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FEDERAL DEMOCRATIC REPUBLIC OF ETHIOPIA
MINISTRY OF PLANNING AND DEVELOPMENT

unicef
for every child

CLIMATE LANDSCAPE ANALYSIS FOR CHILDREN

IN ETHIOPIA

2024

PROJECT BACKGROUND

This Climate Landscape Analysis for Children (CLAC) in Ethiopia was prepared by OneWorld Sustainable Investments (OneWorld). UNICEF Ethiopia required a Climate Landscape Analysis for Children (CLAC) to inform its programming, areas for intervention, and partnerships. OneWorld was contracted to carry out the required tasks of producing a climate, energy, environment and disaster risk (CEED) and children report, identifying priority entry points for UNICEF Ethiopia's engagement and CEED programming, and mapping CEED stakeholders and financing opportunities for programming.

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▲ His Excellency Ato Seyoum Mekonen, State Minster, Ministry of Planning and Development



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CLIMATE LANDSCAPE ANALYSIS FOR CHILDREN

ETHIOPIA

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FOREWORD



Her Excellency Dr. Fitsum Assefa Adela

Minister, Ministry of Planning and Development



Dr. Aboubacar Kampo

UNICEF Representative, UNICEF Country Office

Africa is the most vulnerable continent to the effects of climate change under all climate scenarios where temperatures rise above 1.5 °C. With more than half the population living in rural areas and depending on rain-fed agriculture for their basic livelihoods, climate change is exacerbating existing climate-related development challenges. These problems are expected to worsen under all future climate scenarios, unless the goals of the Paris Agreement are met through collective action to limit global temperature increases to no more than 2°C above pre-industrial levels.

Climate change is already having an adverse impact on water and food security in many parts of Ethiopia. The country has faced six years of consecutive droughts, and studies suggest that this is the worst in more than 50 years. These drought events have resulted in food and water shortages, and a worrying increase in diseases such as malaria, while millions of children are severely malnourished. The death of millions of livestock has depleted the country's milk resources, which are a main source of nutrition for children.

As we navigate the complex landscape of climate change, it becomes increasingly evident that our future generations will inherit both the consequences of our actions and the responsibility to shape a more sustainable environment. It is within this context that I am honoured to introduce this Climate Landscape Analysis for Children in Ethiopia.

In Ethiopia, a nation blessed with rich cultural heritage and natural diversity, the impact of climate change resonates deeply with our communities and particularly affects our children and their mothers. They are not only the most vulnerable to its effects but also the most resilient, demonstrating a remarkable capacity to adapt and innovate in the face of adversity. Ethiopian society needs be intentional in its efforts to support our children to harness their potential for resilience.

The analysis in this publication demonstrates our commitment to understanding and addressing the multifaceted challenges posed by climate change on our children. It underscores the importance of a comprehensive approach that integrates scientific research, collective community action, and policy initiatives to safeguard their future. Moreover, this analysis illuminates the interconnectedness between the impacts of climate change, energy, and the environment on the country's socio-economic development and on Ethiopia's children. It underscores the imperative of fostering sustainable practices that promote equitable access to critical resources, services, and opportunities for all children, regardless of their background or circumstances.

As Minister of Planning and Development, I am inspired by the dedication and expertise of UNICEF, the communities, individuals and organisations involved in this endeavour. Their collaborative efforts exemplify the spirit of partnership and collective action essential for actioning this publication's recommendations for addressing the urgent climate challenges facing our country and the world.

I commend the policymakers, authors, researchers, and advocates who have contributed to this analysis. I trust that their insights will inform and inspire the decisions and actions of all relevant policymakers, community organisations, development partners, and field practitioners, and empower us to build a more resilient and inclusive future for all children in Ethiopia.

I call upon all development partners to support the implementation of the recommendations of this report. Together, let us embrace our shared responsibility to protect our children from climate, energy and environmental risks and disasters, and ensure that every child can thrive in a climate-resilient world.

Abbreviations and acronyms

CCRI	Children's Climate Risk Index
CDKN	Climate and Development Knowledge Network
CEE	Climate, Energy and Environment
CEED	Climate, Energy, Environment and Disaster
CLAC	Climate Landscape Analysis for Children
COP 28	28th Conference of the Parties (to the UN Framework Convention on Climate Change)
CRGE	Climate-Resilient Green Economy
CRGE-AF	CRGE Agriculture and Forestry
CRGE-WE	CRGE Water and Energy Plan
DHS	Demographic and Health Survey
DRM	Disaster Risk Management
EDRMC	Ethiopian Disaster Risk Management Commission
EFCCC	Environment, Forest and Climate Change Commission
EMI	Ethiopian Meteorological Institute
ENCU	Emergency Nutrition Coordination Unit
ENSO	El Niño–Southern Oscillation
EPI	Environmental Performance Index
ESDP	Education Sector Development Programme
FDI	Foreign Direct Investment
FDRE	Federal Democratic Republic of Ethiopia
GDP	Gross Domestic Product
GGGI	Global Green Growth Institute
GHG	Greenhouse Gas Emissions
GII	Gender Inequality Index
GTP	Growth and Transformation Plan
GVB	Gender-based violence
HSEP	Health Services Extension Programme
IIED	International Institute of Environmental Development
IOM	International Organisation for Migration
IPCC	Intergovernmental Panel on Climate Change
ITCZ	Inter-tropical Convergence Zone
IWRM	Integrated Water Resources Management

LT-LEDS	Long-term Low Emissions and Climate Resilient Development Strategy
LUCF	Land Use Change and Forestry
MoA	Ministry of Agriculture
MoE	Ministry of Education
MoF	Ministry of Finance
MoH	Ministry of Health
MoPD	Ministry of Planning and Development
MoWE	Ministry of Water and Energy
MoWSA	Ministry of Women and Social Affairs
NDC	Nationally Determined Contribution
NEP	National Electrification Strategy
OCHA	Office for the Coordination of Humanitarian Affairs
OECD	Organisation for Economic Cooperation and Development
OPD	Organisation of Persons with Disabilities
OPHI	Oxford Poverty and Human Development Initiative
PEFA	Public Expenditure Financial Accountability
PSNP	Productive Safety Net Programmes
RCP	Representative Concentrated Pathway
SDG	Sustainable Development Goals
SNNP	Southern Nations, Nationalities and Peoples (since broken into the three regions of Central Ethiopia, Southwest Ethiopia and South Ethiopia)
SSP	Shared Socio-economic Pathways
UN	United Nations
UNDP	United Nations Development Programme
UNFCCC	United Nations Framework Convention on Climate Change
UNICEF	United Nations Children's Fund
USAID	United States Agency for International Development
WASH	Water, Sanitation and Hygiene
WFP	World Food Programme
WHO	World Health Organisation

Glossary of terms

Adaptation	In human systems, the process of adjustment to actual or expected climate and its effects, to moderate harm or exploit beneficial opportunities. In natural systems, the process of adjustment to actual climate and its effects; human intervention may facilitate adjustment to expected climate (IPCC, 2012).
Adaptive capacity	The combination of strengths, attributes, and resources available to an individual, community, society or organisation that can be used to prepare for and undertake actions to reduce adverse impacts, moderate harm, or exploit beneficial opportunities (IPCC, 2012).
Climate change	A change in the state of the climate that can be identified (e.g., by using statistical tests) by changes in the mean and/or the variability of its properties and that persists for an extended period, typically decades or longer. Climate change may be due to natural internal processes or external forcings, or to persistent anthropogenic changes in the composition of the atmosphere or in land use (IPCC, 2012).
Disability	The International Classification of Functioning, Disability and Health (ICF) conceptualises disability as an umbrella term covering impairments, activity limitations, and participation restrictions. The United Nations Convention on the Rights of Persons with Disabilities (UNCRPD) indicates that persons with disabilities include those who have long-term physical, mental, intellectual or sensory impairments which, in interaction with various barriers, may hinder their full and effective participation in society on an equal basis with others.
Disaster	Disaster refers to a climate-induced disaster or extreme climate-related weather event in this report, including the following: (i) hydro-meteorological events (storms, floods, wet mass movements) and (ii) climatological events (extreme temperature, drought, wildfire).
Ecosystem Services	Outputs, conditions, or processes of natural systems that directly or indirectly benefit humans or enhance social welfare (Britannica, 2023).
Environment	The environment in terms of the natural world is the complex of physical, chemical, and biotic factors (such as climate, soil, and living things) that act upon an organism or an ecological community and ultimately determine its form and survival (Merriam-Webster, 2024)

Energy	The power to do work that produces light, heat, or motion, or the fuel or electricity used for power, including transport (adapted from Cambridge Dictionary, 2024).
Installed Capacity	The maximum amount of electricity that a generating station (also known as a power plant) can produce under specific conditions designated by the manufacturer (Thomson Reuters, 2023).
Mitigation	A human intervention to reduce the sources or enhance the sinks of greenhouse gases (IPCC, 2012).
Risk	In the context of climate change impacts, risks result from dynamic interactions between climate-related hazards with the exposure and vulnerability of the affected human or ecological system to the hazards. Hazards, exposure and vulnerability may each be subject to uncertainty in terms of magnitude and likelihood of occurrence, and each may change over time and space due to socio-economic changes and human decision-making (IPCC, 2018).





