tons of CO₂ per person and the rest of the region emitting around 0.1 tons per person. These figures are well below the global average of 4.3 tons per capita.

It is also remarkable how little national carbon emissions have increased despite rapid population and economic growth. Although population growth rates are falling, the fertility rate in all HoA countries remains above the replacement rate of 2.1. By 2030, the population is expected to increase by 25 percent. Normally, as countries develop, their economic and carbon emissions increase in tandem. This was the pattern for OECD countries as they reached affluency and it is the same for most developing countries today. While historically developed countries continue to bear the greatest responsibility for greenhouse gas emissions, at least some have reached their peak emissions and are steadily reducing national carbon emissions. However, developing economies have not reached peak emissions and most show high percentage of carbon emissions growth. In 2022, developing countries accounted for some 63 percent of global emissions, with this percentage projected to increase as their economies develop further.

However, this is not the case for the Horn of Africa, where the carbon intensity of national electrical systems in Ethiopia, Kenya and Uganda are almost zero. While South Sudan, Eritrea, Somalia and Djibouti continue to generate most of their electricity from oil and gas and thereby have high carbon intensities for electricity, their economies remain small and their capacity to increase output through oil and gas is similarly small due its high costs.

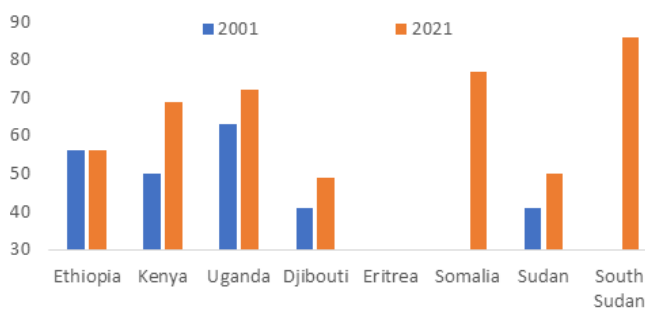
Despite this head start in decoupling carbon and energy intensity from growth, the region's cumulative carbon emissions continue to rise by about 7 percent every year. This is mainly due to population growth which along with increasing purchasing power is creating more demand for transportation. As a result, the transportation sector accounts for about 60 percent of the region's energy-related carbon emissions. This places a premium on: (i) the further expansion of renewable electricity generation (as well as transmission and distribution) capacity—inter alia via the construction of new stations with multi-year water storage capacities; and (ii) expanded inter-state electricity trade, with water-/hydro-rich countries exporting power to deficit countries.

Source: IEA(2022)

4.3.3 Agriculture and food systems

Unfortunately, the impressive advances made in electrification in the HoA countries have not generated commensurate improvements in food security (Figure 34). The number of people classified as food insecure in the Horn of Africa is increasing, particularly in Ethiopia, Somalia and South Sudan. In 2021, the Food Security Information Network (FSIN) identified Ethiopia and South Sudan as being the countries with the highest levels of acute food insecurity. Both countries had populations at the highest level (IPC Phase 5) of food insecurity (401,000 in Ethiopia and 108,000 in South Sudan), where

Figure 34 Prevalence of moderate to severe food insecurity (by percentage of population)



Sources: World Bank, FAO.

adaptive capacities could no longer compensate for the extreme lack of food (Food Security Information Network, 2022). Since then, food insecurity has been further exacerbated by the conflict in Sudan.

As food security is a reflection of food availability and affordability, these high food insecurity levels raise questions about the state of agriculture in the region. In addition to supplying most of the region's food, agriculture is both a major source of employment²⁵ and rural incomes (Salami *et al.*, 2010), and a critical user of the region's water resources. Access to water is often a key constraint on food production—particularly for the smallholder farms that dominate HoA agriculture. Since much of HoA agriculture is rainfed, farmers are highly dependent on the precipitation patterns and plant their crops according to the rainy seasons (Hansen *et al.*, 2011). As rainfall is frequently insufficient, and since irrigation can have major electricity requirements, it is with food security that the water, energy, and food nexus is most apparent (Burney and Naylor, 2012). Food and water insecurities in the Horn of Africa have interacted with conflicts and other crisis drivers, increasing socio-economic vulnerabilities. This confluence can lead households to adopt short-term coping strategies (e.g., largescale livestock sales) that may reduce resilience to future shocks.

Box 2 The virtual water trade

While countries rarely trade in water directly, exports and imports of food (and other water-intensive products) can be seen as implicit or virtual water trade. Countries that are unable to easily meet domestic water needs can compensate by increasing food (and other 'virtual' water) imports, thereby reducing pressures on their water resources. For instance, the Middle East and North Africa import more virtual water through grain imports than the water flowing in the river Nile. Globally this trade is expected to triple by the end of the century as some countries dry up and others become increasingly wet.

This dynamic is at work between HoA countries that have more water available for agriculture and those with less. While Sudan, Uganda, and Kenya are virtual water exporters, the other countries are virtual water importers, the largest importer of virtual water being Ethiopia. Sorghum and maize trade accounted for the largest virtual water flows, 36 percent and 38 percent, respectively, due to the high unit virtual water content and the large tonnage traded. The trade of virtual water is critical to understanding how countries survive water scarcity and is an area in need of greater exploration as a means of resiliency to environmental impacts.

25. According to World Bank data, shares of the labour force in HoA countries engaged in agriculture range from 38% in Sudan to 80% in Somalia.

4.4 Impact of climate change and environmental pressures

4.4.1 Changing rainfall patterns, drought, and heat

The most immediate and significant impact that climate change is having in the Horn of Africa is on precipitation during rainy seasons and the frequency of droughts. Rainy seasons typically occur during October-December and March-May. The predictability of both seasons is of vital importance for farming and hydroelectricity generation, as well as for ground water recharge. Due in part to climate change, rainfall patterns started changing in the 1960s, with the gradual lengthening of the October-December rainy season and the shortening the March-May season (Nicholson, 1997; Wainwright et al., 2019). The [latest IPCC report](#) finds that climate change was responsible decreasing mean precipitation during the March-May rainy season by as much as two to seven percent per decade between 1983 and 2010. Rainy season precipitation is also affected by the southern oscillations of the Indian Ocean, which drive the meteorological implications of the *La Niña* and *El Niño* ocean currents.

As explained in the latest IPCC report, climate change is strengthening the impact of the southern oscillations. These oscillations occur every few years when warm or cold waters are brought in from the Equatorial Pacific and interact with air temperatures. The *El Niño* current brings in warm waters, resulting in higher air surface pressure, whereas *La Niña* brings in cooler waters, reducing air surface pressure. *La Niña* is most closely associated with droughts in eastern Africa; and while *La Niña* usually lasts less than a year, these cycles appear to be lengthening. Weather patterns also vary significantly within the region, particularly between coastal areas and those further inland. The outer rim areas of the Horn of Africa, particularly Somalia and neighbouring regions in Kenya and Ethiopia, are most exposed to this growing impact of the southern oscillation.

As a result, the frequency of droughts in the Horn of Africa has doubled since 2005, from once every six years to once every three years (Gebremeskel et al., 2019). Since 2000, the region suffered 16 droughts, generating food crises affecting millions of people (Funk et al., 2019). Between 2018 and 2023, during an extended *La Niña* period, the Horn of Africa suffered its [worst drought](#) in 40 years. Both rainy seasons failed for five years in a row in Somalia and semi-arid regions in Kenya and Ethiopia. Most harvests likewise failed and some 3.6 million head of livestock perished, pushing some 16.7 million people into [acute food insecurity](#). In light of the socio-cultural (as well as economic) importance of livestock, these losses are particularly devastating.

The latest IPCC report also finds that global temperatures are likely to increase by 1.5°C by 2040. The HoA region is warming slightly faster than the global average, and parts of the region are warming faster than others. Future temperature increases are predicted to be most intense in the inland parts of the region's northern and central territories, especially in northern Ethiopia and parts of Sudan (Otieno and Anyah, 2013). The heat waves likely to accompany this warming trend can be expected to further heighten water stress, health challenges, and food insecurity.

The ND-GAIN Index, which measures national climate vulnerability and resilience, ranks the HoA countries in the bottom 25 percent globally, with Somalia listed as the most vulnerable and least resilient in the world.²⁶ Similarly, within the HoA countries, it is the poorest and most marginalized people who are least able to mitigate the impacts of climate change. Within the region there are significant differences in terms of vulnerabilities to climate change and climate risk-related governance systems. Geographic position, elevation, and many other factors affect how each country is impacted. Under a moderate global warming scenario, South Sudan and Sudan will be the hardest hit with 30 days of extreme heat (with temperatures exceeding 35 degrees) added over the next 20 years. Djibouti and Eritrea would see an additional 22 days of extreme heat, while Kenya, Ethiopia, and Uganda would see 14, nine, and nine days being added, respectively.²⁷

26. See <https://gain.nd.edu/our-work/country-index/rankings/>.

27. See <https://horizons.hdr.undp.org/#/risk>.

4.4.2 Floods and pests

As with the droughts, it is the eastern side of the HoA region which receives the most intensive rains. This is due both to *El Niño* and to the impact of the Indian Ocean Dipole, which creates a circulation pattern that pushes moisture over eastern Africa (Chang'a et al., 2020). (Climate change is also amplifying the effects of the Indian Ocean Dipole, which makes precipitation much more intense.) Intense rainfall events are predicted to increase in frequency and severity, particularly during the October-December rainy season. In 2019, these trends caused some of the worst flooding in the region for decades. They also had the unfortunate side effect of stimulating the desert locust (*schistocerca gregaria*). Heavy rains allow this species to lay its eggs in wet ground, where they remain until the weather warms and hatch together. While normally locusts are solitary creatures, once they reach critical concentrations their behaviour and colour change. A typical swarm can cover 150km in one day and consume as much food as 35,000 people (FAO, 2020). The locusts caused widespread and devastating crop losses, exacerbating food insecurity and affecting nearly a million farming households. The spectre of such outbreaks following floods is an on-going risk in the Horn of Africa, with potentially enormous costs and food security implications.

Intense rainfall need not necessarily recharge ground water reserves (Dunning et al, 2018). Flooding in urban areas, for example, often results in runoff that is directed into rivers and oceans, rather than replenishing aquifers. So even in areas where precipitation remains unchanged, the intensity with which it is delivered can limit the replenishment of ground water and exacerbate water stresses (Cuthbert et al., 2019). All this increases the benefits of multi-seasonal dams for flood control purposes, as well as for irrigation and green energy.

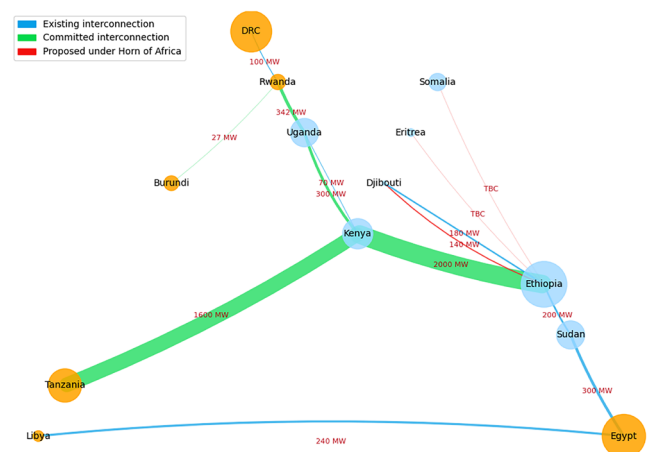
4.4.3 Impact on electricity

Higher temperatures and drought can stress electricity grids, as electricity demand (to run air conditioning) rises while the water needed for hydropower generation evaporates at increasing

rates.²⁸ High temperatures and drought also increase demands on irrigation systems, whose pumping infrastructures tend to be quite electricity intensive. Increased reliance on fossil fuels is not the answer, as the optimal temperature for generating electricity from gas or diesel fuel is 8°C; generation efficiency drops by approximately 0.7 percent with every degree of warming (Şen et al., 2018; Erdem and Sevilgen, 2006). As a result, a turbine running at the same power with the same fuel will produce approximately 215 megawatts of electricity at 15 °C but only 197 megawatts at 23 °C, resulting in an eight percent reduction in power generation efficiency (Şen et al., op. cit.). Further losses may occur during transmission, where efficiency drops by three percent with every degree of warming.²⁹

The anticipated loss of Mount Kenya's glacier, which will likely occur by 2030, will reduce water runoff and hydropower generation, affecting energy security for some 85,000 people (IAE, 2022). Although it is unclear whether overall precipitation will decline in the Ethiopian highlands, higher evaporation rates and more erratic precipitation could impact hydropower generated by the Nile, with potentially large implications for hydropower generation in Ethiopia, South Sudan, and Sudan.

Figure 35 Energy Interconnection Network between Horn of Africa and its Neighbors



Source: Elaborated using Remy, T, and Chattopadhyay, D. (2020)

Note: Blue nodes represent Horn of Africa countries; yellow nodes represent the rest of Africa. Node sizes are proportional to the countries' populations, and edge sizes are proportional to the interconnection capacity (MW).

28. Zhang et al. (2019) find that a one-degree temperature increase in summer days increases per-capita electricity consumption by 0.015%.

29. Higher temperatures also increase the electrical resistance in the circuits that convert photovoltaic charges into AC electricity.