Gambella region of Ethiopia, 2022. © UNICEF Ethiopia/2022/Raphael Pouget

1. EXECUTIVE SUMMARY

Background

Ethiopia faces a crisis of sustainable development. Despite strong growth in jobs outside of agriculture, the country is predominantly rural. Agriculture, which includes crops, livestock and exports such as coffee, accounts for 40% of the Gross Domestic Product (GDP), and 80% of employment. Many Ethiopian households, especially in rural areas, contend with multiple forms of deprivation: more than 40% lack adequate access to cooking fuel, sanitation, drinking water, electricity, housing and assets, and three-quarters of these are deprived in terms of access to education and/or health services.

Ethiopia has over the past three decades, achieved significant improvements in child outcomes, such as increased school enrolment, lower rates of child stunting and wasting, and falling maternal mortality. These achievements, however, are threatened by slowing economic growth, multiple conflict, and climate change.

Climate change – which is starkly evident through more frequent droughts and flooding – poses direct and indirect threats to livelihoods across Ethiopia. Droughts severely undermine rural livelihoods and flooding damages housing and social infrastructure, being roads, water storage facilities, clinics, and schools. Those with access to land suffer directly through the loss of crops and livestock. Those dependent on food purchases suffer indirectly through rising food prices. All Ethiopians living in regions vulnerable to climate change face health-related risks, for example arising from lack of access to safe water and exposure to diseases from standing water. The recent cholera, dengue fever and malaria outbreaks are linked to climate change.

This Climate Landscape Analysis for Children (CLAC) assists, the United Nations Children's Fund (UNICEF) Ethiopia to develop and support strategies relevant to children. It aligns with Ethiopia's 2018 Climate Resilient Green Economy (CRGE) strategy and 2024 Humanitarian Response Plan (which provides relief for those displaced by territorial conflict and drought). The work entailed descriptive and statistical analysis, and stakeholder engagement through site visits, in-depth interviews and focus group discussions. Relevant government ministries, agencies, schools, communities, research institutions and civil society organisations were consulted to identify gaps in the analysis and priority areas for future child focused energy, environment and disaster risk reduction (CEED) interventions.



▲ *Position of Ethiopia on the African Continent*

Growing climate and environmental risks

The world is facing a climate crisis. Ethiopia is particularly vulnerable, as evidenced by rising temperatures, rainfall variability, floods, and recurrent droughts, often consecutive. This, along with the pressure from a growing population, has contributed to desertification and land degradation through soil erosion, deforestation, and loss of biodiversity. This is already affecting children directly through exposure to heat stress, disease, and malnutrition, and indirectly through rising food prices and falling access to education, health, and related services.

Average temperatures in Ethiopia have been rising by between 0.1 to 0.4˚ C per decade since the 1960s. The highest warming rates are for central Ethiopia, where more than 80% of Ethiopians live, and which accounts for almost all (95%) of the cropped land. The drier areas to the southeast and the northeast are most vulnerable to climate change, especially as temperatures are predicted to keep rising.

Rising temperatures are affecting crop yields, livestock, water resources, and human health. Ethiopia is a drought-prone country, and climate change is expected to make droughts more frequent and severe. The country's reliance on rain-fed agriculture means the country will become increasingly vulnerable to fluctuating yields (due to variable weather patterns) and trend decline in output. Irregular rainfall patterns and shifts in the timing of the rainy seasons have made it challenging for farmers to predict the best times for planting and harvesting and have made floods and landslides more frequent, impacting farmers, human settlements, and infrastructure.

The most serious immediate climate and environmental hazards facing Ethiopia's children are heatwaves and drought, while floods also affect children. Exposure to heat stress is dangerous for children as their bodies are more easily dehydrated than adults, they are less able to regulate their body temperature, and their immune systems are more vulnerable. Heat can also affect their mental and emotional health, disrupt access to school and impair concentration. Heat waves further threaten children's access to food and water (by affecting the availability and quality of food and water), leading to malnutrition and waterborne diseases like cholera. Heatwaves have been linked to asthma and additional risks such as social conflict and related forced migration.



Climate-related migration and displacement of people can cause, and exacerbate, social conflict. Displacement can trigger conflict, particularly in areas where people face reduced incomes, and are competing for scarce resources such as water and arable land. It also disrupts access to basic services, leaving many children in need of education, health and basic services.

Ethiopia is a highly gendered society, therefore, gender equality is considered as a core development agenda by the government which has instituted various legislative and institutional measures to advance the rights of women and girls. This includes identifying gender equality as one of the 10 key strategic pillar in the national 10-year development plan. Yet, there is still a long way to go to realise gender parity in different sectors including education, health, economic participation, decision making etc. As per the UNDP Human Development Report for 2021/2022, the Gender Inequality Index (GII), which measures inequality between women and men in areas of reproductive health, empowerment (education and political representation) and the labour market, Ethiopia ranks 129 out of 191 countries with a GII value of 0.52 falling under the category of 'low human development' countries.

Social norms disempower women and girls. The heightened vulnerability of women and girls to climate change is caused by their limited access to resources and decision making, lower adaptive capacities, heavy reliance on agriculture and environmental resources and increased exposure to gender-based violence due to the disruption caused by climate-related disasters. Boys spend more time herding animals, but women and girls bear the responsibility for household chores and collecting firewood and water. As deforestation continues – and in drought conditions – they must walk longer distances, exposing themselves to added risk of heat stress and gender-based violence. Girls in households without sons bear the additional burden of herding animals. Stakeholder consultations reflected strong and widespread concern – across all regions visited – about the impact of climate change on the prospects for Ethiopian children, especially girls. As households struggle to survive, girls are more likely to be pulled out of school or married off.

Ethiopia also has a relatively high prevalence of disability. The World Health Organisation (WHO) estimates that 17.6% of Ethiopians live with some form of disability, as compared to the global average of 15% estimated by the World Bank. Many Ethiopians living with disabilities are poor and live in the rural areas. The combination of rural poverty and barriers for people with disabilities arising from communication, infrastructure access and the physical environment, make this the most vulnerable group to the impacts of CEED. Children living with disabilities are particularly susceptible to heat stress and floods. Their limited mobility and underlying conditions increase their vulnerability and pose a significant health risk.

The need for humanitarian assistance in Ethiopia reached record levels in 2023/2024, nearly 40% higher than in both 2021, and 2016, following the historic 2015 El Niño drought. The recent drought crises overlapped with other crises, particularly COVID-19, and civil conflict. The latter has affected northern Ethiopia the most, with food consumption deficits estimated to be at emergency levels.

The prolonged drought in the southern pastoral areas is believed to have rivalled those of 2010/2011 and 2016/2017 in both severity and duration. Preliminary forecasts from 2023 indicate the possibility of a sixth consecutive below-average season in some of the drought-affected regions.

Ethiopia has abundant ground and surface water resources, containing the headwaters of many transboundary rivers including the Nile. However, variability in rainfall patterns coupled with extreme climatic events, has caused water scarcity and degraded water quality in many areas. Most rural populations rely on groundwater for their water supply, through shallow wells, deep boreholes, and springs. Over the past decade, Ethiopia has witnessed more flooding, especially in low-lying areas during the rainy season. In the highlands, floods are exacerbated by land degradation and the rugged topography, resulting in sheet floods which are large bodies or 'sheets' of water moving rapidly across a surface, flash floods, and gully formation. Rural settlements on steep slopes, especially those recently deforested, and informal urban settlements are particularly vulnerable to flooding and landslides. Flooding can also severely damage roads, water storage and sanitation facilities, bridges and buildings. Flood damage to sanitation infrastructure can be a significant public health hazard, especially in rural communities where runoff from household latrines contaminates the environment with faecal matter. Stagnant post-flood water raises the risk of diarrhoea, cholera, and vector-borne illnesses such as malaria.

Vulnerability to climate and environmental risk is influenced by socio-economic status, as poorer people, as well as those living with disability, have fewer resources to help them to adapt. This vulnerability is also affected by the quality and scope of physical and social infrastructure, and governmental capacity to provide emergency relief and sustained social safety nets.

Research reported in the CLAC shows that while all communities across Ethiopia are vulnerable, those who demonstrate the greatest vulnerability live in Oromia, Amhara and Sidama Region, Southwest Ethiopia Region, South Ethiopia Regional State. and Central Ethiopia Regional State, which together account for more than two-thirds of the GDP and four out of five Ethiopians. A multi-layered analysis of climate risk and impact reveals that certain regions, and therefore their populations, are at a greater risk than others. This kind of analysis, outlined in this CLAC, helps focus recommendations, and create more targeted interventions for UNICEF.

Energy and the environment

Ethiopia is endowed with abundant renewable energy resources, including hydropower, geothermal, solar and wind, but these are largely underexploited, and energy poverty remains a persistent problem. Most Ethiopian households (93%) use biomass, such as wood and dung, for cooking, as well as for producing charcoal. This contributes to indoor air pollution, worsens the country's burden of disease, and poses especially serious risks to the health of women and children. Women and girls, who are responsible for cooking, while children under five usually accompany their mothers while they prepare family meals.

Most Ethiopian children (96%) are exposed to harmful levels of air pollution. This is mainly because of a lack of access to clean cooking stoves and, in urban areas, from exposure to vehicle emissions. growing feedstocks, indicate significant potential for biofuel and alternate energy applications for transport and cooking. Sugarcane has significant potential as a feedstock for biofuel growing feedstocks, indicate significant potential for biofuel and alternate energy applications for transport applications for transport and applications for transport and cooking. Sugarcane has significant potential as a



▲ *Ethiopia has enormous solar energy potential and its sugar factories, which produce bagasse as a by-product of sugar production, that can be converted to a source of clean energy, along with the availability of land for In the village of Arbella, UNICEF rehabilitated a non-functional water scheme so that the pastoralist communities affected by drought get water to themselves and their animals. ©UNICEF Ethiopia/2022/Demissew Bizuwerk*

feedstock for biofuel production worldwide, due to an exceptional biomass production capacity (bagasse), high carbohydrate content, and a favourable energy ratio.

Ethiopia has enormous solar energy potential and its sugar factories, which produce bagasse as a by-product of sugar production, that can be converted to a source of clean energy, along with the availability of land for growing feedstocks, indicate significant potential fo r biofuel and alternate energy applications for transport and cooking.

Sugarcane has significant potential as a feedstock for biofuel production worldwi de, due to an exceptional biomass production capacity (bagasse), high carbohydrate content, and a favourable energy ratio.

Ethiopia is home to a rich variety of ecosystems, but many are under pressure from human settlements, climate change and environmental pollution. Human settlements require a range of natural and mineral resources to function and to ensure they enjoy sufficient access to services, enabling them to lead healthy and fulfilling lives. However, the acquisition of these resources puts pressure on the natural environment. For example, the degradation of land, forests and rangelands, through farming, collecting of wood for fuel are resulting in severe losses of soil moisture and nutrients, and water availability. More than 85% of the country's land is degraded to some extent, including ecosystems that depend on groundwater. This is a serious threat to Ethiopia's society and economy and one that is likely to worsen with climate change and continued population growth.[1]

1 Solomon et al., 2024 (https://link.springer.com/article/10.1007/s43621-024-00282-7#:~:text=An%20

Challenges for children

UNICEF's Children's Climate Risk Index (CCRI) ranks Ethiopia fifteenth of 163 countries and classifies it as at 'extremely high risk' (UNICEF, 2023a: 50). Compared to other low-income countries in East and Southern Africa, Ethiopia's vulnerability score is relatively high. This is owing to relatively poor performance regarding access to water, sanitation and hygiene (WASH), education, child health. Notably, a widespread cholera outbreak was exacerbated by drought and floods, with upsurges in malaria and dengue fever. Problems also extend to nutrition, and child protection. Ethiopia scored relatively better in terms of child outcomes, which is a reflection of more rapid growth and the rural (and then later, urban) Productive Safety Net Programme (PSNP). Yet there are millions of poor children, with many concentrated in Oromia, Amhara, SNNP, Tigray and Somali.[2] Moreover, the social gains Ethiopia has achieved are clearly being lost or diminished because of the impacts of climate change.

It is essential that Ethiopian policymakers ensure that climate policies and policies related to development protect vulnerable children, particularly children with disabilities, as well as girls, and are appropriate for each region. Vulnerability is also shaped by regional variations, and differences between pastoral and more agrarian areas. Engaging with local officials and stakeholders within these crucial regions is essential.



▲ *The climate crisis is a child rights' crisis. In the Borena Woreda (district) of Ethiopia, recurrent droughts have a devastating impact on children, who are more likely to drop out of school or marry at an early age.©UNICEF Ethiopia/2022/Raphael Pouget*

estimated%201.5%20billion%20tons,be%20%244.3%20billion%20%5B24%5D.)

2 Eyasu, 2020 https://www.tandfonline.com/doi/full/10.1080/23311932.2020.1823652#abstract

The policy and institutional landscape

The Ethiopian government has developed a sophisticated suite of CEED policies linked to the country's economic and development objectives. This includes the CRGE strategy and a set of related sector plans that recognise the relationship between CEED, food security, water and sanitation, health, human productivity, infrastructure, livelihoods and the economy. Some plans, such as for Agriculture and Forestry, and Water and Energy, are specific about the vulnerability of children to climate change, others mention children partially, for example, through references to 'youth', or not at all. Many stakeholders interviewed for this CLAC, including the lead ministry for climate change – the Ministry of Planning and Development – agreed that children should be considered more explicitly, and involved where appropriate.

Precedent is available in Ethiopia's overarching Development Plan, which in its climate change chapter, identifies the vulnerability of children and importance of integrating them into the country's development strategy. It identifies linkages between CEED and children, particularly in the areas of WASH and food security, and in strategies to build adaptive capacity to natural hazards.

A key challenge lies in policy implementation. Although child-related policies demonstrate a growing awareness of the interaction with CEED, and the government is actively working to enhance its adaptive capacity in the face of frequent climate-related disasters, implementation is often uneven. Shifting institutional structures and unstable environments hamper implementation.

Ethiopia's institutional arrangements relevant to CEED have changed frequently over recent years, with the latest proclamation defining the powers and duties of executive organs implemented in 2021. The country is divided into 12 autonomous regional states and two city administrations, each with its own branch of government, parliament and judiciary. A combination of climate-induced crises and political conflict continues to strain on Ethiopia's governance. Since 2021, the Ministry of Planning and Development has held the institutional mandate for climate change, after taking responsibility from the-then Ministry of Environment, Forest and Climate Change (now the Ethiopian Environmental Protection Agency (EPA)). It has a mandate to coordinate and support climate change and environmental activities, and to lead climate finance initiatives.

Finance landscape

The Ministry of Finance is developing a climate and disaster budget tagging system, along with a nutrition tagging system, to improve transparency and tracking. However, this tagging system still does not make provision for child-focused indicators. Ethiopia relies significantly on external funding to support its climate-related initiatives. Climate finance is dominated by international public financiers, including multilateral development finance institutions and bilateral development partners.

Together these financiers provide more than 90% of Ethiopia's climate finance. The remaining climate finance flows from the private sector, mostly commercial financial institutions, but also philanthropies and corporate entities. Limited public information is available on climate finance expenditure and climate-related expenditure is not clearly identified in the national budget. As a result, budget allocations and strategic climate plans are often insufficiently aligned, while funding

for climate related activities at the local level is limited and mainly comes from federal transfers to the regions.

The Ethiopian government established the Climate Resilient Green Economy Facility as a national climate change funding mechanism, initially as a joint venture under the Ministry of Finance and the Environmental Protection Authority, but now under the sole oversight of the MoF. The facility acts as a direct access mechanism for accredited entities to access funds and has supported several activities aimed at developing the landscape of climate finance in Ethiopia. It has also prepared a capacity development framework for relevant government sectors and established several partnerships with key bilateral and multilateral development partners.

While Ethiopia has made strides in creating a conducive policy and regulatory environment for climate change, critical barriers still exist in mobilising both private and public climate finance. Frequent restructuring of government sectors has impeded continuity and the development of internal capacity within the government institutions responsible for managing climate finance. Although national government is committed to integrating climate initiatives into development planning, there is a lack of clear institutionalisation at regional, district, and ward levels, which is critical to ensuring that climate finance reaches the most vulnerable populations.

Ethiopia has a relatively well-developed microfinance sector and strong mobile banking services. The private sector is becoming more involved in financing infrastructure and the country is no longer solely dependent on public finance.

Recommendations

The CLAC has highlighted that Ethiopia's challenge is both environmental and developmental: heat stress, droughts and floods pose direct threats to child health and severely threaten food and water security. In addition, high levels of poverty and gaps in educational and health services undermine the capacity of households to adapt. Women and girls are especially vulnerable due to exposure to sexual violence, labour-market discrimination, and cultural norms that disempower them. Industrialisation and the development of transport networks have helped generate alternative income sources but bring with them additional environmental risks such as air and soil pollution. Air pollution is a major issue for children, who contract related respiratory diseases more easily than adults, with lifelong implications for their health.

The increase in frequency and intensity of extreme weather events leaves affected populations with little time, if any, to recover. Communities need to be better prepared and to develop strategies that reflect their specific circumstances and assist the most vulnerable. Ethiopia has been working on climate adaptation and mitigation strategies including improving water resource management, promoting sustainable agriculture, and enhancing disaster preparedness and response. More focus is needed on child responsive and differentiated interventions that recognise regional variations, and the divide between the urban and rural populations.[3]

3 Differentiated interventions refer to a set of targeted responses which are cognisant of (and therefore tailored to) the different needs and vulnerabilities of children, as they relate – non-exhaustively – to climate, geography, poverty, gender and disability.