Figure 36 IGAD regional grid integration programme

Project	Value (in million USD)	Corridor	Sector	Sub-Sector
EPIM03 Ethiopia – Somalia Interconnector (500kV) (Horn of Africa Initiative)	1188	Mogadishu Corridor	Energy	Power Interconnector
EPIP06 Ethiopia-Sudan (500kV) Transmission Interconnector (Eastern Africa Green Power Transmission Network Project 6 – Guba (Ethiopia)- Khartoum (Sudan))	514	Port Sudan Corridor	Energy	Power Interconnector
EPIM07 Sudan - Eritrea 66kv power interconnector (Eritrea Section)	8	Massawa Corridor	Energy	Power Interconnector
EPIL08 Multiple 220kV Power Transmission Interconnectors to power the LAPSET corridor	232	LAPSET Corridor	Energy	Power Interconnector
EPID12 Second Ethiopia – Djibouti 230kV Power Transmission Interconnector	100	Djibouti Corridor	Energy	Power Interconnector
EPIN15 Uganda – South Sudan Interconnector (400kV)	300	Northern Corridor	Energy	Power Interconnector

Table 4. 3:Infrastructure Development Programme: Medium-term Plan (2025-2030)

Project	Value (in million USD)	Corridor	Sector	Sub-Sector
EPID23 Ethiopia – South Sudan Interconnector (400kV)	235	Djibouti Corridor	Energy	Power Interconnector
EPID24 Ethiopia – South Sudan Interconnector (230kV)	100	Djibouti Corridor	Energy	Power Interconnector
EPIL16 Kenya – South Sudan Interconnector (220kV)	85	LAPSET Corridor	Energy	Power Interconnector
EPB07 Ethiopia – Somalia Interconnector (230kV) (Horn of Africa Initiative)	40	Berbera Corridor	Energy	Power Interconnector
EPIM09 Eritrea – Sudan Interconnector (230kV)	140	Massawa Corridor	Energy	Power Interconnector
EPIM10 Eritrea – Ethiopia Interconnector (230kV) (Horn of Africa Initiative)	75	Massawa Corridor	Energy	Power Interconnector

Table 4. 4:Infrastructure Development Programme: Long-term Plan (2031-2050)

Project	Value (in million USD)	Corridor	Sector	Sub-Sector
EPIN34 Kenya – Uganda upgrade on Uganda side to 400kV	520	Northern Corridor	Energy	Power Interconnector
EPID34 Djibouti - Somalia 230kV Power Transmission Interconnector	100	Djibouti Corridor	Energy	Power Interconnector
EPIP32 Sudan – South Sudan high voltage power transmission interconnector (Khartoum – Kosti – Renk – Malakal – Juba high voltage power transmission interconnector)	1152	Port Sudan Corridor	Energy	Power Interconnector
EPIL29 2 nd Kenya – Ethiopia 400kV Power Interconnection (Horn of Africa Initiative)	1115	LAPSET Corridor	Energy	Power Interconnector
EPIM020 Kenya – Somalia power transmission line (Somalia section) (Horn of Africa Initiative)	192	Mogadishu Corridor	Energy	Power Interconnector
EPIM021 Garissa – Wajir – Mandera 220kV power transmission line	192	Mogadishu Corridor	Energy	Power Interconnector

Source: IGAD Regional Infrastructure Master Plan (2022)

In light of these risks, and of the importance of hydropower and the unequal distribution of water resources, expanded electricity trade in HoA countries highly advantageous. Many countries in the region already rely on imported power (Figure 35). Djibouti, for instance, imports 80 percent of its electricity from Ethiopia’s hydropower. Regional cooperation to expand the high voltage power connections between countries with significant electricity generation potential and those lacking generation capacity (such as Somalia and South Sudan) can help build climate resilience and meet national energy needs. More power and better transmission links could also help HoA countries to further extend their national grids, especially to rural areas. Expanded intra-regional power trade can also deepen mutual interests in regional integration and cooperation.

The integration of national grids into a larger regional power pool is championed by IGAD, whose [Energy Sector Strategy for 2050](#) calls for a regional power pool that is “interconnected, harnessing the abundant renewable resources available within the region... utilizing the least cost principles for development within and beyond national boundaries.” As seen in Figure 36, the plan is based on exporting the ‘excess’ power now being generated by Ethiopia and Kenya

(and later by Sudan and Uganda) to South Sudan, Eritrea, Djibouti and Somalia—who in addition to facing difficult electrification challenges, are currently relying on expensive fossil fuel-generated power.

4.4.4 Impact on oceans and marine life

According to the IPCC, the average rate of sea level rise during 2006-2018 was approximately 3.69 mm annually; robust acceleration is anticipated in the future. The thermal expansion of seawater and the melting of ice sheets and glaciers are major causes of sea level rise. Current projections indicate that current rates of sea level rise will double by the end of the century as Antarctic melting increases.

Higher sea levels create risks for coastal flooding, particularly in built-up areas along the coast where proximity to the sea and the weight of buildings tend to lower the height of the land. The lowering of land occurs faster if the cities extract ground water from coastal aquifers. Higher seas also increase saline intrusion into the ground water supply, rendering the water undrinkable without treatment. Among the HoA countries [Somalia](#) is the most exposed to such risks (Alnaser, N.W., Alnaser, W.E., & Al Aali, H.H., 2024 Figure 37).

Warming seas also affect marine life, fisheries, and food security. Warmer, carbon-filled seas are generally more acidic and have less capacity to carry oxygen. This disrupts marine life, damaging fish's ability to reproduce and causing them to migrate to cooler waters (Lumbebe et al., 2022). In the face of these trends, the maximum catch potential for fisheries in Somalia and Kenya is expected to decline by at least 15 percent by 2050 (World Bank 2019, p. 19). As marine fishing in Kenya generates over \$3 billion annually, this could have notable implications (Kimani et al., 2021).

4.5 Impact on human development

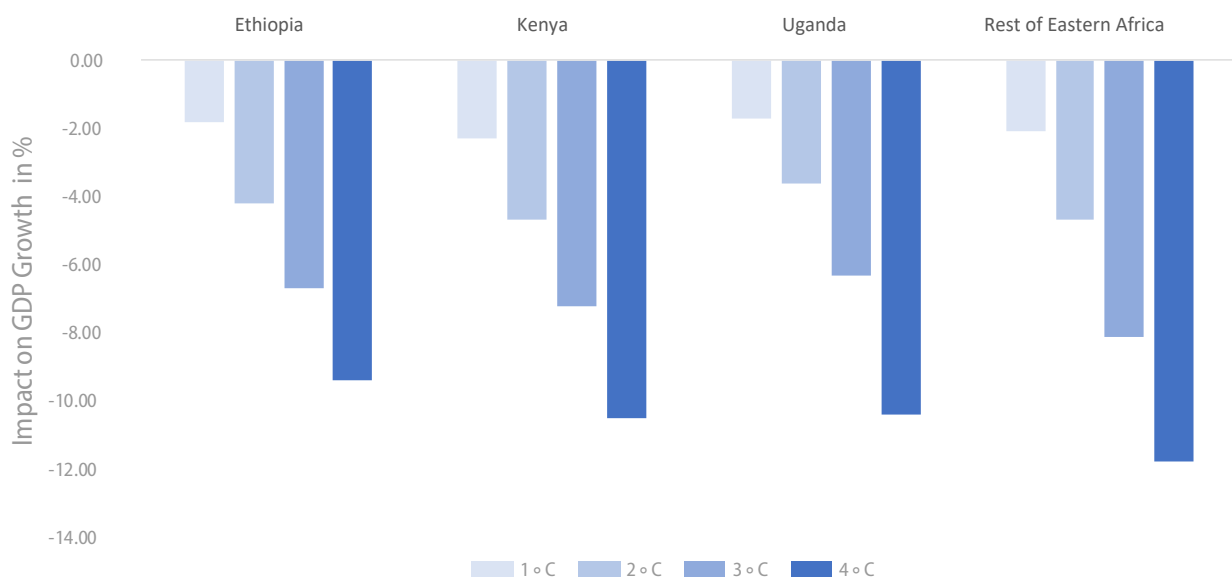
Although it is difficult to predict the extent to which climate change will affect economic growth and livelihoods, the impact is clearly negative, and the Horn of Africa is one of the hardest-hit regions globally. Kompas et al. find that annual GDP declines in HoA countries could reach double digits in the long run (Figure 37).

Lower productive capacity due to climate change can be self-reinforcing as it can reduce resources for investments in climate change adaptation. This could translate into fewer income- and employment-generation opportunities and less investment in health, education, and other public services that are essential for development. Investments in hydropower generation infrastructure with multi-year storage capacity, and in regional cooperation to ensure that the benefits of more sustainable management of the region's water, energy, and food production resources are widely distributed, can play important roles in preventing such outcomes.

4.6 Conclusion

Few areas of the world are more exposed to environmental shocks than the Horn of Africa. The slow onset pressures of climate change are changing rain patterns and increasing the frequency of droughts and intensity of floods. Increasing heat is

Figure 37 Possible long-run (to 2100) impacts of 1-, 2-, 3-, and 4-degree temperature increases on HoA economies' annual GDP growth (in percentage points)



Source: Kompas, T et al (2018)

Note: *data is only available for the countries displayed above. Rest of Eastern Africa includes countries not in the Horn of Africa region such as Tanzania, Rwanda and Burundi

impacting the health of people, animals and crops as well as reducing the productivity labour, water, and electricity. While local communities have developed coping mechanisms (e.g., agropastoralism), many of these are coming under increasing strain as the region is buffeted by multiple, deepening crises.

Increased regional cooperation along the water-energy-food nexus would in many instances help HoA countries to better manage these challenges. Measures to increase intra-regional trade in food and electricity could bring benefits across the region. Water resource management (as concerns both river basins and ground water) can be similarly improved via regional cooperation. National efforts to promote human development would be well served by accelerating the implementation of existing regional initiatives in these areas (e.g., AfCFTA, the IGAD regional power transmission programme), as well as by developing new ones.

5 Fostering effective governance and peace

Governance challenges and conflicts threaten human security in the Horn of Africa and slow human development progress. Over the past few years, the HoA region has witnessed constitutional crises arising during transitions. In parts of the region deep seated politics of identity, power, and resources, coupled with historical grievances, and the impacts of natural disasters and pandemics, have contributed to longstanding fragility and aggravated governance challenges. By contrast, a climate of effective governance, peace and security provides the best environment for human development to flourish.

The effective implementation of the normative and institutional frameworks of the African Union (AU) and Regional Economic Communities (RECs), including the African Peace and Security Architecture and the African Governance Architecture, is central to responding to these challenges. The timely ratification and implementation of the AU [Charter on Democracy, Elections, and Governance](#), the African [Charter on the Values and Principles of Decentralization, Local Governance, and Local Development](#), and the [Protocols on the Free Movement of Persons](#) is also urgently needed. IGAD's draft [Protocol on Democracy, Governance, and Elections Treaty](#) should also be finalized and ratified.

The League of Arab States (LAS) which includes among its members 22 countries in the Middle East and Africa, including three in the HoA region – Djibouti, Somalia, and Sudan – also has a mission to promote peace, security and stability by preventing conflict, resolving disputes. LAS cooperates with the UN since 1989, and has developed several frameworks for promoting peace and security.³⁰ These include the [Arab Strategy for Youth, Peace and Security](#) launched in 2024, as well as earlier strategies on Women, Peace and Security, and

Counter-Terrorism. Coordination of efforts between the UN's Department of Political and Peacebuilding Affairs (DPPA) which has a mandate to prevent and resolve conflict, and regional bodies including LAS, the AU, IGAD and other partners will be key to ensuring long-term peace and security in the HoA. This will be important in particular for resolving the conflict in Sudan.

5.2 Peace, security, good governance, and human development

Since World War II, peace, good governance, and development have increasingly been seen as interrelated and mutually reinforcing. Since the 1960s, the protection of human rights has been regarded as a precondition for peace and stability. By the same token, many countries in conflict have under-performed in various areas of development. Numerous studies show how insecurity and conflict undercut economic growth and development (Alesina and Perotti, 1996; Collier and Hoeffler, 1999; Polachek and Sevastianova, 2012).

Peace has conventionally been defined as the absence of war, conflict, or violence within or between countries. However, over time, this definition has been challenged as insufficient, due in part to its focus on 'negative' peace (i.e., the absence of violence—see Galtung, 1969). There is now broad consensus among policymakers and academics that peace should also encompass factors (e.g., justice, human rights, accountability) that help entrench 'positive' peace (Diehl, 2016).

'Democratic peace theory' points out that democracies rarely go to war with each other (Layne, 2002; Owen, 2000; Ray, 1995). Likewise, 'contact theory' argues that increased economic

30. <https://dppa.un.org/en/league-of-arab-states>

(and other) interactions among potential adversaries can prevent misunderstandings and break down the prejudices that can otherwise generate conflict (Allport, 1954). Factors that prevent wars between democracies include shared norms, institutional checks and balances that disperse powers, electoral and legal accountability that constrains power, and respect for the rule of law. In light of the interconnectedness of countries through such channels as trade, production, macroeconomic policies, infrastructure, and the free movement of people, economic interdependence can play a pivotal role in contributing to positive peace. States with robust economic integration are generally less likely to engage in conflicts with each other, because war disrupts beneficial economic exchanges and may result in substantial losses. When countries are economically entwined, the costs of conflict are more likely to outweigh the benefits. Economic integration can thereby foster environments in which peace is not just a moral choice but also a pragmatic one, aligning national interests with cooperation rather than conflict.