The findings from this CLAC have accentuated the need for holistic strategies across sectors, and that includes interventions, support and action by government and non-government entities. Comprehensive strategies are needed to address food and water security, and to combat health crises that result from the climate and Climate, Energy and Environment (CEE) crises. Collective action is needed for food sourcing, climate resilient agriculture, water conservation, and disaster risk preparedness, while continuity of education and improved and targeted healthcare also require attention. Furthermore, efforts are needed towards ensuring that the social gains made on issues such as early marriages and gender-based violence (GBV) are not reversed or worsened as a result of CEED issues.

A set of six interrelated recommendations are identified to provide a coherent strategy for addressing the primary CEED challenges facing children. Four interrelated recommendations have been identified as technical solutions to the primary hazards that threaten Ethiopia's children. Integral to each of these are child disaggregated data, information, and policy, and targeted social protection, the participation of children, and finance. Furthermore, two additional but key recommendations have been identified to target child protection, and social behaviour change, each being fundamental to effective and transformative CEED responses. Together, these recommendations seek to ensure water for food, health, and income security; diversified livelihoods and targeted social safety nets; sustainable energy resources, services, and healthy ecosystems; and continuity of education in schools that can also serve as social havens. These four solution-oriented recommendations will be enabled by enhanced child protection from the impacts of climate change, and by behaviour change within and among vulnerable communities towards positive coping responses to the impacts of climate change.

1 Protection of children under a climate-transformed future

Experiences of climate change and other economic and social crises around the world have shown that social norms shift, or even change under persistent and harsh conditions. As poor families and communities get poorer, they seek coping mechanisms, and these do not always have positive outcomes for children, particularly for – although not limited to – women and girls. Positive social gains for children, women and girls in Ethiopia, for example, a marked reduction in early marriages for young girls, are in danger of being reversed by the loss of livelihoods and incomes of farmers in drought and flood affected areas.

UNICEF should work with community structures to enable the availability and understanding of positive coping mechanisms for climate affected families, with the objective of ensuring that Ethiopia's social gains are not reversed, and that social norms and standards do not worsen from improved thresholds. Focus is needed on addressing the specific needs of children with disabilities in Ethiopia, while also implementing gender-specific solutions. In particular, the integration of disability-inclusive clauses in national climate strategies and disaster response plans is necessary to address the unique needs of

children with disabilities. Reviewing and updating existing policies to include explicit references to children with disabilities can ensure more comprehensive and effective climate responses.

UNICEF can build on its deep institutional experience and knowledge on child protection to protect children, women, and girls, and children living with disabilities, from the harsh impacts of climate change. While new interventions may be needed; UNICEF should focus on leveraging and adapting its depth of knowledge and experience to enhance child protection efforts in Ethiopia's regions most vulnerable to climate change. In these areas, UNICEF should build the capacities of targeted community platforms, structures and local government to support decision making processes within impacted families, and to facilitate alternative livelihoods, access to income support, the prevention of child marriages and alternative solutions to migration. This support should include investing in the community workforce that is already supporting social protection by orienting these efforts towards CEED specific responses, particularly in high-risk regions. Furthermore, UNICEF needs to concentrate efforts on enhancing the disaster risk preparedness of high-risk communities through community and local government platforms and structures. Particular emphasis should be placed on ensuring that children receive differentiated attention and support when a climate disaster strikes.

2 Collective action and social behaviour change

Social behaviour change through community engagement and participation is a necessary and critical condition for transformative CEED responses. Integrating traditional knowledge and practices and addressing cultural constraints and optimising cultural opportunities for effective climate responses will rely on the understanding and action of communities as a collective rather than working household by household. UNICEF should work with the existing foundational structures that support communities. This is essential for driving collective action and behaviour change. Moreover, once case studies and demonstrable successes are available, the multiplier effect thereof can assist in scaling up behaviour change.

Trust is a key enabler for collective action and enabling behaviour change. The UNICEF SBC team should build on its community relationships and structures to enable implementation of the technical solutions outlined in the recommendations that follow. Overall, UNICEF should seek to shift Ethiopia's most vulnerable communities from a state of being aware of CEED issues, to one of taking transformative, corrective and positive action. Communities and households need to both understand the consequences of negative coping mechanisms, and the alternative pathways before them.

UNICEF can play a vital role in shifting people away from deeply entrenched cultural practices that negate the rights of children, women and girls, and children living with disability, in the face of climate change. Working in tandem with the Child Protection Unit, the Social Behaviour Change (SBC) team should enable a necessary paradigm to shift and promote collective action through existing community structures. As such, UNICEF should adopt a long-term perspective to energy and

water consumption and use and implement behaviour change interventions that achieve incremental changes and successes. UNICEF should document successes and apply learnings to accelerate and scale up change through leveraging community platforms, schools, and clinics. Furthermore, UNICEF should foster co-operation between government, communities, and NGOs in strengthening decision-making and enabling behaviour change.

3 Water for food, health and income security

UNICEF, with partners, should promote a climate-resilient water use and management system through an all-of-society approach that centres on the protection of children. Access to irrigation, especially when combined with improved seeds, agricultural technology and organic fertiliser, will help households produce food throughout the year and build resilience to drought. Efforts should be directed towards supporting climate resilient infrastructure for water harvesting, including from groundwater resources, and storage in every community, school and clinic in Ethiopia's CEED hotspot areas.

Drawing on its mandate and experience in advocacy, UNICEF should advocate for climate resilient WASH in every community, school, clinic and informal community structure. It could partner with appropriate institutions, such as the Ministry of Water and Energy (MoWE), EPA and the Ministry of Planning and Development (MoPD), to protect ecosystem services and agricultural land from flooding. To enable this, UNICEF Ethiopia should work with civil society partners to provide relevant training, education and awareness raising, and with the country's climate finance facility and MoPD to leverage funding.

In terms of cross-cutting interventions, UNICEF should continue to promote child-centred policies, raise awareness about social norms that are harmful to women and girls, work with community organisations, and assist with the collection of relevant data.

4 Diversified livelihoods and targeted social safety nets

UNICEF has a role in supporting agro-processing industries producing nutritious foods at low cost, such as egg powder, which not only improve food security, but help diversify the economy, boost exports and generate jobs.

UNICEF could also partner with MoPD and MoF to identify, promote and support opportunities for livelihood diversification in the green economy, and initiate and support efforts to develop skills for the green economy, particularly among the youth.

Even with significant job creation, however, the need for social safety nets such as the PSNP will remain acute. More attention should be paid to emergency social safety net responses in regions most affected by climate risk. This could include adjustments to existing programmes such as the PSNP to ensure they are both vertically and horizontally climate-shock responsive. The rapid delivery of income support can prevent households falling into

deep poverty – thereby obviating the need for households to take children out of school and force girls into child marriages. Programmes that support children directly, such as school feeding schemes, are also essential.

The CLAC identified the serious threat posed to poor families by rising food prices. This trend will worsen with climate change, especially where food shortages drive up the price of staple goods. The Food and Agricultural Organisation (FAO) monitors prices in key regional markets, but the data is sporadic and incomplete.

Various approaches to rising food prices and malnutrition should be considered. These include the emergency provision of basic food to affected areas, possibly distributed through schools, and emergency grants to affected families. Savings and insurance schemes may also be considered to protect families that cannot afford higher prices.

UNICEF could assist with the collection of data and to encourage communities to monitor the price of staple foods, and to develop an early warning system when signs of child malnutrition emerge. UNICEF is also well placed to work with government and donors to find appropriate, regionally specific, solutions.

5 Sustainable energy resources, services, and healthy ecosystems

UNICEF should work with institutional partners and the government to promote small-scale renewable energy technology installation in every community, school, clinic and informal community structure in Ethiopia's climate hotspot areas. This would support the country's low emissions strategy, improve air quality and health outcomes for children. UNICEF could help leverage Ethiopia's microfinance infrastructure to enable these installations by leveraging concessional finance to provide guarantees to lenders, and cheaper, more accessible finance to borrowers. This finance, which could be complemented by carbon finance can also be directed towards the rollout of cook stoves and other related appliances to help shift reliance away from biomass fuels, and thereby reduce both land degradation as well as the negative health impacts associated with local air pollution arising from cooking with biomass.

Ethiopia's vital ecosystems, including wildlife, need to be restored and protected. UNICEF and its partners should promote the rehabilitation and protection of high-risk ecosystems and landscapes. The most effective rehabilitation efforts are those that bring tangible, immediate and direct benefits to local communities. UNICEF could also work with government and donors to stimulate enterprise opportunities (including in tourism) and participation in job opportunities related to ecosystem rehabilitation/protection, for example by supporting rehabilitation efforts that are led by local enterprises and community-based organisations.

As a cross-cutting intervention, UNICEF should increase the participation and visibility of children in energy and environmental data, information and policy.

6 Continuity of education in schools that also serve as social havens

UNICEF could – building on its extensive ongoing efforts related to school construction and rehabilitation – assist with the design and implementation of schools as green spaces and community centres in hotspot areas. Where schools do not exist, other community structures should be considered. It should also monitor the impact of this approach and generate case studies of its costs and benefits.