While this dynamic may serve as a strong incentive for countries to maintain peaceful relations, not all economically integrated regions have successfully prevented wars. The real-world dynamics of international relations are influenced by a multitude of cultural, historical, geopolitical, and socio-economic factors. Sustaining peace therefore requires combining conflict prevention with peace-making and peacebuilding. This includes addressing the root causes of conflict by upholding the rule of law, accountability, democratic governance, and the protection of human rights, as well as 'promoting sustained and sustainable economic growth, poverty eradication [and] social development.'³¹

The 'human security' paradigm gained prominence in the 1990s as a way to emphasize that the protection of individual security and human rights is as important as 'national security'. In fact, threats and challenges to human security go beyond national security, defence, and law and order, to include political, economic, and social parameters

that guarantee freedom from fear and the risk to life. Human security therefore explicitly links aspects of development, human rights, humanitarian needs, and national security. Taken as a totality, human security embraces economic, health and education, food, environmental, political, community, and personal security.

The nexus between peace and development is reflected in many African and global policy documents, including the UN 2030 Agenda for Sustainable Development (among others³²) and various instruments of the AU.³³ These assert that sustainable development cannot be realized without peace and security, and that peace will be at risk without sustainable development. The SDGs reflect this linkage; for instance, Goal 16 (Peace, Justice, and Strong Institutions) promotes peaceful and inclusive societies for sustainable development. A five-point plan promoted by the UN-backed Agenda for Humanity stresses the importance of political leadership in preventing conflicts. Humanitarian crises can reach catastrophic levels when conflicts based on identity politics, power politics and resource competition lead to social unrest, popular uprisings, civil war and state failure. The Agenda for Humanity also calls for investment in frontline responders to strengthen the institutional capacities of local authorities and communities. In this way, the Agenda for Humanity links peacebuilding, humanitarian action, human security, and effective governance to political leadership and action.

These factors show the complex inter-relationships between human development, good governance, peace, and security. While peace, justice, and security are certainly not the only factors underpinning economic growth, there is wide consensus that they are key to sustainable human development. While there is no automatic relationship between economic growth and human development, good governance can play a crucial role in linking the two.

With good governance, economic growth enables increased expenditure on human development, such as healthcare, education, and poverty

31. [UN Security Council Resolution 2282 \(2016\)](#).

32. Specifically, UN Security Council Resolution 2282 (2016) and UN General Assembly (UNGA) Resolution 70/262, both on the reform of the UN peacebuilding architecture; UNGA Resolution 66/290 on human security; and UNGA Resolution 70/1 on SDGs.

33. The AU Constitutive Act, Agenda 2063, the OAU Convention Governing the Specific Aspects of Refugee Problems in Africa; the African Charter on Human and Peoples' Rights (the Banjul Charter); the Protocol to the African Charter on the establishment of an African Court on Human and People's Rights (Protocol on Arusha Court); the AU Convention for the Protection and Assistance of Internally Displaced Persons in Africa (the Kampala Convention); the African Charter on Elections, Democracy and Good Governance; the African Peace and Security Architecture; the African Governance Architecture; the African Union Humanitarian Policy Framework; and the AU Policy on Post-Conflict Reconstruction and Development.

reduction. Good governance can translate economic growth into human development gains, which can in turn improve the quality of institutions and their governance systems. Effective governance, peace and security also enhance state capacity, since higher levels of income, education, and health make for a more skilled and healthier workforce, boosting labour productivity and GDP. They also build national capacities to anticipate and prevent shocks, as well as the resilience to effectively respond and adapt to peace and security threats. Without human development, economic growth may be unsustainable.

These concerns are well reflected in Africa's regional treaties and governance documents. Article 22 of the [African Charter on Human and Peoples' Rights](#) codifies "the right to their economic, social, and cultural development with due regard to their freedom and identity and in the equal enjoyment of the common heritage of mankind". It further stipulates that "States shall have the duty, individually or collectively, to ensure the exercise of the right to development". The 1967 UN International Convention on Economic, Social and Cultural Rights ([ESCR](#)) includes the rights to adequate food, to adequate housing, education, to health, social security, to take part in cultural life, to water and sanitation, and to work. Both these instruments contain core elements of human development (as does the African Charter).

5.2.1 Diversity governance

In considering the Horn of Africa it is important to differentiate between 'state' and 'nation' (Salih and Markakis, 1998). Many states with diverse ethnic, religious, and geographic groups within their territory have failed to build a nation in which these different groups can identify themselves as belonging to the same citizenry, polity, and state. Some nations are spread across different states, such as the Somali people living in Djibouti, Ethiopia, Kenya, and Somalia. Additionally, some states like Ethiopia, are an amalgam of many nations. The fact that some nations in the Horn are without a state, and that many of the states in the region remain without a nation, is intriguing although not unique (Coquery-Vidrovitch, 2009).

Variants of devolution, decentralization, or federalism have been introduced in Ethiopia, Somalia, Sudan, Kenya, and South Sudan to manage conflicts and tackle deep-rooted challenges related to diversity governance. This reflects the fact that

any nation-building project that tries to impose specific cultures, languages, and religions on other people, risks fomenting discontent, violence, and war. Likewise, reliance on identity politics to mobilize political constituencies, and the formation of sectarian platforms based on ethnicity, religion, and geography, have frequently had disastrous consequences (in the Horn of Africa and elsewhere). In this way, political, military, and social mobilizations can be subsumed by power politics. Political power can become a racketeering and money-making business, with the political marketplace being driven by identity, power, and resource politics (de Waal, 2014).

Decentralization has the potential to better address the challenges of diversity governance, and empower citizens at the local level to help ensure government accountability. Managed correctly, decentralization can also improve cross-border governance and bilateral relations among states. Crucially, in addressing the root causes of the region's ongoing conflicts and governance challenges, the AU, RECs and the states are increasingly embracing the accommodation of diversity and the decentralization of power. For example, the AU has adopted the African Charter on the Values of and Principles of Decentralization, Local Governance and Local Development; and the Charter on Values and Principles of Public Service and Administration. Most HoA states have introduced decentralized constitutional arrangements. Applied with varying degrees of commitment, these efforts towards decentralization of governance have yielded differing levels of success. Unfortunately, the emergence of populist forces has often led to conflicts between forces of centralization and decentralization. Such conflicts have at times resulted in wars or brought with them boundary disputes between sub-national governments, as well as arms proliferation and the militarization of civilians.

5.2.2 Elections

It is widely accepted that inclusive, fair, and transparent elections are a prerequisite for legitimacy of governance. Elections are the most widely accepted means of ascertaining the will of the ruled and the legitimacy of the ruler. Ideally, elections should provide a peaceful process for determining the will of the people as well as building confidence in representational government and helping to bring about greater peace and stability. Currently, elections in the Horn

of Africa range from participatory and relatively tolerant on the one hand to highly contested and largely uncompetitive on the other. Some elections have been marred by physical attacks, detentions, intimidation, harassment of opposition figures, and even killings. Mandates provided by credible electoral victories are sometimes taken as a blank cheque to implement policies without meaningful consultations or accountability vis-à-vis electorates and their representatives. Electoral cycles can also slow down trade, both internally and across borders—especially during campaigns and contested outcomes.

Nonetheless, elections are a regular component of politics in the region (except for in Eritrea and South Sudan). However, as more diverse, connected and vocal generations have joined the electorate, contestation and conflict around voting has intensified. As has occurred in Ethiopia (2005, 2021), Kenya (2007), Uganda (2010), Djibouti (2010), and Sudan (2005, 2015), electoral unrest and violence have sometimes continued in post-election periods and hampered peaceful political transitions (McKnight, 2023). A newer, younger, and more forceful electorate is also putting state institutions under greater pressure by challenging the neutrality, accountability, and strength of peace and security institutions like election management bodies.

Looking beyond the desirability of smooth transfers of power, elections still fall short of mechanisms to maintain peace and bring substantive change to states in the Horn. However, Kenya stands out as an exception because its electoral processes in 2022 and 2017 represent significant milestones in the country's democratic journey (International Crisis Group, 2022). The effective implementation of the 2010 constitution has been a crucial factor in these achievements. This constitution has empowered a robust judiciary capable of independently resolving political disputes, thereby acting as a 'shock absorber' in times of political turmoil.

One of the most notable aspects of this progress is the stark contrast with the events of 2007. The 2007 presidential election in Kenya was marred by communal violence and police killings, casting a shadow over the country's democratic institutions.

However, subsequent elections in 2017 and 2022 highlight significant progress. In 2017, the Supreme Court of Kenya took a landmark decision by annulling President Uhuru Kenyatta's election win, citing irregularities and illegalities in the election process, and ordered a rerun. This bold move underscored the judiciary's independence and its commitment to upholding democratic principles. The court's role in the 2022 elections further reinforced this role. The Kenyan judiciary's ability to perform its duties with a high degree of autonomy can serve as an example for other states in the region. It shows that transformative changes in the nature of the state are possible with determination from political forces, the private sector, civil society, and the international community.

5.2.3 Border disputes over trans-boundary resources

There have been more than 40 disputes over colonial borders in Africa since their original demarcation (Foucher, 1991). These disputes, which have emerged at both inter-state and community levels,³⁴ may be aggravated by small arms proliferation, the presence of armed groups, and the exploitation of mineral resources by transnational companies. These issues are present in the Horn of Africa as well.

There are obvious inherent tensions between the requirements and demands of local communities and the interests of central states over control of natural resources in border areas. On the one hand, through Cairo Resolution 16(I), African heads of state and government have committed themselves to observe the integrity of borders as they existed at the time of national independence. However, colonial legacies have often resulted in imprecision and gaps in historical treaties and maps, inaccuracies in certain legal instruments, and the inconsistent (sometimes non-existent) demarcation of physical borders. Border disputes have at times sparked distrust and instability, with wider regional implications. In some instances, such disputes have escalated into border wars such as the Ethiopia-Somalia war of 1977, the Ethiopia-Eritrea conflict of 1998, the Djibouti-Eritrea conflicts of 1995 and 2008, and the 2012 South Sudanese and Sudanese border-related wars in Abyei and Heglig/Panthou.

34. Whereas inter-state conflicts are between central states, community-level conflicts can be separate from but also become central states' claims on the trans-boundary resources of local communities, or as cross-border disputes (such as those between the Ngok Dinka and the Humr Misseriya pastoralist communities over grazing land and water on the boundary between Sudan and South Sudan).

Fragilities in the borderlands have at times been aggravated by various extra-regional actors, including international resource companies that side with the country that offers them the best concessions. Non-state armed groups are also active participants in border disputes over trans-boundary natural resources. With natural assets such as oil and gas in the borderlands now open to exploitation, areas previously considered peripheral have become centres of attention. This has sometimes increased tensions between traditional centres of government and borderland communities.

To address these challenges, regional institutions have been implementing programmes aimed at strengthening borderland governance. UNDP's work in Africa's Borderlands and IGAD's efforts on informal cross-border trade have emphasized the importance of borderland cooperation and empowering local communities (including informal traders, particularly women) and authorities in border areas. These initiatives also seek to transform transnational governance of border areas, both to improve living conditions for border communities and to reduce cross-border conflict potential.

In recent years, the importance of trans-boundary resource governance has grown in the continental and regional development agendas. Previously, this issue was primarily addressed from a security and military perspective by governments. However, this has not been supported by commensurate increases in the regulation and supervision of such activities, which remain weak. River water usage and maritime borders are likewise increasingly contested between HoA countries. Recent discoveries of undersea oil and natural gas and tensions in fisheries management have resulted in increased claims and counterclaims over maritime borders. Given the complexities of demarcating such boundaries, these claims are not easy to resolve. This problem is exemplified by a dispute over a 100,000km² triangle of the Indian Ocean claimed by both Kenya and Somalia, which resulted in a legal battle that was escalated to the International Court of Justice (Calcuttawala, 2016).

In response, there have been several efforts by the AU, RECs, and through trilateral agreements to address challenges related to transboundary resources and border governance. Through the [Niamey Convention](#) on Cross Border Cooperation, the AU Border Programme, and the AU Border Governance Strategy, the AU Commission has focused on

turning colonial borders into a soft and green border over the past two decades. The AUBP has assisted South Sudan, Sudan, and Uganda in resolving their border disputes, by conducting consultative meetings and establishing the AUBP Technical Team of African experts on border issues. Future work on transboundary resource management could benefit from this team's expertise.

Legislative, institutional, and political processes like the Comprehensive Framework Agreement, the transboundary Nile Basin Initiative, and the tripartite negotiations between Egypt, Ethiopia, and Sudan, are now being used to govern the use of the Nile as a transboundary resource. The construction of the Grand Ethiopian Renaissance Dam in Ethiopia, while a source of tension, could also present opportunities for integrative cooperation. Once completed, it will be Africa's largest hydroelectric plant, contributing significantly to the Eastern Africa Power Pool.

5.2.4 Governance of natural resources

For many years central governments have tended to regard HoA borderlands as economically unviable and of secondary development concern. Consequently, these areas have largely remained outside the purview of the state, with reduced community access to public services. This has often given rise to rampant grievances that have threatened the stability of states and fostered the emergence of insurgent armed groups, contrabandists, illicit traders, cattle rustlers, smugglers, and traffickers. As a result, many borderlands have become highly militarized and securitized.

However, new discoveries of strategic or otherwise valuable resources that extend across the Horn's national borders may be changing this. Natural resource exploration, and concomitant competition over their exploitation has surged in recent decades. While the incomes produced by natural resource exploitation may bring considerable human development benefits, competition over these resources can increase conflicts within countries as well as between them, especially when a significant portion of the assets lies in border areas. Traditionally, the main resources sparking transboundary disputes have been oil, gas, water, and to a lesser extent, fisheries and grazing lands (UN Economic Commission for Africa, 2018). In recent years, however, newer resource issues have set off clashes. For example, Gum Arabica plantations in border

areas have become another source of contention between Sudan and South Sudan. At USD16/kg, Gum Arabica is more valuable than oil and can be harvested three times yearly without polluting the environment.

Some HoA countries face challenges in ensuring that their natural resources are managed for the public good. Income from minerals and oil may formally be nationally owned, but central budget decisions may do little to support communities in the areas of their extraction (which can also suffer the environmental consequences of resource exploitation). Resource exploration may in these ways spawn new conflicts. Competition for resources and the encroachment of central states in search of minerals and energy have also brought governments into conflict with local communities. Pastoral conflicts caused by cattle rustling (as well as by disputes over control of territory, water points, and pastureland) combined with growing HoA commercial livestock exports reflect the fact that cattle rustling is now highly commercialized and backed by armed groups equipped with vehicles and lethal weapons.

As security threats become international in nature and transnational in reach, borderlands have increased in economic and political importance. When poorly governed, border territories have become fertile ground for the small arms proliferation and the spread of radical ideologies, with some parts of the region serving as a base for extremist groups. Since 1993 Ethiopia, Kenya and Uganda each have faced terrorist attacks by violent extremist organizations. The African Transition Mission in Somalia (ATMIS), the successor to AMISOM and consisting mostly of troops from the Horn of Africa, has been engaged in combatting Al Shabaab terrorism and helping the Somali government to establish functional authority in the country. After 16 years of operation, ATMIS is set to conclude by the end of 2024.³⁵

5.3 The state of peace and security in the Horn of Africa

The Horn of Africa is the scene of complex, mutually reinforcing but often contradictory dynamics between human development, peace and security, governance, conflict, and displacement. Peace and governance in the region have suffered significantly over past decades. Humanitarian crises have reached catastrophic levels as a result of conflicts based on identity and power politics, as well as resource competition. Identity politics can mean exclusion based on ethnicity, religion, and geography. Like other injustices, such is often exacerbated by extreme poverty, which in turn breeds discontent and can lead to violent extremism. Many people in HoA countries feel insecure and aggrieved, lacking viable incomes and experiencing deprivations at the hands of non-state actors and even state institutions. These dynamics are further complicated by manifestations of climate change, in particular floods and droughts, as well as geopolitical competition. The region has seen two protracted civil wars, which ended in referendums that brought independence for South Sudan from Sudan and Eritrea from Ethiopia. Somaliland declared independence from Somalia in 1991 after a decade of fighting. While most conflicts are intrastate, conflict zones sometimes become proxies for regional and extra-regional competition. Interventions by extra-regional entities can further complicate regional peace and security.

Conflict and violence have brought loss of life, injuries, destruction of property and development reversals to millions of people in the Horn, many of whom have been compelled to leave their homes, communities, and native countries in search of a more secure existence. In 2021 alone, 11.4 million people were internally displaced as a result of conflict in the region. The UN High Commissioner for Refugees (UNHCR) reported in that year that, of 15 million refugees and asylum seekers worldwide, an estimated five million were from the Horn of Africa, making it one of the world's largest sources of displaced people.³⁶

35. While ATMIS is to conclude by the end of 2024, discussions are ongoing between the AU and the UN for a follow-on mission which will be referred to as AUSSOM (the African Union Support and Stabilization Mission in Somalia).

36. Internal Displacement Monitoring Center (2021). Global Internal Displacement Database | IDMC ([internal-displacement.org](https://www.internal-displacement.org)) (accessed 31 January 2023)

Box 3 Regional implications of the war in Sudan

The ongoing war in Sudan has unleashed a devastating wave of destruction, in the form of loss of life, massive displacements, and grave threats to food security and critical infrastructure. At the end of 2023, the conflict had claimed some 12,000 lives, while a staggering 7.8 million people had been displaced inside (IDPs) and outside Sudan (refugees and returnees), according to UNHCR. When added to the 3.8 million internally displaced due to past conflicts (according to OCHA), this means that Sudan is currently grappling with unprecedented 11.6 million displaced people—the world's largest internal displacement crisis. Over 3 million children are displaced, both within and outside the country. The conflict has severely disrupted the agrifood sector, leaving half of the population in dire need of humanitarian assistance. Staple goods have witnessed dramatic price hikes, basic food imports (e.g., wheat flour, oil, tomato paste) have become scarce, while access to cash and transportation has become arduous in many parts of the country. According to Elbadawi and Fiuratti (2024), the conflict could cause Sudan to lose more than \$2.2 trillion (relative to a counterfactual peacetime scenario with a 4 percent annual growth rate).

The war is deeply interwoven with the power, identity, and resource competition dynamics that permeate Sudan's politics. Sudan's geographical location is especially significant, spanning the geopolitically vital but often volatile regions of the Horn of Africa, North Africa and the Middle East. Sudan borders seven countries, each with its own set of security challenges that touch closely on the politics of Khartoum. For example, while the Nile river basin has almost existential importance for Sudan, it shares this fate with Egypt (downstream) and Ethiopia (upstream). Fighting in Sudan's western Darfur region spills over into neighbouring Chad and vice versa. Sudan shares a border with the Tigray region of northern Ethiopia, which has only recently emerged from a gruelling conflict involving Eritrea. There are also tensions along other parts of the shared border with the Amhara region of Ethiopia and Eritrea. Meanwhile, weapons and soldiers from the Central African Republic, Chad, and Libya often flow across the Horn's porous borders.

Neighbouring South Sudan formally broke away from its northern neighbour in 2011 after one of Africa's longest and bloodiest civil wars. That border remains unstable as well. As rival military groups struggle for control of gold, agricultural, and other resources, the Sudanese government has invited Gulf states to invest in fertile areas that border the Nile. Non-state actors are also present in Sudan, such as Russia's Wagner Group (which is accused of smuggling gold out of the country). Russia and Turkey have also been seeking to establish military bases in Port Sudan, which would give their warships access to one of the world's busiest and most contested maritime supply lines and military-strategic chokepoints.

Since acquiring independence from British rule in 1956, political instability, military coups, and authoritarian rule have figured prominently in Sudanese politics. Following a popular uprising and subsequent military takeover in 2019, a transitional government headed by a Sovereign Council was established, supported by the Sudanese Armed Forces (SAF) and the paramilitary Rapid Support Forces (RSF), which held the posts of Sovereign Council Chair and Deputy Chair, respectively. Together with a civilian prime minister, the SAF and RSF were tasked with holding democratic elections. The civilian-led transitional government was short-lived, as in 2021 the head of the Sovereign Council and the RSF leader ousted the civilian prime minister. The SAF and RSF (both of which have significant domestic and external military and political support) subsequently turned on each other. The outcome of this conflict could determine Sudan's future political landscape—both in terms of centre-periphery relations as well as any transition to constitutional democracy. It could also have significant implications for relations with neighbouring countries.

The present war (the ground zero of which is the capital Khartoum, whose 2021 population was estimated at 5 million) is part of a larger, complex conflict in Sudan, with communal, sub-national, cross-border, and global dimensions. A centre-periphery power struggle, it is exacerbated by the politics of identity and resources and has become a driver of the conflict between SAF and RSF.

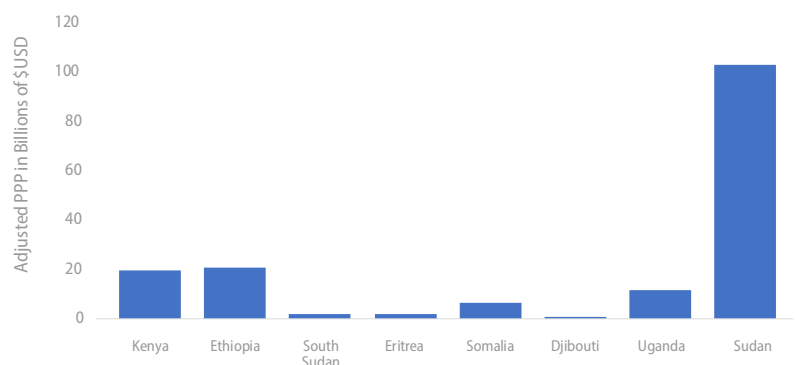
Centre-periphery frameworks focus on the distribution of economic, political, and cultural power in the relationship between a dominant core region (e.g., Khartoum) and subordinate, peripheral regions. Capital cities in several African countries have thrived, while other regions have been marginalized, often affected by warfare, exploitation, and the inequitable distribution of resources. This pattern is particularly evident in Sudan, where Khartoum's relative prosperity contrasts with unequal development in much of the rest of the country. While the on-going battles in Khartoum are devastating the city, their impact could be even more severe in Sudan's outlying regions. Marginalized and neglected for years, these regions lack basic services, adequate infrastructure, and economic opportunities. They are highly vulnerable to the destructive consequences of the continuing warfare.

The recent history of the Horn of Africa is marked by difficult post-conflict transitions, as well as by insufficient efforts towards ensuring accountability and transitional justice. Unconstitutional and ill-planned transitions can wreak havoc, bringing with them political instability, social unrest, and more conflict and displacement.

A transition to peace will require addressing centre-periphery relations as well as regional inequalities and imbalances. The conflicts in the HoA region show that the prospect of stability without constitutional democracy and diversity governance is a chimera. Arguments that constitutional democracy and accountability must be sacrificed to maintain a notional regional stability can be equally misleading.

Estimating the economic impact of conflict (Figure 38) can provide a clearer perspective on the critical role of peace in fostering human development (Mueller and Tobias, 2016). The 2022 Global Peace Index found that violent conflict of the Horn of Africa generated \$163 billion in losses and damages, representing 29 percent of the global total. In 2023, these figures likely surged significantly due to the escalation of the war in Sudan, which resulted in an estimated³⁷ \$125 billion in economic losses within the first year of conflict, massive displacement of over 10.5 million people, and widespread destruction of infrastructure, healthcare systems, and essential services across the region. These economic consequences are immediate and can have lasting detrimental effects. They disrupt productivity, undermine business confidence, and hinder human development. Over time, such disruptions can reduce investment and public revenues, diminishing the effectiveness and legitimacy of national institutions.

Figure 38 Estimated economic impact of violence in the Horn of Africa (for 2021, in billions of purchasing-power-parity-adjusted US dollars)



Source: Global Peace Index (2022).³⁸

Note: PPP stands for purchasing power parity. GPI 2022: The economic impact estimates the direct and indirect costs of violence as well as an economic multiplier applied to the direct costs. See <https://reliefweb.int/report/world/global-peace-index-2022>.

37. See <https://www.undp.org/arab-states/publications/livelihoods-sudan-amid-armed-conflict>

38. GPI 2022: The economic impact estimates the direct and indirect costs of violence as well as an economic multiplier applied to the direct costs. See <https://reliefweb.int/report/world/global-peace-index-2022>.

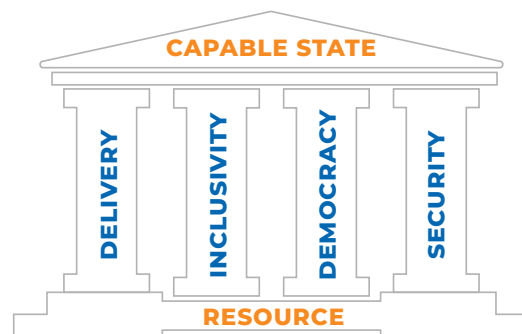
Conflict and violence are not the only factors undermining human security and human development in the Horn of Africa. Strong national institutions are clearly linked to such aspects of human development as health and education (Fonseca et al, 2020). SDG 16 (the governance dimension of the global goals) is widely recognized as playing a catalytic role in the achievement of all the SDGs, because without effective governance and state capability it is impossible to eradicate poverty and hunger, provide access to health, education, and energy, foster innovation, build infrastructure, and ensure inclusive sustainable growth. Prevention of violence against women, children and vulnerable groups is vital to encouraging respect for human rights, including gender equality. Increased social justice, open and responsive governance and the reduction of corruption and illicit financial flows are further critical avenues for fostering human development and achieving the SDGs.

The Horn follows a long stretch of coast in the Red Sea and Gulf of Aden, key global maritime transport arteries. As a strategic transit to the Suez Canal, with the Bab el Mandab Strait as its natural military and supply choke point, this coastline has long been an important element in the wider international security order. Perhaps for these reasons, the Red Sea and Gulf of Aden have attracted interest from the world's great and middle powers. The continued presence of foreign military forces in, and the militarisation of, the Red Sea and Gulf of Aden pose a security threat to the region and complicate relations between its states. Although competition between external powers for global influence in the Horn may not lead to direct military confrontation, it may significantly affect regional peace and security. Conflict-related disruptions to maritime shipping can have global implications and a direct impact on the region's development prospects.

5.4 The state's irreplaceable role in governance

To address deep-seated sources insecurity in the Horn, states in the region must embrace political governance as their core function and strengthen responsiveness to public demands through inclusivity, transparency, and accountability (Figure 39). Better governance helps to accelerate development progress and peacebuilding, while human development strengthens state, social, and individual capacities to withstand adversity. It can also reduce competition over resources and help to manage power contests, increase tolerance of diversity and, ultimately, limit violent conflict. Human

Figure 39 Key pillars of a capable state



Source: Mehari Taddele Maru 2014

development and effective governance can go hand in hand to sustain peace, while peace can foster human development through strengthening effective governance and social resilience.