Schools (or other community structures) can serve as community or social havens by providing:

- Shaded spaces and cooler environments during heat stress
- Emergency access to energy, food, and water during droughts and floods
- Platforms for further education and awareness of CEED issues
- Places for communities to share information and discuss policy responses

In addition, UNICEF could enhance partnerships and collaboration with other UN agencies, NGOs and the government entities, such as the Ministry of Education (MoE), and the Ministry of Agriculture (MoA), among others, to support school feeding schemes, especially in hotspot areas. It should work with MoPD and the national finance facility to mobilise resources for CEED-disrupted education, and work with MoPD and the national climate finance facility to leverage sustainable climate finance for these schemes.

Policy making for children in Ethiopia lies under the mandate of the Ministry of Women and Social Affairs (MoWSA). Article 1a (Proclamation 1263/2021) states that the Ministry "initiate policies, strategies, and laws for women, youth, children, persons with disabilities, elderly and other vulnerable groups in development; prepare a detail program compatible with the country's overall development plan; implement the same upon approval". UNICEF should thus continue to work with MoWSA as part of its efforts to protect children.

Cross cutting recommendations include for:

- UNICEF to support efforts to strengthen both Ethiopia's MoF and MoPD, and work with other international partners and organisations to mobilise financial, technological and technical resources towards building the resilience of Ethiopia's child population to climate change.
- UNICEF to support efforts to build the capacities of its partners and community organisations to access climate finance.
- UNICEF to develop a policy marker for children in the context of climate change, in line with existing policy markers for gender and climate.

In conclusion, the focus on children in Ethiopia is inadequate when compared to the size of the problem. As a result, UNICEF's role as a development and humanitarian partner is critical for singling children out and ensuring that they function effectively under a very different climate and development future.

Derrera, Sidama region Ethiopia © UNICEF Ethiopia/2023/Bethelhem Assefa

2. BACKGROUND AND INTRODUCTION

2.1 | The Climate Landscape Analysis for Children

Ethiopia has made great strides towards reducing poverty, expanding employment and in reforming and enhancing its governance, institutional and policy space (African Development Bank, 2024). Its rapid economic growth (the fastest in Sub-Saharan Africa) is just one positive indicator of the significant progress being made. However, Ethiopia continues to face a crisis of sustainable development. Job creation in industry and services has not kept pace with population pressure, and the country remains predominantly rural. It depends on rain-fed agriculture for most of its food and economic activity and is thus highly vulnerable to the impact of climate change. Variable rainfall, droughts and floods undermine food security directly by destroying crops and livestock, an indirectly by driving up food prices. Climate and environmental damage to transport, water, educational and health infrastructure causes immediate hardship and undermines Ethiopia's economic growth and human development. These climate impacts are well recognised and documented at the highest levels of the country's policy architecture, led by best practice policy, such as the Climate Resilient Green Economy Strategy (FDRE, 2011) and more recently, Ethiopia's Long-Term Low Emission and Climate Resilient Development Strategy 2020-2050 (LT-LEDS) (MoPD, 2023).

The poorest households and communities are the most vulnerable to climate change. These households lack the resources – such as adequate incomes, education, reliable access to basic services - needed to adapt to climate change, and/or to cope with or respond to the impacts of climate shocks, such as extreme flood events. Children growing up in these households and communities are therefore also vulnerable. Their vulnerability is heightened by their under-developed physiological and immune systems, and their less advanced education and mental faculties. Children, who are not 'little adults' need additional, tailored support in comparison to the adults in their communities, to enable their enhanced resilience in the face of climate change. Girls and women are particularly vulnerable to resource scarcity, and as this report will show, require even further disaggregated, and differentiated responses.

A climate landscape analysis for children (CLAC) helps identify the specific climate-related risks and vulnerabilities facing Ethiopian children. This information is essential for designing and implementing response strategies that can increase social resilience and protect children. It is a resource to assist the UNICEF Ethiopia in developing and tailoring its strategies to accommodate the impact of climate change.

This CLAC seeks to align with Ethiopia's 2011 CRGE strategy, and particularly the aforementioned LT-LEDS, which both, in recognition of the climate crisis, aim for net zero emissions (by 2050) and low carbon economic growth. The CLAC also aligns with Ethiopia's 2024 Humanitarian Response

Plan which prioritizes the provision of relief for those displaced by territorial conflict and drought (OCHA, 2023). The CLAC enhances the CRGE by focusing on CEED issues, paying particular attention to the impact on children.

The CLAC seeks to support and underpin efforts to leverage climate finance toward child responsive climate initiatives. Notably, in November 2022, international parties to the United Nations Framework Convention on Climate Change (UNFCCC) agreed to consider funding arrangements for developing countries suffering loss and damage from climate change. This was developed further at the 28th Conference of the Parties (COP 28) in Dubai (December 2023). Ethiopia stands to benefit considerably from the operationalisation of the Loss and Damage Fund – a financial mechanism designed to provide crucial support to vulnerable countries that are bearing the brunt of the impacts of climate change.

In addition, the UNFCCC is making a more concerted effort towards understanding and responding to the impacts of climate change on children. In April 2024, the Chair of the UNFCCC Subsidiary Body for Implementation called for inputs to an Expert Dialogue on Children and Climate Change to discuss the disproportionate impacts of climate change on children, and relevant policy solutions in this regard. This event was held at the sixtieth session of the Subsidiary Bodies in Bonn, Germany in June 2024, where the MoPD represented the Ethiopian government.

2.2 | Socio-economic, demographic and development context

The Federal Democratic Republic of Ethiopia (hereafter Ethiopia) is a low-income country with the second largest population in Africa. It is home to 56.3 million children under 18, of whom 21 million are aged five or younger and half of whom are female. Despite rapid urbanisation and industrialisation over the past decades, Ethiopia remains an agricultural-based economy. Policy initiatives such as the Growth and Transformation Plan (FDRE, 2016) and the Ten Years Development Plan (FDRE, 2021) added new impetus to socio-economic development. Unfortunately, this progress was compromised by global shocks (notably COVID-19 and the climate crisis) and domestic and regional conflict (Denano T., 2023; OCHA, 2023a).

2.2.1 | Economic growth and development

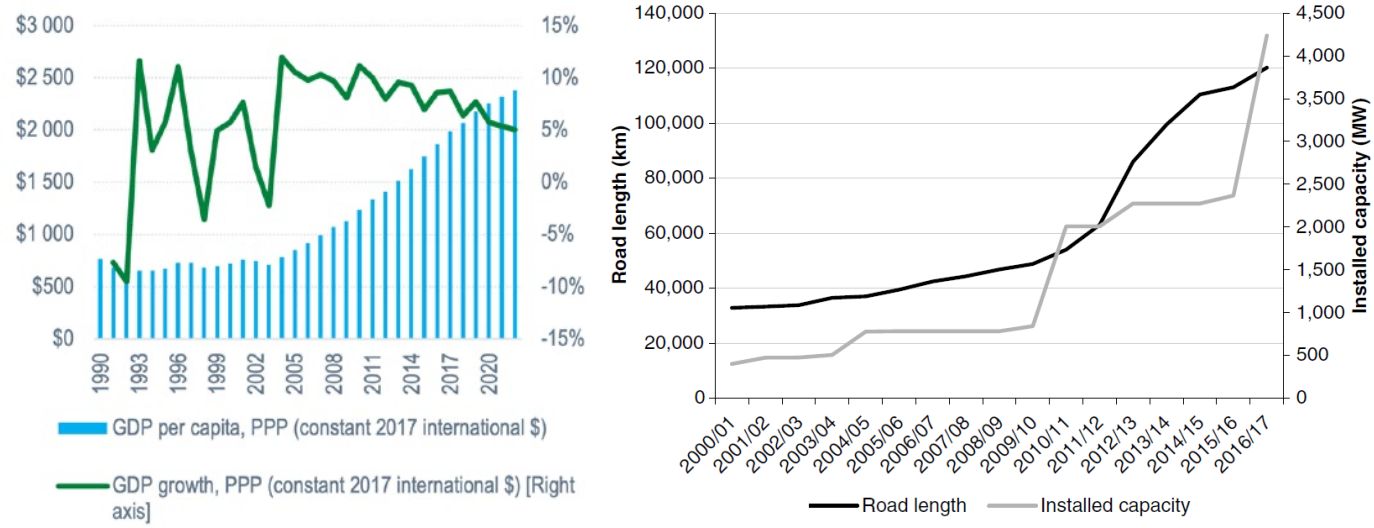
Ethiopia is unique in Africa for its record of rapid economic growth and human development. Real growth averaged 10% per annum in the 15 years from 2003 and real GDP per capita more than tripled (Figure 1).

A series of mega projects including new railways, hydropower dams and industrial parks were visible symbols of Ethiopia's economic transformation. Road length and installed electricity capacity grew sharply (Figure 1) supporting further development, but also contributing to growing government debt (UNDP, 2022: 100).

Since 2004, Ethiopian growth has been on a trend decline and constrained foreign exchange shortages. The removal, following the north Ethiopia conflict, of Ethiopia's tariff free access to US markets in 2022, was a major blow to Ethiopia's economic prospects.