Human development therefore requires effective governance that fosters peace and security. Human development and governance can in turn enhance state capacity, as higher levels of income, education, and health support a more productive workforce and increase state revenues. More importantly, states performing well on HDI are better able to predict, prevent, respond, and adapt to threats to peace and security. Human development, peace and security, good governance, and human rights are therefore closely intertwined.

Prospects for peace, security and development in the Horn of Africa are therefore unlikely to significantly improve if the quality of governance in the region does not improve. This pertains in particular to governments' relationships with their populace and their commitment to creating an empowered citizenry as the ultimate guarantor of good governance. Elected governments must deliver basic public services to their nationals while at the same time exercising and maintaining power legitimately. Citizens must ensure that officials are held accountable, and that corruption is exposed and dealt with decisively.

Many HoA states face challenges both to their legitimacy and to their delivery of public goods

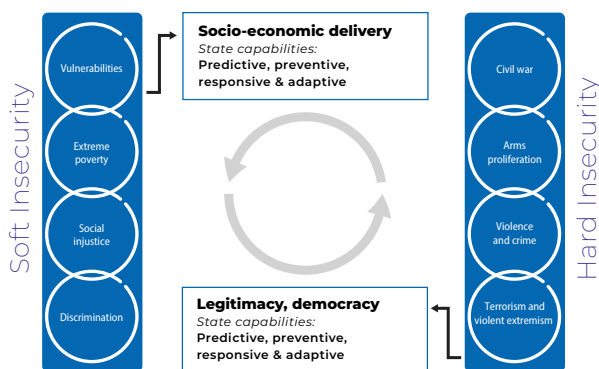
(Figure 40). Low levels of political participation and the absence of effective constitutional mechanisms for the peaceful transfer of power weaken legitimacy and effectiveness in popular opinion. Poverty and its associated injustices push poor and aggrieved people towards violent extremism.³⁹ When legitimacy and delivery are not maintained in tandem, social stability becomes elusive (Figure 41).

Amartya Sen (one of the architects of the human development paradigm) has pointed out that

famines rarely occur in democracies (i.e., in countries in which there is accountability and a free press). Furthermore, democracies seldom go to war with each other, rarely face significant dysfunction in the transfer of power, and are less likely to commit atrocities against their populations. Governments' perceived legitimacy and the authority to rule is granted to them by the people, which reinforces the positive interplay between governance, peace and development. Capable and responsive governance can also strengthen service delivery through community participation and robust contributions from non-state actors. By contrast, insufficient service delivery and eroding trust in government, combined with the absence of effective constitutional frameworks for peaceful transfers of power in times of public discontent, have led at times to violent uprisings in the Horn. Through the populist abuse of identity, religious, resource, and power politics, large numbers of unemployed, technologically 'connected' and vocal youth can provide fuel for political mobilization around local grievances, with a consequent potential for social unrest.

Integrative and interventionist mandates, along with the normative, institutional, and collaborative frameworks of the RECs and the AU, focus on transforming HoA states in terms of both norms and capabilities. If implemented effectively, these frameworks can help address the challenges facing the Horn of Africa, enabling the region to

Figure 40 State capabilities as instruments for addressing sources of insecurity



Source: Mehari Taddele Maru 2012

Figure 41 Measures of delivery, inclusivity, legitimacy, and security



Source: Mehari Taddele Maru (2012)

39. See <https://www.undp.org/prevent-violent-extremism/preventing-violent-extremism-report-series>.

capitalize on the opportunities it faces. However, upheavals in the Horn have further shown the serious challenges to the peace and governance architectures of the UN, the AU, IGAD, and EAC—despite timely early warnings (such as the Conflict Early Warning and Response Mechanism) provided by their own institutions. Civil wars epitomize the failure of preventive interventions in the peace and security architecture at the national, regional, and continental levels.

5.5 The responsibility to protect in the Horn of Africa

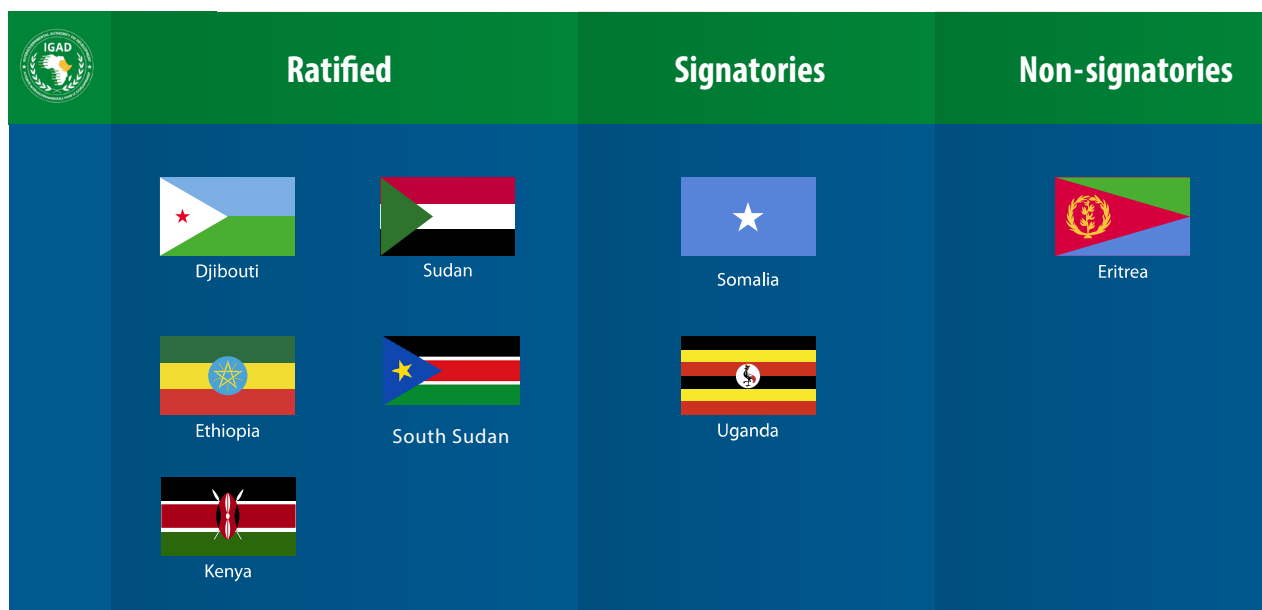
UN protocols, the responsibility to protect (R2P) principle, and the Constitutive Act of the AU and its Protocol Relating to the Establishment of the AU Peace and Security Council require the international community to intervene when a government fails to protect its citizens from mass atrocities. They also require the cooperation of the international community and require the UN Security Council and the AU Peace and Security Council to take action. However, despite its moral significance and the considerable rhetorical support accorded to the R2P principle over the past two decades, the most recent wars in Sudan and Ethiopia provide

further evidence of the failure of R2P to prevent wars—even given adequate early warning—with a consequential catastrophic humanitarian impact and accompanying egregious atrocities.

The R2P and the AU peace and security architecture have been challenged in five main areas:

- *Prevention:* Ineffective measures by the UN Security Council (UNSC) and AU Peace and Security Council (PSC) to prevent the Sudan and Tigray wars from starting, or their subsequent escalation and ensuing atrocities, including early warning and preventive actions and response mechanisms, preventive diplomatic efforts and targeted sanctions.
- *Response:* The inability to evaluate the decisions and effectiveness of the UNSC and AU PSC reactions to atrocities, including considerations of mediation, military intervention, humanitarian aid, and prosecution of perpetrators.
- *Protection:* The inability to evaluate the measures taken to protect civilians during two years of armed conflict, including the provision of humanitarian corridors and civilian protection areas, the establishment of no-fly zones, the deployment of peacekeeping forces, and monitoring and verification mechanisms.

Figure 42 Ratification of the African Charter of Democracy, Elections, and Governance by IGAD Member States



Source: Mehari Taddele Maru, AU (2023)

- *Cooperation:* Inadequate coordination between the UNSC (particular its 'A3' African members) and the AU PSC, in applying R2P and various AU instruments.
- *Accountability:* Failure to evaluate efforts to hold perpetrators accountable for atrocities and to support global and national initiatives to ensure accountability, such as those of the International Criminal Court and the International Commission of Human Rights Experts on Ethiopia, including the investigation and prosecution of war crimes, crimes against humanity, and genocide.

5.6 Regional economic communities and the AU: Their complementary roles in governance, peace, security, and human development

Governance issues have traditionally been subordinated to threats to peace security and economic integration and development in the work of such inter-governmental regional bodies as the AU, IGAD, and EAC (Maru and Fassi, 2015). Increasingly, however, these bodies (in conjunction with the international community) are focused on promoting good governance, including dispatching election observers in HoA countries. As these inter-governmental bodies are sensitive to matters influencing relations between states and societies, they can be reluctant to act on what can seem to be domestic issues of governance, democracy, elections, and human rights, for fear of objections from member states. This principle of non-interference in internal affairs constrains RECs and the AU in discharging their mandates under AU constitutive documents. Regional interventions on the governance issues in HoA countries can therefore remain 'controversial and slow' (ibid).

To better address these challenges, the AU has adopted the African Charter on Democracy, Elections, and Governance. Five IGAD member states have ratified the Charter (Somalia, Uganda, and Eritrea are yet to do so—see Figure 42). In 2012, IGAD drafted a Treaty that aims to replace the 1996 IGAD Establishing Agreement and the draft Protocol on Governance, both of which are still awaiting ratification. These instruments would more strongly empower IGAD and improve the standing of its work on democracy, elections, and governance by turning

the implied governance mandate it presently holds into an explicit, fully-fledged one.

5.6.1 Integrative infrastructure in the Horn of Africa

With over 71 projects worth some \$76 billion, the Horn of Africa has made significant investments in building integrative infrastructure (IGAD, 2016). This includes the development of roads, air and marine ports, and railways, with the road sector being the most dominant. Infrastructure development features some 13 transport corridors that are link the region and encompass over 4,000 km of road construction, of which more than 1,500 km has been completed. A notable example is railway construction between Djibouti and Ethiopia, covering 4,744 km. Launched in 2016, it became operational within the same year. The Lamu Port and the Lamu-Southern Sudan-Ethiopia Transport Corridor (LAPSSET) alone is projected to cost \$22 billion. Additionally, there are projects aimed at exporting hydro-electric power and water concessions to neighbouring countries under the Eastern Africa Power Pool (EAPP). Finally, air connectivity in the region and beyond is among the most advanced in Africa and continues to expand.

These integrative infrastructures are expected to generate positive multiplier effects for communities located in their proximity. They could help other actors (such as public service suppliers) to better service borderland areas. Investment in transportation and communication infrastructure attracts people, skills, and capital. The fast mobility of people, goods, and services helps foster integrative opportunities. Furthermore, economically integrated countries create interdependence that incentivizes the avoidance of conflicts and their peaceful resolution and management. This can lead to mutual economic benefits, creating incentives for countries to maintain peaceful relations.

5.7 Conclusion

The African [Charter on Human and Peoples' Rights](#), as mirrored in the human development paradigm, emphasizes how responsive and effective governance can enable people to enjoy not only civil and political rights but also the broader spectrum of socio-economic and cultural development. It explains how inclusiveness, transparency, and accountability (as pillars of responsive governance) are important for populations facing governance

challenges, conflicts, climate impacts, and other humanitarian crises. Those facing disasters have the right to be informed about potential levels of risk, and governments are expected to respond to citizenry in need. Effective governance and peace are at the same time unsustainable without human development. The sluggish pace of human development in the Horn of Africa is thus both a cause and consequence of bad governance, violent conflict, and social unrest. Countries that perform badly in governance and human development indices are also prone to more conflict and human displacements.

The main determinant of peace and security in the Horn of Africa continues to be the quality of governance—particularly in terms of insufficient diversity governance and mismanagement of post-conflict transitions. Many of these governance challenges are further exacerbated by climate change and its associated water, energy, and food insecurities. Underdevelopment remains the principal multiplier of vulnerability because it reduces the ability of communities and individuals to withstand adversity. Poverty, exclusion, and climate-related natural disasters can create fertile breeding grounds for various threats to peace and security, deflecting leadership resources and leaders' attention and weakening state capacity to deliver core functions.

Governments that fail to respond to popular demands for greater participation in public affairs risk violent protest. Countries that embrace diversity in governance and the decentralisation of power, while recognising the need for accountability, transparency, administrative efficiency, constitutionally stipulated dates for elections and a robust, independent judiciary, generally score much higher on the HDI (and other development indices). Responsive and accountable governance remains the basis for overall improvements with respect to peace, security, and human development opportunities.

External factors, such as transnational threats and geopolitical competition in the region also have a major effect on peace and security in the Horn. Given the presence of military powers in the Red Sea and the Gulf of Aden, concerns have grown regarding peace, security, and the special needs of land-linked countries. The commercialization and importance of the political economies of ports in the region have surged while the exploitation of natural maritime resources has intensified. However,

currently structured multilateral cooperation opportunities in the region and viable forums for robust, transformative dialogue remain limited. In this regard, the region has very robust normative and institutional frameworks to facilitate cooperation within the Horn and with extra-regional actors. For example, the AU and IGAD have established a ministerial taskforce on the Red Sea and Gulf of Aden to improve relations between coastal and landlocked states, strengthen partnerships with states across the Red Sea, and engage strategically with global players active in the region.

Part III

Moving forward

Pathways for sustainable human development

HoA countries possess strategic geopolitical locations and considerable human and natural resources. However, they face challenges associated with climate shocks as well as conflicts and crises, which have resulted in dire humanitarian consequences and displacement of many in the regions. Human development progress has suffered as a result.

Collectively reinforcing regional cooperation can strengthen the foundations for peace and security in the Horn of Africa, thereby helping countries to create virtuous circles of investing in human development, which in turn can contribute to continued economic growth and good governance.

To realize this vision, this report investigates three key inter-related areas in which the HoA countries could better leverage the region's potential: increasing intra-regional trade as a development pathway; enhancing collaborative natural resource management as a development enabler; and bolstering regional security and governance as a development foundation. While considered separately in dedicated chapters above, these issues are in fact closely linked. Without a stronger emphasis on regional cooperation, increases in intra-regional trade (and their associated income- and employment-generation benefits) are unlikely. More effective regional cooperation is also key to more sustainable natural resource management, which must underpin efforts to build resilience against climate (and other) shocks and increase food and energy production that can boost intra-regional food and energy trade and support national food and energy security aspirations. Reforms to improve the quality of governance are likewise central to national and regional efforts to better manage the food-energy-water nexus, as well as to ensure competitive elections, peaceful transfers of power, and better managements of borderlands.

The main recommendations emerging from the report's analysis in each of these areas, which reflect the integrative and mutually reinforcing nature of these directions, are presented below. Implementing these recommendations will require concerted and coordinated actions undertaken by governments in the HoA countries, as well as regional bodies like IGAD and the AU, as well as the private sector, civil society, researchers, and the public at large. Support from extra-regional and international actors (development partners and donors), to strengthen the enabling conditions for human development in this important and strategic region, is also needed.

Increasing opportunities for intra-regional trade

Trade reforms, including reductions in (or the elimination of) tariffs and non-tariff measures in the Horn of Africa, can bring important economic benefits that can in turn be invested in human development across the region.

Effective trade reforms should focus on four key areas:

- *Fast-track trade reforms*, including reductions in non-tariff measures and tariffs, to strengthen regional value chains and their development benefits. This should allow HoA countries to capture higher value-added activities, create better-paying jobs and spur local economies. For some sectors, the drafting of strategic roadmaps of relevant regional and global value chains can help eliminate unnecessary trade barriers.
- *Prioritize the implementation of AfCFTA* and other relevant regional trade-enhancement initiatives. HoA countries that have not yet signed and ratified AfCFTA are encouraged to consider accelerating national approval processes. Countries that have already prepared national implementation strategies are encouraged to accelerate their implementation, while countries that have not yet prepared such strategies are encouraged to do so.

- *Invest in trade-related transport, digital, communications, border-management, finance, and other infrastructures*, to reduce trading costs and help formalize informal economic activities. Governments and regional bodies should accelerate the completion of integrative projects like the LAPSET and EAPP.
- *Increase active labour market investments in skills needed in sectors (e.g., logistics, IT, tourism, domestic trade) benefitting from trade liberalization.*⁴⁰ Where possible, this should be combined with the expansion of social assistance for groups not in the labour force (e.g., children, the elderly), to build household resilience vis-à-vis future shocks.
- *These measures should be supported by reforms addressing lacunae in domestic business environments*, to strengthen traders' resilience to future shocks. Improvements in business registration procedures, tax administration, and public procurement to reduce informality and increase MSME access to finance and commercial services are particularly important.

Regional cooperation for sustainable natural resource management

In order to harness the benefits accruing from more sustainable natural management along the food- energy-water (and climate change) nexus, the following measures are particularly important:

- *Promote the cooperative management of regional electric power transmission infrastructure* (where possible and appropriate), as this can support expanded electricity trade within the region. In line with IGAD's Energy Sector Strategy for 2050, power deficit countries can use imported electricity to cover national needs, while countries with power generation capacity that exceed their national transmission and distributions capacities can benefit from increased electricity exports. Because HoA power surplus countries rely on hydroelectricity for the bulk of their power needs, regional cooperation to expand

electricity trade also means the expansion of green energy. Together with the adoption and more robust enforcement of national energy efficiency standards, the expansion of regional power transmission networks can increase access to electricity and accelerate green transitions across the Horn.

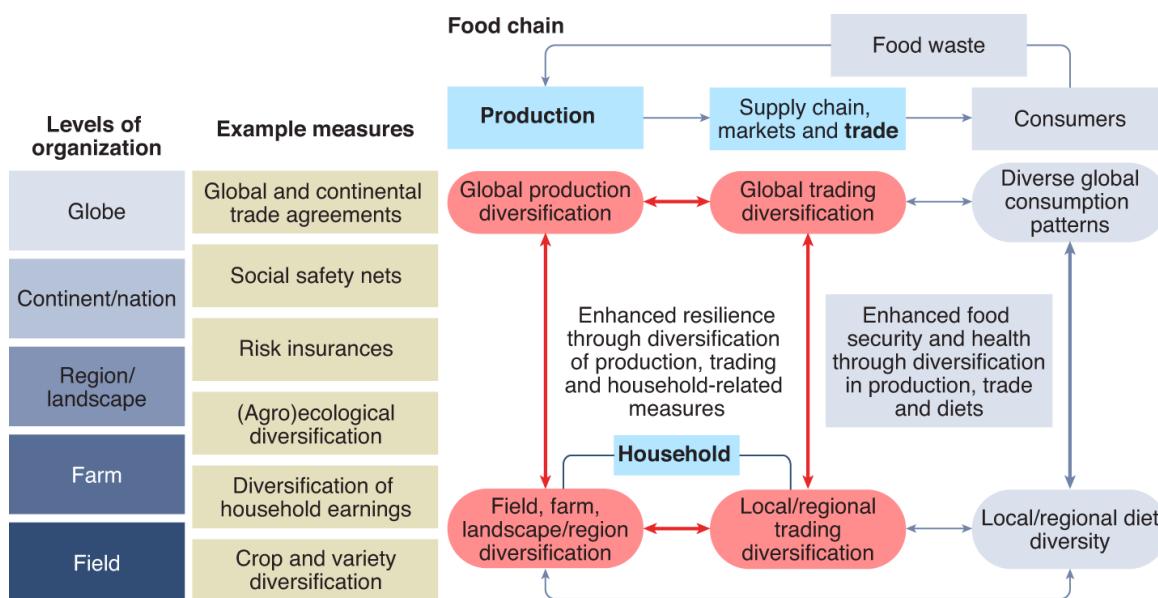
- *Accelerate investments in energy efficiency.* National efforts to improve energy efficiency often receive less attention than the expansion of renewables, but if implemented at scale, they can be far more cost-effective—especially when they are supported by regional initiatives.⁴¹ Energy demand associated with automobile use is growing rapidly, and is the source of the majority of carbon emission growth in Kenya and Ethiopia. Given the low emissions and costs of electricity generation in these countries, moves toward electrifying national transportation sectors could have significant benefits in terms of lowering carbon emissions (and other forms of air pollution)—especially if combined with increased investment in public transport. While electric cars have yet to significantly penetrate the market, the use of digital two- and three-wheelers is increasing quickly (IEA, 2020).
- *Promote the construction and cooperative management of hydropower stations with multi-year water storage capacity* (where possible and appropriate). Many climate forecasts anticipate increased precipitation variability in the Horn of Africa, with episodes of drought accompanying (or followed by) episodes of flooding. More hydropower stations with multi-year water storage capacity would allow HoA countries to capture more water during wet seasons, for use within their own borders during dry seasons and/or to export either directly or virtually (via sales of agrifood, hydroelectricity, and other water-intensive goods and services) to other parts of the region. In keeping with UN Water documents, downstream country concerns about possible negative water security implications can be addressed via the Nile Basin Initiative, as well as the creation of inter-

40. Examples of programmes that could be expanded in these areas include:

- Sudan: Creation of Job opportunities for youth in Sudan through Labour Intensive Work Opportunities; Small Business for Sea Port Ex- workers Communities at Red Sea State; Stabilization of Livelihoods through Creation of Youth Employment in Eastern Sudan; Microfinance for Young and Poor Producers in Rural Areas in Darfur; and Accelerated Learning Programme, including life-skills and improved access to employment opportunities for out-of-school children and youth (Joint Project with UNICEF).
- Somalia: UN Joint Programme on Youth Employment, Alternative Livelihoods to Piracy.

41. HoA regional organizations working to harmonize energy regulatory environments include the Regional Centre for Renewable Energy and Energy Efficiency for North Africa, the East African Centre of Excellence for Renewable Energy and Energy Efficiency, the Energy Regulators Association of East Africa, and the Regional Association of Energy Regulators for Eastern and Southern Africa.

Figure 43 Diversification for food system resilience



Source: Hertel et al. (2021).

state consortia on other river basins that can be supported by international development partners and can afford downstream countries participation in water management decisions affecting them.

- *Accelerate the cooperative exploration and exploitation of the region's groundwater reserves.* The use of groundwater in HoA countries is modest (Cobbing and Hiller, 2019). On average, just over one percent of cultivated land in the region is equipped for irrigated agriculture; and of this only about three percent is equipped for irrigation using groundwater. Moreover, a number of HoA high-yield aquifers are located in border areas (MacDonald et al., 2012), pointing to a need for cooperative approaches. Although many of these aquifers are below arable lands, cost considerations, low population densities, and incomplete mapping and exploration have limited their exploitation. Increased investment in mapping and monitoring dynamics in these aquifers could increase opportunities for farmers and communities to access these reserves.
- *Reduce food insecurity through agricultural diversification.* Sustainably addressing food insecurity requires systems-based approaches that recognize the interrelations between global, national, and local supply chains, as well as between agriculture, water, and energy (Figure 43). Diversification is needed in crop cultivation, animal husbandry, and food imports

(Tscharncke et al., 2021). It should extend to diversifying income sources, insurance schemes, and social benefits. Diversifying crops and cultivation methods can also improve soil quality and biodiversity (Hufnagel et al, 2020). Diversifying the types of food available has dietary and health benefits, particularly at the early stages of human development (Keenan et al., 2021). Expanded reliance on cooperatives (which inter alia maintain stores of seeds and other assets and manage water systems) can help to diversify farm incomes and better manage limited resources.

- *Increase investments in early warning systems.* Early warning systems are one of the most effective ways of preventing and managing environmental shocks. Building on the experience of the Climate Prediction and Application Centre in Nairobi (which is linked to the World Meteorological Organization provides climate monitoring and forecasting services for IGAD member states) can strengthen regional and national climate information systems. For instance, in 2017, FAO and Kenya's National Drought Management Authority released funding in advance of a cyclone to strengthen the resilience of at-risk communities and households. By providing information and cash transfers to fishing communities and pastoralists, action was taken to store nets and animal feed, and to set up flood defences before the storms arrived (FAO, 2018).

- *Invest in agricultural insurance.* Crop and livestock insurance are increasingly viewed as critical post-disaster responses in the Horn of Africa (World Bank, 2022). Insurance schemes (particularly those that are backed by the public sector or secondary guarantors) allow for greater resilience than simple reliance on local adaptive capacities. Instead of the community directly affected by the shock responding alone, insurance mechanisms can bring a wider participation base and deeper capital reserves to support affected communities (Hertel, 2021). Index-based insurance systems, in which farmers enrol at the beginning of the season, with each farmer paying the same premium rate, are becoming increasingly popular and widespread. In the event of a drought or flood, the scope of loss is determined not by costly inspections of individual farms but by the information provided by meteorological authorities or official crop yield estimates per locality (Hazell et al., 2010). Such insurance systems are playing growing roles in developing countries, with nearly 80 percent of farms in India and China already covered. However, their role in HoA countries remains limited—in terms of both farm households and types of losses covered. More robust support for introducing these systems in the Horn, and for scaling up those systems that are already in place, could reduce food insecurity and build resilience against shocks.
- *Accelerate the implementation of governance reforms to reduce unsustainable natural resource management and climate risks.* These reforms should have both vertical (e.g., decentralization to allow communities to contribute local knowledge to decision-making processes) and horizontal (e.g., using digital tools to support better cooperation between ministries of water, power, and agriculture) dimensions. Likewise, gains from expanded intra-regional trade are more likely to be broadly distributed if border communities are afforded greater participation in trade-related decision-making, and if governments work well with the civil society groups that represent local interests and can serve (where appropriate) as local service providers.
- *Governments should design and implement holistic national development strategies that capture synergies across economic, social, and environmental objectives.* For example, state investments in the construction of hydropower stations with multi-year water storage capacities can both reduce climate/ disaster risks (accelerating progress towards SDGs 11 and 13) while reducing food and water insecurities (accelerating progress towards SDGs 2 and 6). These strategies can also prioritize investments in health, education, and social protection, helping to ensure that gains from trade translate into tangible human development improvements. Similarly holistic, area-based development approaches can be applied in borderland communities and other sub-national regions facing acute food, energy, or water insecurities. Where appropriate, governments should work with local governments, civil society, and the private sector to increase access to healthcare, education, and other basic services in borderlands and other vulnerable communities.
- *National elites should look to address governance deficits by practicing constitutional democracy through support for active political pluralism and competitive elections.* Governance lacunae in the region remain important triggers and accelerators of threats to peace and security. Without effective constitutional governance, prevention and response to threats to national and human insecurity are much more difficult (if not impossible).
- *Governments should invest in national peace and security architectures, to strengthen in-house capacities for risk prediction, prevention, response, and adaptation.*
- *HoA states and RECs should accelerate the adoption, ratification, and implementation of treaties and protocols on governance, cross-border trade, transboundary resource sharing and the free movement of persons.* To effectively implement the AU Border Governance Strategy, initiatives on transboundary resource governance must build the capabilities of RECs in border governance and transboundary resource sharing. This requires a robust mandate, proportionate resource allocation, and a focus on the participation and livelihoods of borderland communities. Supporting the empowerment of peripheral and borderland communities through devolution, decentralization, and federalism will be crucial. RECs should focus on building member state capacities to deliver and distribute public goods with sufficient inclusivity to strengthen state legitimacy, enhance security, and mobilize additional resources. Borderland governance may also be strengthened through initiatives like UNDP's Africa Borderlands Centre and IGAD's Informal Cross-Border Trade initiative.