▼ Figure 1. Economic growth in Ethiopia: Growth in GDP (left), and increases in road length and installed capacity (right)



▲ *Source: Left: World Bank data (https://databank.worldbank.org/), Right: Lavers, 2023: 5.*

2.2.2 | The socioeconomic situation

The Ethiopian government's primary objectives are ensuring sustainable and inclusive development which significantly reduce poverty. Since the early 2000s, Ethiopia has experienced rapid economic growth, coupled with social assistance initiatives such as the Productive Safety Net Programmes (PSNP) for both urban and rural populations. These efforts have significantly improved the livelihoods of many Ethiopians.

Between 2000 and 2022, notable advancements were observed in various social indicators: Ethiopia's Human Development Index surged by 72.4%, infant mortality rates were halved, life expectancy at birth increased by 14.4 years (now reaching an average of 65 years), and expected years of schooling rose by 5.3 years (UNDP, 2022). However, despite these achievements, UNICEF highlights that Ethiopia ranks 15th out of 163 countries in terms of the vulnerability of children to adverse impacts, underscoring the ongoing challenges faced by this demographic.

Despite the progress made, recent challenges have intensified disparities and vulnerabilities. Factors such as severe drought conditions, population displacement driven by climate change, economic disruptions caused by the COVID-19 pandemic, and geopolitical tensions from the Russia-Ukraine conflict have placed additional stress on Ethiopian households. These crises have heightened the risk of both monetary and multidimensional poverty among children, further exacerbating the impacts of climate change on vulnerable populations and on the income disparity between urban and rural regions in Ethiopia, in which urban areas displaying particularly high levels of inequality.

Nevertheless, government programs have provided some relief. Research by Abay et al. (2023) indicates that the PSNP effectively shielded participating households from the adverse effects associated with COVID-19 disruptions, demonstrating the program's crucial role in supporting resilience.

Data from the World Food Programme highlights the seasonal fluctuations in food prices and casual wages across Ethiopia. When food prices increase at a rate that outpaces wage growth, vulnerable families are compelled to reduce their food expenditures. This situation places children at a heightened risk of malnutrition, which can have long-lasting, detrimental effects on their development.

In summary, while Ethiopia has made commendable strides in improving health and education indicators, ongoing economic and environmental challenges continue to threaten the well-being of its most vulnerable populations, particularly children. Addressing these disparities and ensuring sustained support through government programs will be essential for building a more equitable and resilient future for all Ethiopians.

2.2.3 | The rural-urban divide

Ethiopia's 2015/16 poverty analysis study (FDRE National Planning Commission, 2017) illustrates the urban-rural divide in terms of living standards. As shown in Table 1, real per capita consumption (both food and non-food) is substantially lower in rural areas, and rural dwellers spend more than half their income on food. Rates of absolute poverty and food poverty are higher in rural areas.

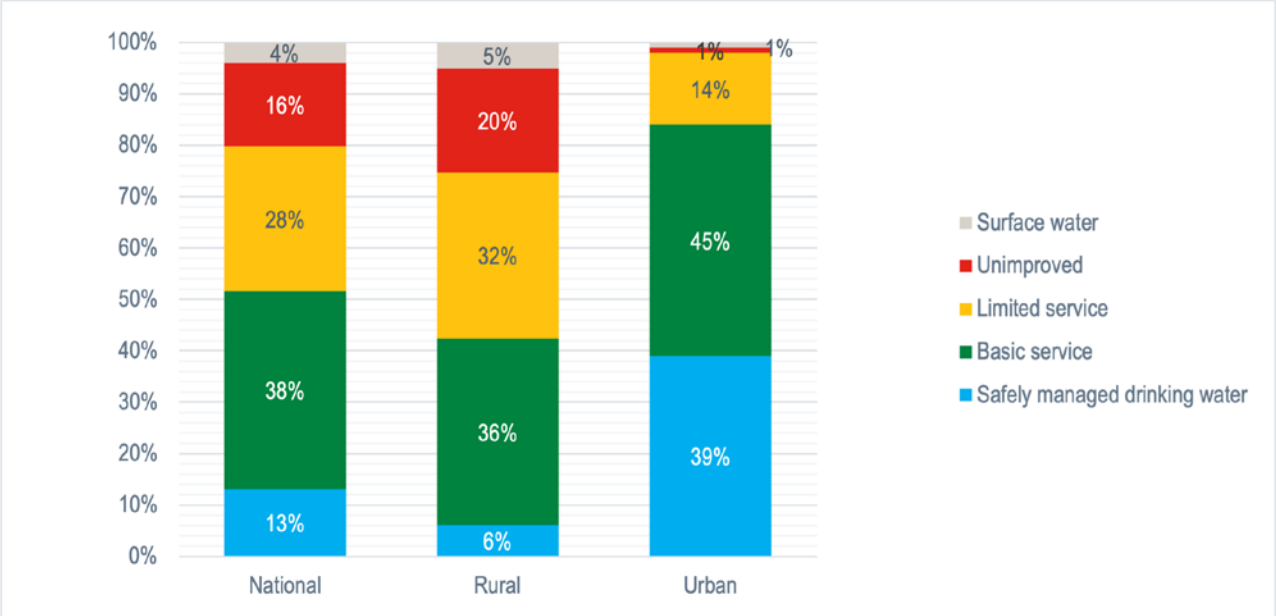
▼ Table 1. Real per capita consumption expenditure in 2010/11, in Ethiopian Birr

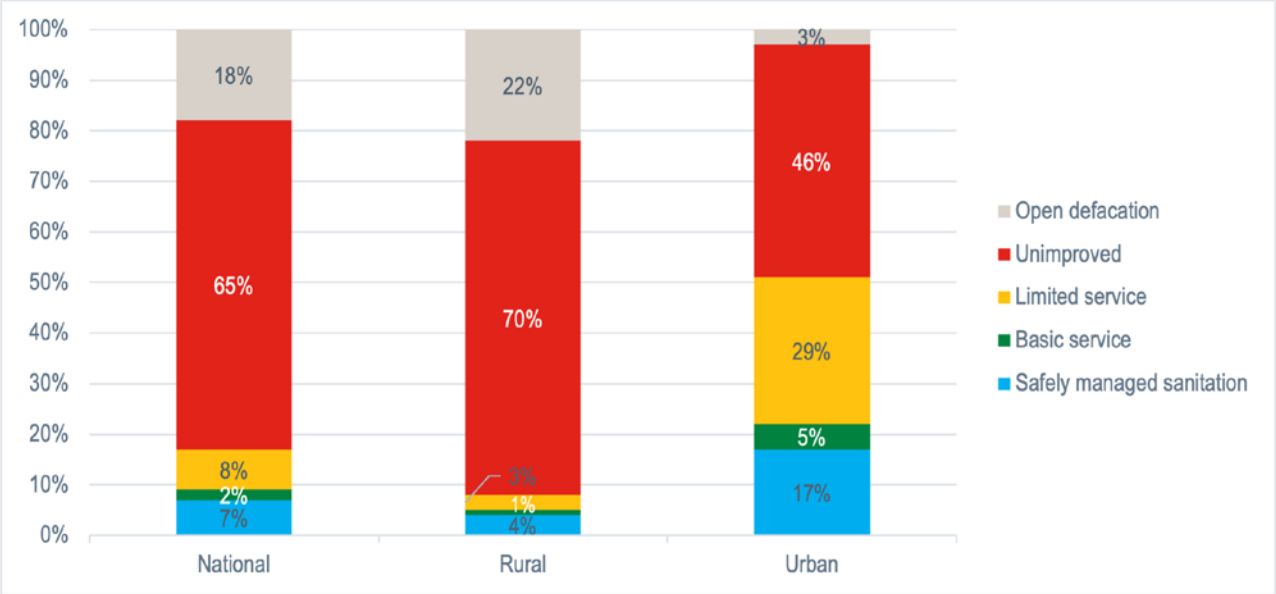
	Urban	Rural	Total
Real per capita food consumption expenditure	7063	4807	5237
Real per capita non-food consumption expenditure	8556	4186	5020
Real per capita total consumption expenditure	15619	8992	10257
The share of food in total consumption expenditure	46%	53%	51%
% in absolute poverty	14.8%	25.6%	23.5%
% in food poverty	15.2%	27.1%	24.8%
Gini coefficient	38.0	28.4	32.8.

▲ *Source: FDRE (National Planning Commission), 2017: 13-14.*

The rural-urban divide is manifested also in differential access to water, sanitation, and hygiene (WASH). As shown in Figure 5, only 13% of Ethiopians have access to safe drinking water, but far more do so in urban areas: only 6% of rural dwellers, compared to 39% of urban dwellers, have access to safe drinking water. Similar discrepancies are evident regarding sanitation: 92% of rural dwellers must contend with unimproved sanitation or open defecation, compared to 49% of urban dwellers.