- *Regional bodies* (such as the AU, IGAD, and the EAC) *need to support the ratification and implementation of instruments aimed at promoting decentralization.* These include the African Charter on the Values and Principles of Decentralization, Local Governance, and Local Development, as well as the African Charter on Democracy, Elections, and Governance, and the Protocols on the Free Movement of Persons.
- *Regional bodies require significant reforms,* in terms of changes in mandate and institutional setup. Reforms (which would need to be carried out in cooperation with national governments and relevant sub-national entities) are needed to produce a mission shift in the AU, IGAD, and EAC, to support transitions (from discharging interventionist mandates to fulfilling preventive functions). Necessary measures here include strengthening the institutional capacities of regional bodies like the IGAD and EAC. IGAD requires enhanced legal standing if it is to more effectively promote democratic election processes and governance; the implied mandate it presently enjoys should become an explicit, fully-fledged one. For these reasons, in 2012 the Council of Ministers directed the finalization of a draft treaty and creation of new organization structures to replace the 1996 IGAD Establishing Agreement. This treaty, which was ratified in June 2023, grants IGAD a stronger mandate and opens doors for its effective transformation. Once the draft Protocol on Governance is adopted following the Treaty's ratification, IGAD will have all the tools needed to support the region's governance, peace, security, early warning and human development priorities.

Annex 1

African regional economic communities' member states

CEN-SAD	Burkina Faso, Central African Republic, Chad, Comoros, Cote d'Ivoire, Djibouti,* Egypt, Eritrea,* The Gambia, Ghana, Guinea-Bissau, Libya, Mali, Mauritania, Morocco, Niger, Nigeria, Senegal, Sierra Leone, Somalia, Sudan,* Togo, Tunisia
COMESA	Burundi, Comoros, Democratic Republic of Congo, Djibouti,* Egypt, Eritrea,* Ethiopia,* Kenya,* Libya, Madagascar, Malawi, Mauritius, Rwanda, Seychelles, Somalia,* Sudan,* eSwatini, Tunisia, Uganda,* Zambia, Zimbabwe
EAC	Burundi, Democratic Republic of Congo, Kenya,* Rwanda, Somalia, ⁴² South Sudan,* Tanzania, Uganda*
ECCAS	Angola, Burundi, Cameroon, Central African Republic, Chad, Democratic Republic of Congo, Equatorial Guinea, Gabon, Republic of Congo, Rwanda, Sao Tome and Principe
ECOWAS	Benin, Burkina Faso, Cape Verde, The Gambia, Ghana, Guinea, Guinea-Bissau, Ivory Coast, Liberia, Mali, Niger, Nigeria, Senegal, Sierra Leone, Togo
The Arab Maghreb Union	Algeria, Libya, Mauritania, Morocco, Tunisia
Horn of Africa	Djibouti, Eritrea, Ethiopia, Kenya, Somalia, South Sudan, Sudan, Uganda

*Also in the Horn of Africa.

42. Somalia was formally invited to join on 24 November 2023 during the 23rd ordinary summit of the heads of state. The treaty of accession was signed on 15 December 2023 at the presidential residence in Kampala, Uganda, with Somalia having 6 months to complete its ratification of the treaty after which it would officially become a member. On February 10, 2024, Somalia's Parliament endorsed the treaty of accession. Somalia deposited its instruments of ratification on 4 March 2024, thus becoming the eighth member of the organisation.

Annex 2

Methodology used in estimating trade impacts

a. Gravity model

Gravity modelling is widely used in international trade analysis, metaphorically drawing from Newton's law of gravity. It is based on the supposition that trade volumes between two economies are significantly influenced by their economic size and the distance between them. The two main independent variables in such models are:

Economic size: The model posits that larger economies (as measured by GDP) are more likely to engage in higher volumes of trade. This is based on the premise that larger economies produce and consume more goods and services, thereby having greater 'gravitational pull' in trade activities.

Distance: Geographic proximity plays a crucial role, as the model suggests that countries closer to each other tend to trade more. Distance is expected to negatively affect trade due to the higher transport costs and logistical complexities associated with moving goods over longer distances.

By analysing the economic sizes and geographic distance between HoA countries, gravity modelling can uncover markets or sectors where trade volumes are significantly lower than expected, given these economies' capacities and proximities. Gaps between actual and predicted trade levels can then be used to help identify potential barriers to trade and opportunities for enhancing economic integration and growth among these countries.

The gravity model, as applied in the context of international trade, mirrors Newton's law of gravity in physics (Equation 1), positing that trade flows between two countries are directly proportional to their economic size (often measured by GDP) and inversely proportional to their geographic distance:

Equation 1

$$F = G \frac{m_1 m_2}{r^2} \qquad T_{ij} = G \frac{Y_i Y_j}{D_{ij}^k}$$

T_{ij} : trade flow from country "i" to country "j".

G : The gravitational constant represents the "trade constant" in a trade gravity model, which can be influenced by factors such as free trade agreements, common languages, etc.

$Y_i Y_j$: The economic "mass" is usually measured by the GDP of country "i" and "j", respectively. The assumption is larger economies have a greater pull in trade.

D_{ij} : the distance between the two countries, which generally has an inverse relationship with the trade flow; greater distances tend to lead to less trade due to higher transportation costs and other factors.

k : a measurement of how sensitive trade is to change in distance between trading partners.

Gravity models frequently employ ordinary least squares (OLS) regressions, which require logarithmic transformation of both sides of Equation 1. However, this transformation is problematic in the HoA context because it is undefined for zero trade values, which is a common occurrence in the region. Such observations cannot be directly included in the regression analysis using a log-transformed model. This exclusion could lead to biased estimations and an incomplete understanding of the trade

dynamics within the region. Moreover, Santos Silva and Tenreyro (2006)⁴³ have showed that the log-linearization of the model in the presence of heteroskedasticity leads to inconsistent estimates.

Equation 2

$$\ln(T_{ij}) = \ln(G) + \ln(Y_i) + \ln(Y_j) - \ln(D_{ij})$$

To address this shortcoming, Santos Silva and Tenreyro employ a Poisson pseudo maximum likelihood (PPML) model, which does not require log transformation of the trade variables and thus allows inclusion of observations with zero trade values. This feature is crucial for analysing the trade in the HoA region, where erroneous reporting of no bilateral trade and unobserved trade (due to data limitations) are common. Moreover, the Poisson

estimator is consistent in the presence of fixed effects, which can be entered as dummy variables as in simple OLS.⁴⁴ Staub and Winkelmann (2012) found that the PPML model remains consistent even in cases where there is an excessive number of zero values. Additionally, the interpretation of coefficients is straightforward: even though the dependent variable in Poisson regressions is specified in levels rather than logarithms, the coefficients of any independent variable can be interpreted as simple elasticities.

Data sources and variables

In addition to GDP and distance, other factors (e.g., the presence of a common language or trade agreements, a common colonizer) enter the model as regressors (independent variables). Global Peace Index (GPI) scores⁴⁵ have also been included as a regressor, in order to model the effects of regional instability on bilateral trade flows (see Table 3).⁴⁶

Table 3 Summary variables regressors and sources

Variable	Description	Type	Source
Distance	The geodesic distance between the most populated cities of two countries, measured in kilometers (km).	Bilateral	CEPII
Common language (comlang_off)	A binary variable indicating whether two countries share a common official or primary language.	Bilateral	CEPII
Trade agreement (fta_wto)	A binary variable indicating if the pair of countries are engaged in a regional trade agreement (source: CEPII, WTO).	Bilateral	CEPII, WTO
Common colonizer (comcol)	A binary variable indicating if the pair of countries share a common colonizer post 1945 (see full list in appendix X).	Bilateral	CEPII
Global peace index (log_peace_o)	The natural logarithm of the Global Peace Index for a country.	Unilateral	Institute for Economics and peace

43. The Log of Gravity, J. M. C. Santos Silva and Silvana Tenreyro, 2006.

44. The international model of International Trade: a User Guide, Ben Shepherd, United Nations ESCAP, 2016.

45. The GPI is a composite indicator with three components: domestic and international conflict (with six sub-indicators), social safety and security (with 11 sub-indicators), and militarization (with six sub-indicators).

46. Exports were the primary dependent variable (following the approach traditionally employed in gravity models). Export data was sourced from the CEPII database (which collects data from multiple sources, including UNCOMTRADE and the IMF). The model specification includes fixed effects for each directed pair of countries, accounting for bilateral trade characteristics from country "i" to country "j" and from country "j" to country "i" separately. Time-fixed effects were also included to control for phenomena that affect all HoA countries, such as regional or global economic shocks. Error terms are clustered by the undirected pair of countries (treating "i" -> "j" trade flows and "j" -> "i" trade flows as equivalent) because it is reasonable to expect that shocks that affect trade flows from "i" to "j" would also affect flows from "j" to "i".

The gravity model results (Table 4) suggest that traditional factors apply to the HoA, with distance between trading partners negatively affecting trade volumes and larger economic size positively influencing trade. The sharing of an official language and a common colonial history also appear to play a role in enhancing trade (although the effect of a common language is less certain). The presence or absence of peace (as measured by the global peace index for both exporting and importing countries) does not show a significant effect on trade volumes, suggesting that other factors may overshadow the influence of peace on trade within this region.

Table 5 presents the results of a gravity model analysis focusing on the expected yearly increase in trade percentages between HoA countries. Expected yearly increase (percentage) quantifies the difference between the actual trade observed and the estimated trade predicted by the gravity model; this column highlights instances where the expected trade is greater than the actual trade, indicating a potential for increased trade activity. The results suggest significant opportunities for enhancing trade in the region. For example, South Sudan's predicted trade with Kenya has translates into an expected increase of 729 percent (relative to current levels)—suggesting substantial potential for growth. Eritrea also shows a considerable expected increase in trade with Kenya (144 percent) and Somalia with Ethiopia (113 percent). Other notable expected increases include Sudan's trade with Kenya (40 percent) and Uganda's trade with Djibouti (24 percent).

On the whole, these results indicate that actual trade volumes are significantly lower than what the gravity model predicts, underscoring underutilized trade potential. The gravity model does not predict a significant increase in trade for Djibouti. This may be because Djibouti is already engaging in substantial trade within other HoA countries, thanks to its strategic position as a regional transport/transit hub.

Table 4 Gravity model estimates of HoA trade determinants

HDFE PPML regression		No. of obs	=	218,905	
Absorbing 3 HDFE groups		Residual df	=	8,683	
Statistics robust to heteroskedasticity		Wald chi2(8)	=	1075.17	
Deviance = 9.66500e+10		Prob > chi2	=	0.0000	
Log pseudolikelihood = -4.83261e+10		Pseudo R2	=	0.9098	
Number of clusters (log_dist)= 8,684		(Std. err. adjusted for 8,684 clusters in log_dist)			
tradeflo-e_o	Coefficient	Robust std. err.	z	P> z	[95% conf. interval]
log_dist	-.7474115	.0403266	-18.53	0.000	-.8264502 -.6683728
log_gdp_o	.4119555	.0451265	9.13	0.000	.3235093 .5004018
log_gdp_d	.3551195	.0546528	6.50	0.000	.248002 .4622369
comlang_off	.0554138	.1132192	0.49	0.625	-.1664917 .2773194
comcol	.3879095	.1444621	2.69	0.007	.1047691 .6710499
fta_wto	.5585039	.0740081	7.55	0.000	.4134508 .7035571
log_peace_o	-.4915313	.2672245	-1.84	0.066	-1.015282 .032219
log_peace_d	-.1672627	.1392261	-1.20	0.230	-.4401409 .1056155
_cons	6.14343	1.836912	3.34	0.001	2.543148 9.743712

Source: UNDP calculations.

Table 5 Comparison of Actual vs. Expected trade flows among HoA countries

Origin	Partner	Expected Yearly Increase (%)
Eritrea	Kenya	143.50
Eritrea	Djibouti	7.05
Eritrea	Uganda	9.71
Ethiopia	Uganda	3.51
Somalia	Kenya	13.16
Somalia	Ethiopia	112.82
Somalia	Sudan	33.61
South Sudan	Kenya	729.23
Sudan	Kenya	39.68
Sudan	Uganda	19.73
Sudan	Somalia	14.54
Sudan	Djibouti	3.75
Uganda	Djibouti	24.46
Uganda	Ethiopia	0.36
Uganda	Eritrea	1.54

Source: UNDP estimates.

b. CGE model

CGE models are used to estimate the economy-wide impacts of the scenarios considered here, particularly in terms of GDP, employment, trade, and investment. The GTAP CGE model used here (Corong et al., 2017) starts by mapping the interdependent components of the economy that include industries, households, investors, governments, importers, and exporters, as well as the inter-industry links with countries/regions that trade with a specific economy. It then imposes several behavioural assumptions on economic agents and policy makers (e.g., profit maximization by companies, utility maximization by consumers, fiscal rectitude by governments). Markets are assumed to be perfectly competitive and in equilibrium (as per Walras's Law), and traded goods are assumed to be imperfect substitutes for non-tradable goods.

A central element of the GTAP CGE model (which is used with the GEMPACK software suite) is its global database, which combines bilateral trade, transport, and production data presented in input-output format (to account for inter-sectoral and inter-regional linkages). The dataset and model are maintained and regularly updated by a US-based centre;⁴⁷ data and modelling updates are available via the open access Journal of Global Economic Analysis.

The latest version of the dataset (v11, released in October 2023) is used in this analysis. Building on datasets maintained by UNCTAD, BACI, the WTO, and other institutions, the GTAP model contains data for 141 countries and 65 sectors, covering some 99 percent of the global economy and 96 percent of world population (as of 2017).

The GTAP model traces flows of goods and services within national economies and between trading partners. It allows production, consumption, prices, and other factors to interact with each other, in order to determine final outputs and a country's GDP. It also allows for regional variation effects, depending on demand and supply conditions and domestic and foreign markets.

Each region is assumed to be in balance in private, public, and foreign sectors:

$$S - I = X - M$$

The world is assumed to be balanced in savings and investments, and global exports are assumed to equal global imports:

$$\text{Global Saving} = \text{Global Investment}$$

$$\text{Total Exports} = \text{Total Imports}$$

Agents in the model take the form of a household, firm, government, global bank, or global transport sector. Households supply land, labour, and capital and use the proceeds to finance their expenditure and saving. Households demand both domestic goods and imports. The government uses tax revenues to finance its expenditures on domestic goods and imports. Firms use primary factors of production (land, labour, capital), domestic intermediate inputs, and imported intermediate inputs to produce total output. The output of firms is divided between domestic sales and exports to the rest of the world. The global bank offers an investment portfolio to households for their savings. This is a comparative static model with no endogenous capital accumulation; it is used in recursive dynamic with capital accumulation between periods.

All firms in the model are assumed to face constant return-to-scale technologies. They choose the optimal mix of primary factors independently of the prices of intermediate inputs with the elasticity of substitution between primary factors and intermediate inputs being equal. Firms first decide on their imports and then, based on the composite imports price, decide on the domestically produced intermediate goods (Armington approach). The production structure in the model is divided into three stages concerning production of (i) intermediaries; (ii) value-added; and (iii) total output. Each stage of the production process can be defined by a price equation and a conditional demand equation.

Private demand for commodities and services is derived from a demand function with income and price elasticities. Household behaviour is represented

47. <https://www.gtap.agecon.purdue.edu/>

by an aggregate utility function that is a special case of the Stone-Geary utility function, with income divided into private expenditure, government expenditure, and savings. In the standard model closure, each expenditure type has a constant share of total income.

As the GTAP model does not explicitly incorporate macroeconomic policies or intertemporal behaviour, raising questions about the treatment of investment and macroeconomic closure. To overcome this challenge, a global closure approach is applied, whereby the global bank uses the receipts obtained from the sale of commodities to individual (regional) households to buy shares in a portfolio of (regional)

investment goods. This enables some adjustments to investment at the regional level.

Standard neoclassical general equilibrium closure requirements are satisfied in the standard GTAP model by imposing the constraint that all accounting relationships are in equilibrium—particularly as concern labour and commodity market supply and demand, as well as savings and investment. The labour market allows for unemployment and job creation; the real wage rate was swapped with labour demand in this analysis, in order to model unemployment in the GTAP-CGE framework.

CGE Model Simulation Results (% changes in the short-term with respect to 'no reform' scenarios):

Table a.1. Sectoral production (adjusted for price changes, in volume)

Sectoral production (% change from baseline, constant prices): 2024-25	Ethiopia	Kenya	Sudan	Uganda	Rest of HoA
pdr	0.64	2.84	-1.84	-6.12	1.52
wht	-3.08	-2.7	-1.92	9.76	-2.18
gro	2.56	-0.16	-0.08	2.62	-0.8
v_f	1.16	-1.88	0.22	2.06	4.7
osd	-14.08	1.74	-1.04	17.72	-2.3
c_b	0.98	-7.68	-0.34	-0.46	-0.04
pfb	-3.1	-16.44	-0.82	-4.12	-0.58
ocr	-12.44	-17.42	1.08	-15.08	-18.78
ctl	2.96	5.12	-1.22	1.18	-7.16
oap	2.7	3.6	-1	1.4	6
rmk	2.9	4.46	0.32	0.78	4.88
wol	-4.36	-39.2	0.16	-10.24	-3.08
frs	5.4	1.92	-1.3	0.1	6.7
fsh	3.04	2.96	0.26	1.78	5.5
coa	-5.28	-4.82	0.22	-1.38	-0.18
oil	-7.26	-7.02	-0.62	-6.98	-2.4
gas	-6.42	-5.56	-1.28	-2.72	-1.9
oxt	5.14	-6.02	0.48	-5.22	-1.56
cmt	-2.22	1.98	0.16	0.84	5.68
omt	3.2	4.26	0.28	0.5	1.84
vol	-10.58	4.08	-3.46	137.98	-12.74
mil	0.6	3.32	-0.34	-0.62	-8
pcr	-2.02	-17.76	0.18	-6.22	-2.38
sgr	-1.08	-7.9	-0.48	-5.76	-2.9

Sectoral production
(% change from baseline,
constant prices): 2024-25

	Ethiopia	Kenya	Sudan	Uganda	Rest of HoA
b_t	3.12	4.06	0.42	1.4	3.38
tex	-7	-9.2	-1.64	-13.04	-1.02
wap	-3.2	-9.84	-3.18	-8.32	6.2
lea	-3.8	-14.22	-4.16	-29.3	0.34
lum	-7.28	6.28	-1.9	2.32	24.84
ppp	-9.18	-6.18	-3.44	-9.06	-5.56
p_c	-10	-9.64	-0.36	-10.16	-2.42
chm	-10.54	-14.06	-3.52	-12.24	-8.1
bph	-8.02	-21.02	-3.98	-15.3	-13
rpp	-13.06	-3.78	-3.36	-9.96	-4
nmm	1.36	-6.28	0.46	-8	18.84
i_s	-0.96	-2.96	-1.86	-12.2	1.96
nfm	-20.8	-29.88	-7.7	-40.36	-19.96
fmp	-1.12	4.52	-1.92	14.18	5.1
ele	-12.48	-6.28	-4.28	-12.9	-28.76
eeq	-11.66	-12.12	-3.62	-12.12	-17.76
ome	-6.14	-12.22	-4.02	-12.84	-12.08
mvh	-6.04	-4.9	-1.98	-6.28	-8.94
otn	-15.42	-10.48	-2.8	71.76	-22.06
omf	-3.46	71.44	-2.66	-9.8	-94.16
ely	-4.16	2.64	0.12	-7.36	2.5
gdt	1.66	4.16	0.8	-2.98	1.56
wtr	4.1	5.02	0.06	-0.54	8.24
cns	7.24	9.64	0.74	5.06	43.1
trd	-3.08	-0.94	0.56	-3.1	0.22
afs	-2.92	2.7	0.5	-2.6	9.44
otp	-0.94	2.7	0.02	-5.6	5.38
wtp	-5.3	-7.98	0.4	-13.96	1.34
atp	-6.28	-10.82	-0.3	305.22	17.88
whs	-5.1	-4.64	0.06	-2.68	4.36
cmn	-0.04	5.22	0.32	0.6	2.18
ofi	-1.06	3.28	0.42	2.74	7.8
ins	-0.94	-2.8	-0.74	0.76	4.12
rsa	-1.26	2.14	0.4	-1.3	7.68
obs	-2.02	-0.7	0.52	-1.48	-2.16
ros	2.86	5.68	0.56	-1.1	11.16
osg	4.14	3.98	0.6	2	10.22
edu	4.46	6.98	0.58	-0.94	11.16
hht	4.78	6.64	0.68	-0.6	11.64
dwe	5.22	8.16	0.74	2.9	13.08

Table a.2. Private consumption expenditure (% , Equivalent variation)

Private consumption expenditure (in EV, % change from baseline)	
Ethiopia	4.22
Kenya	6.46
Sudan	0.54
Uganda	2.5
Rest of HoA	7.86
Average	4.316

Table a.3. Government Spending (% change)

GDP (%) Government Spending	Post trade reforms (% change with rest to the “no reform” scenario)				
	ETH	KENYA	SUDAN	UGANDA	Rest of HoA
	5.49	9.12	1.01	4.61	7.19

c. Estimation of human development gains

In this method, we first quantify the percentage increase in GDP resulting from trade:

$$\begin{aligned} \text{GDP gain (constant 2017 international \$)}_i & \\ &= \text{PercChangeGDP}_i * \text{GDP (constant 2017 international \$)}_i \end{aligned}$$

We then simulate an extreme scenario where half of this additional GDP is allocated to education and the other half to health investment, which would lead to an increase in the education and health expenditures as follows:

$$\text{New Health expenditure}_i = (0.5 * \text{GDP gain}_i + \text{old health expenditure}_i) / \text{GDP}_i$$

$$\text{New education expenditure}_i = (0.5 * \text{GDP gain}_i + \text{old education expenditure}_i) / \text{GDP}_i$$

We then assess the impact of this additional investment in education and health on the HDI by calculating the associated increase in HDI as a result of the increase in health and education expenditure.

$$\begin{aligned} \text{HDI}_{it} = \beta_1 \text{HealthExp}_{it} + \beta_2 \text{EducExp}_{it} + \beta_0 + \alpha_i + \mu_t \\ + \epsilon_{it} \end{aligned}$$

Where α_i is the country fixed effects, and μ_t is the year fixed effects.

d. NTMs

UNCTAD defines NTMs as “policy measures other than ordinary customs tariffs that can potentially have an economic effect on international trade in goods, changing quantities traded, or prices or both.”⁴⁸ These include:

- Technical barriers to trade: Regulations related to product standards, labelling requirements, and certification procedures;
- Sanitary and phytosanitary (SPS) measures: Regulations regarding food safety, animal and plant health, and disease control;
- Import quotas: Restrictions on the quantity of certain goods that can be imported into a country;
- Licensing requirements: Mandating importers to obtain licenses or permits to import certain goods;
- Rules of origin: Determining the country of origin of a product for tariff purposes.
- Government procurement policies: Preferential treatment may be given to domestic suppliers in government procurement processes;
- Export restrictions: Measures limiting the export of certain goods for reasons such as national security or environmental protection;
- Intellectual property rights protection: Regulations protecting copyrights, trademarks, and patents;
- Anti-dumping duties: Import duties imposed to counteract dumping practices (selling goods below market price); and
- Subsidies: Financial assistance provided by governments to domestic industries, distorting trade competition.

Non-tariff measures can create barriers to trade in several ways:⁴⁹

- Technical regulations and standards: Different countries may have different technical regulations and standards that goods must meet before they can be imported. Meeting these requirements can be costly and time-

consuming for exporters, especially smaller businesses that may not have the resources to comply with multiple sets of regulations.

- Quotas and licensing requirements: Quotas limit the quantity of goods that can be imported into a country, while licensing requirements mandate that importers obtain a license or permit before importing certain goods. These measures can restrict the volume of goods that can be traded and limit market access for foreign businesses.
- SPS measures: While these measures are important for protecting public health and the environment, they can also act as non-tariff barriers to restrict imports.
- Import restrictions: Some countries may impose import restrictions on certain goods for reasons such as national security, environmental protection, or cultural preservation. These restrictions can limit market access for foreign businesses and hinder trade flows.
- Administrative procedures: Complex administrative procedures, such as customs documentation requirements, inspection processes, and border clearance delays, can create significant barriers to trade by increasing the time and cost of importing goods.

Overall, NTMs can create barriers to trade by imposing additional costs, administrative burdens, and compliance requirements on exporters. This may deter them from entering foreign markets and limit the benefits of international trade.

International harmonization efforts can also inadvertently create new non-tariff barriers in developing country trade, through several mechanisms:

- Standards and regulations: Developing countries may struggle to meet stringent product standards in developed economies, due to lack of resources, technology, or infrastructure. This can create a barrier to trade for developing country exporters.
- Certification and testing requirements: Compliance with international standards often requires costly certification and testing

48. UNCTAD, 2010, *Non-tariff Measures: Evidence from Selected Developing Countries and Future Research Agenda* (United Nations publication, New York and Geneva), p. 99.

49. Cadot, O., J. Gourdon and F. van Tongeren (2018), “Estimating Ad Valorem Equivalents of Non-Tariff Measures: Combining Price-Based and Quantity-Based Approaches”, OECD Trade Policy Papers, No. 215, OECD Publishing, Paris, <https://doi.org/10.1787/f3cd5bdc-en>.

procedures. Developing countries may lack the necessary accreditation bodies, laboratories, or personnel to meet these requirements, leading to barriers to trade.

- Intellectual property rights: Harmonization efforts may lead to the strengthening of intellectual property rights protections, which can be onerous for developing country producers and limit their ability to access markets or compete globally.
- Administrative procedures: Harmonized regulations and procedures may be complex and difficult for developing countries to navigate, resulting in delays, higher costs, and greater uncertainty for exporters.
- Capacity constraints: Developing countries may lack the institutional capacity, technical expertise, and financial resources to fully comply with harmonized standards and regulations, creating barriers to trade.

Overall, international harmonization efforts must be inclusive and take into account the specific circumstances and challenges faced by developing countries to avoid inadvertently creating new non-tariff barriers. Collaboration, capacity-building, and technical assistance are essential to ensure that harmonization efforts contribute to, rather than hinder, global trade and development.

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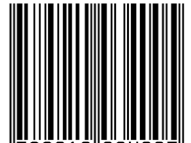


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