▼ Figure 2. Access to WASH in Ethiopia: Water (top panel); Sanitation (bottom panel)





▲ *Source: WHO and UNICEF Joint Monitoring Programme for Water Supply, Sanitation and Hygiene (JMP). Data for 2022. Available from https://washdata.org/data/downloads#ETH*

2.2.4 | People living with disabilities

Ethiopia experiences a relatively high prevalence of disabilities. According to the World Bank, 15% of the world's population has experienced some form of disability, with most of these people coming from developing countries (World Bank Group, 2018). The World Health Organisation (WHO) estimates that 17.6% of Ethiopians live with some form of disability, with most living in rural areas. This contrasts with ministry surveys and national census data which estimate this group as being between 1.1% and 7.6% of the population. Estimates of prevalence in Ethiopia are complicated by variations in definitions, misconceptions about disabilities, attitudes and stigma, since disability is considered a highly taboo topic in Ethiopia, an unwillingness of families to share information about their children and families, and inconsistent data collection and strategies (Krupa, et.al., 2022).

Ongoing political instability and the multiple conflicts have contributed to increased disabilities in the population and pose a challenge to efforts aimed at upholding the rights enshrined in the 2007 United Nations Convention on the Rights of Persons with Disabilities (UNCRPD). Along with increased *frequency* of disability in children as a result of these pressures is an increase in displacement of children *already with* disabilities – the negative impacts of which are compounded by a lack of inclusive community shelters and specialised support programmes. According to the country's demographic profile, most Ethiopians living with disabilities are poor and live in rural areas. Rural poverty is the most significant barrier to access to critical resources such as social services and health care. Despite the government's efforts towards inclusive education, stigma continues to create barriers for students with disabilities and their access to education (Krupa, et.al., 2022).



▲ *UN heads of Agencies with mobility (wheelchair) race winners. The 2022 Great Ethiopian Run international 10km race held in Addis Ababa with lead message 'every child learns'. UNICEF partnered with the Great Ethiopian Run to promote every child's right to an education. ©UNICEF Ethiopia/2022/Nahom Tesfayeon*



▲ *Lina Nasir, 9, is a child with disability in Bul'ad IDP camp near the town of Hargele in the Somali region of Ethiopia. Lina and her family are displaced by drought. She is still too young to understand the climate crisis that is unfolding around her, yet she is living its worst consequences. ©UNICEF Ethiopia/2023/Mulugeta Ayene*

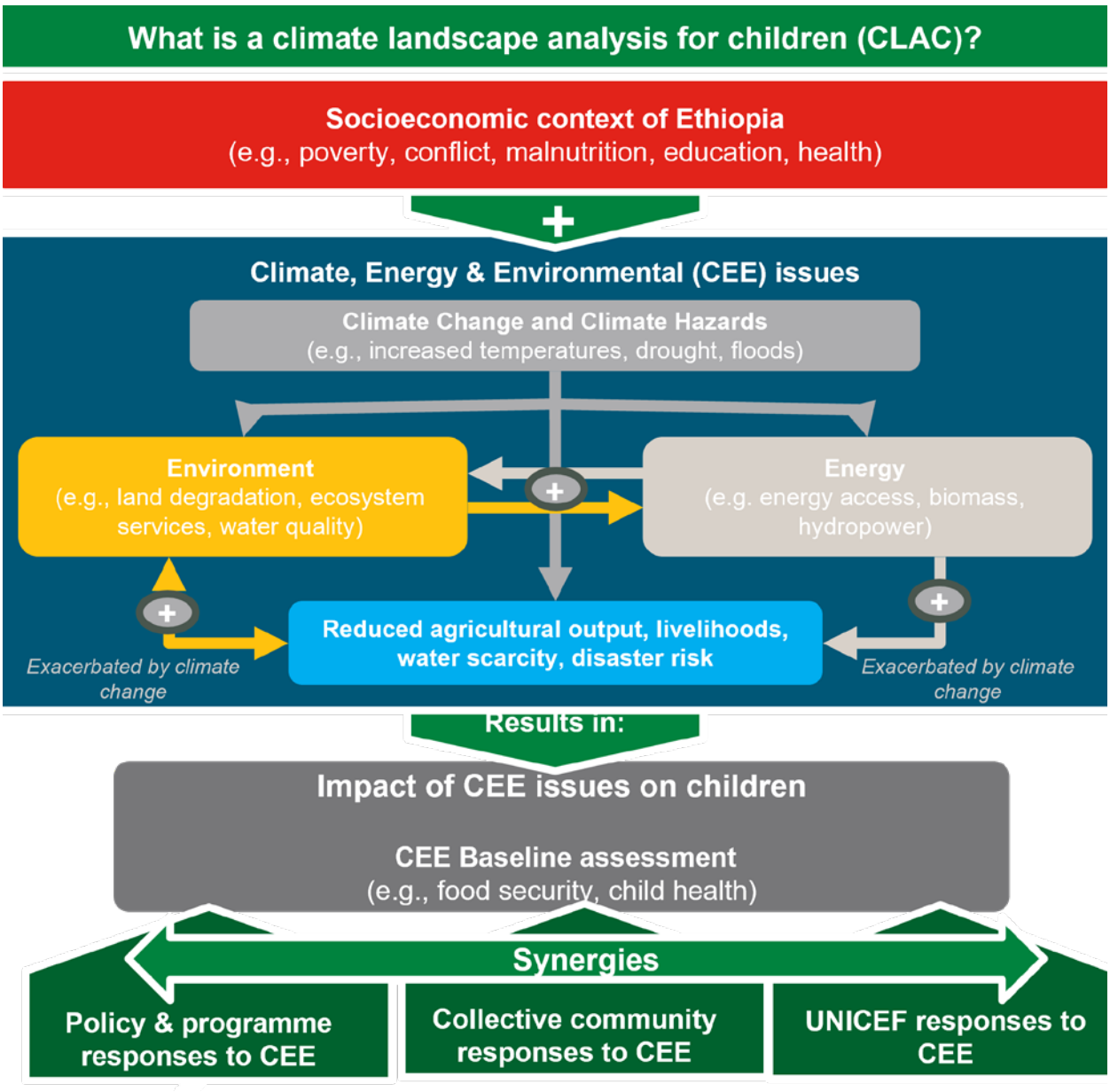


▲ *Aisha holds her third child Udma Ahmed, which she gave birth to inside her home with the assistance of traditional midwife her. The child received vaccination from a health worker but the mother did not. She's living n a home near the MHNT site in lubakda kebele, kore woreda March-9-2016. © UNICEF Ethiopia/2016/Mulugeta Ayene*

3. APPROACH AND METHODOLOGY

This CLAC was commissioned by the UNICEF Ethiopia Country Office, with the support and collaborative inputs of the MoPD, to provide an overview of key CEED challenges and their implications for child-centred climate response strategies. The conceptual framework for the CLAC can be seen in Figure 6 that follows.

▼ Figure 3. Conceptual framework for developing the CLAC



The development of the CLAC entailed descriptive and statistical analysis as well as stakeholder engagement and drew on existing statistics and the knowledge and insights of key informants. Aspects of the work were conducted by the OneWorld team's in-country experts, and the analysis was drafted by OneWorld, but finalised only after extensive consultation with UNICEF Ethiopia.

Site visits were conducted in three vulnerable regions selected through a review of climate risk and vulnerability in Ethiopia to identify the country's most vulnerable regions. The fieldwork involved in-depth interviews and focus group discussions, with attention to ethical protocols. A separate *Stakeholder Engagement Report* is provided in Annexure 3 to this report. Perspectives and insights from stakeholders have informed this report. In addition to the site visits, the project team engaged relevant government ministries, agencies, research institutions, and civil society organisations to identify gaps in the analysis and priority areas for future child focused CEED interventions. Extensive consultation took place with UNICEF Ethiopia during the drafting process.

Although the project was not set up to apply rigorous sampling techniques and to collect primary data, stakeholder engagement shaped the content and policy recommendations, providing a richer understanding of regional variation and the need for differentiated responses. Ethiopia has a diverse geography, and significant variation in socio-economic status across the country. The risks posed by climate change for children thus vary regionally, with some regions are exposed to drought, others to floods and additionally landslides. Variation in the capacity of households' adaptive capacity to respond was also emphasised.

UNICEF's mission focuses on child protection, supports their well-being, and supports children to reach their full potential. This CLAC shows that a child-centred approach must have embedded within it a cognisance of Ethiopia's multifaceted and varied CEED challenges, and that protecting children is essential for sustainable human and economic development.



▲ *Site Visit: Hawassa Consultation Elementary School ©OneWorld/2023*



▲ *Validation Workshop ©OneWorld/2024*



▲ *Jijiga urban community consultation ©OneWorld/2023*



▲ *Urban Communithy Consultation,Hawasa City ©OneWorld/2023*

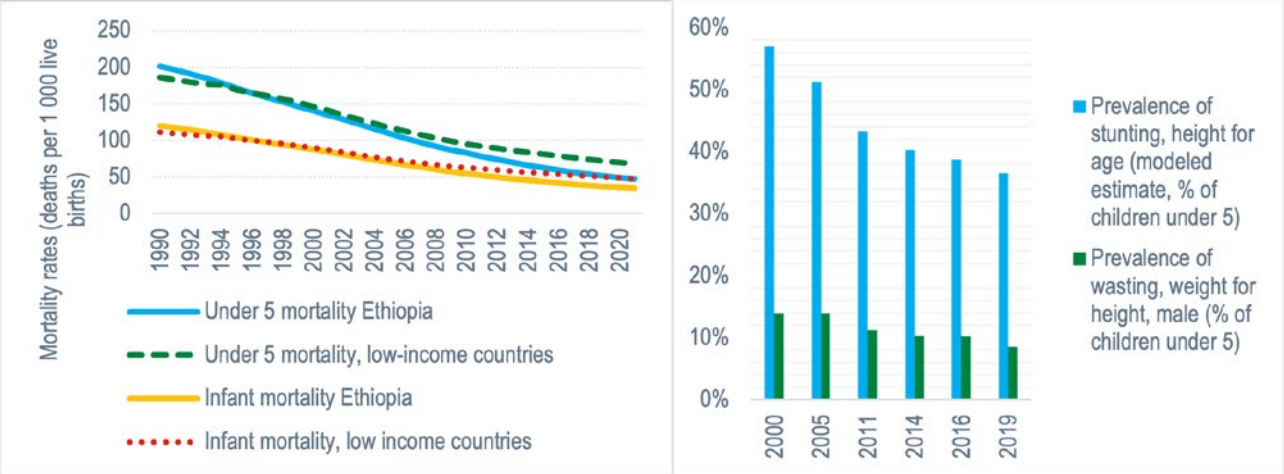


Omo district - ©UNICEF Ethiopia/2022/Raphael Pouget

4. A SNAPSHOT OF ETHIOPIA'S CHILDREN

The health of Ethiopian children has improved markedly since the 1990s. As shown in Figure 7, Ethiopia shifted from having infant and child mortality rates above average for low-income countries in the 1990s, to rates well below them. Rates of child stunting (height for age) and wasting (weight for height) also declined over the period. Maternal mortality declined by more than two thirds, from 953 per 100,000 live births in 2000, to 267 in 2021[4].

▼ Figure 4. Child health outcomes: (left) Mortality rates; (right) Prevalence of stunting and wasting



▲ *Source: Data from the Ethiopian Demographic and Health Survey, reported in World Bank data (https://databank.worldbank.org/)*

This improvement was underpinned by economic growth, which facilitated rising per capita income, the government's Health Extension Programme (Assefa et al, 2019) and other government spending on health, which exceeded 2% of GDP in the early 2000s, and the expansion of social safety net interventions to reduce poverty. Government expenditure on health fell to less than 1% of GDP in 2007 and appears to have remained roughly at that level[5].

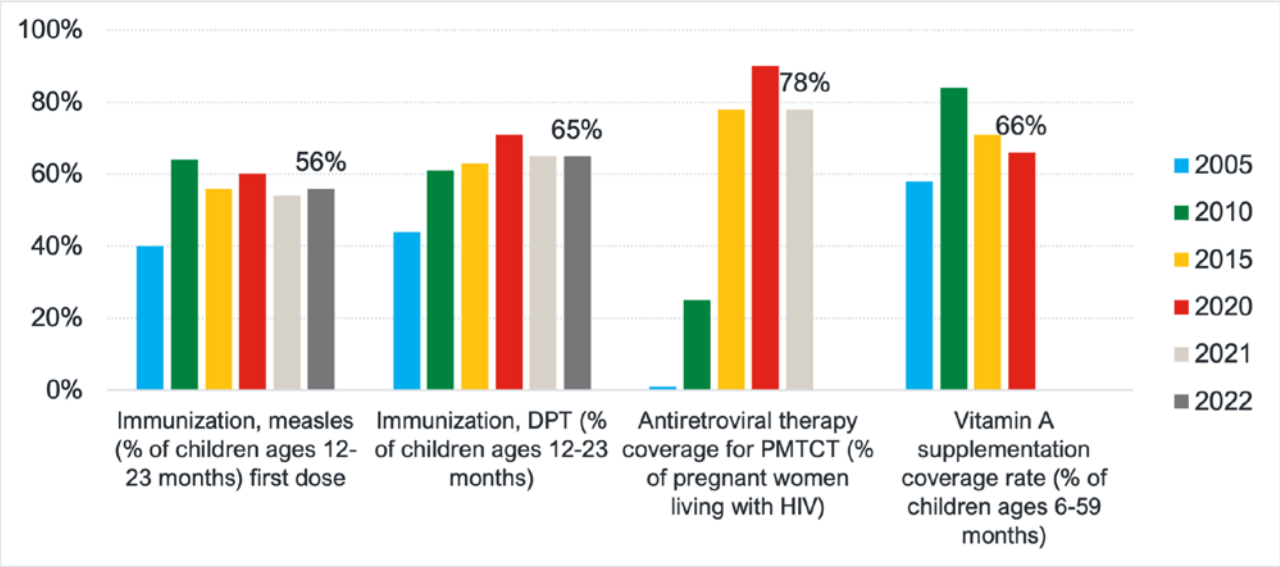
Immunisation rates, which rose sharply in the mid-1990s, have mostly fallen since 2020. Rates of Vitamin A supplementation coverage and antiretroviral treatment coverage for pregnant HIV-positive women have also fallen (Figure 8). It should be noted however that no data was accessible for Antiretroviral therapy in 2022 and Vitamin A in 2021-22.

4 Data from the World Bank are available from 2000 to 2021 (https://databank.worldbank.org).

5 Data from the World Bank are available up until 2020 (https://databank.worldbank.org).

The same trend is evident in primary education. Ethiopia made impressive gains in school enrolment between 1995 and 2015. Research from 2012, endorsed by the Ministry of Education, identified the goal of having all children in school by 2015 (ATEM, 2012). Unfortunately, Ethiopia's performance worsened in the 2020s. Figure 9 shows that more than a fifth (22.3%) of children in 2021 were out of school, and that this was gendered: more than a quarter (25.9%) of girls were out of school. Government spending on education declined from 5.5% of GDP in 2006 to 4.5% in 2019[6].

▼ Figure 5. Rising and then stagnating health coverage for children, 2005-2022



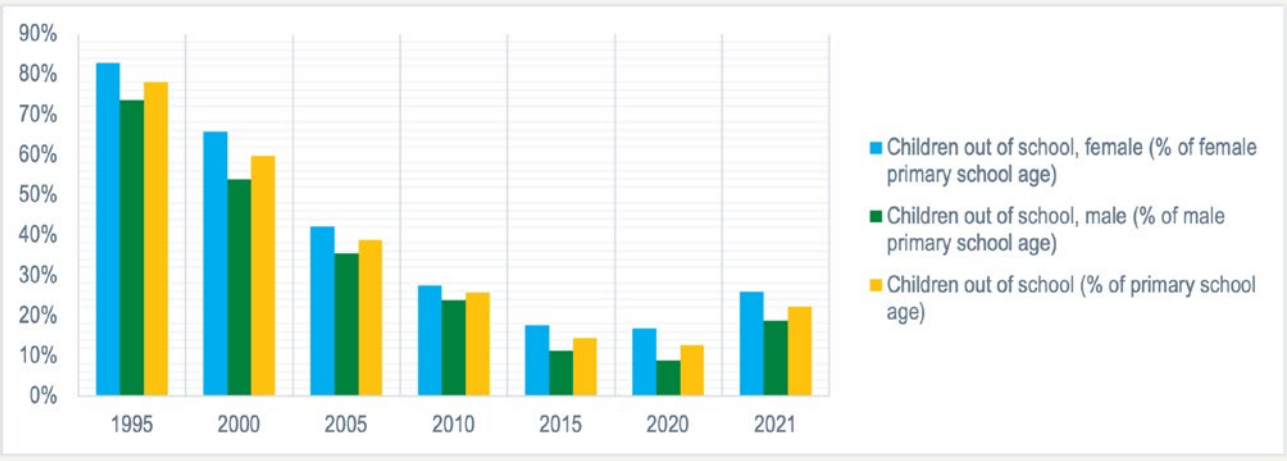
▲ *Source: World Bank data (https://databank.worldbank.org/) and the WHO immunization data bank. Immunisation data reported by the World Bank are WHO UNAIDS estimates. These can also be found here: https://immunizationdata.who.int*

According to the most recent survey of child labour in Ethiopia (ILO and CSA, 2018), most children are engaged in labour, and those with longer working hours are less likely to attend school. Just over half (51%) were involved in economic activities, predominantly in agriculture, and most of these were boys.

The most common reason for pulling children out of school and into the labour market is poverty, and girls are more likely to be removed from school than boys (UNICEF Ethiopia, CSA and C4ED, 2020). Interviews with stakeholders suggested that this was due to cultural biases, including female genital mutilation and the child marriage of girls, that work in favour of men and boys. Declining quality of WASH facilities at schools may also deter girls from attending school as it becomes harder to manage menstrual health and hygiene.

6 The most recent available estimate from the World Bank is 2019 (https://databank.worldbank.org)

▼ Figure 6. Children out of primary school

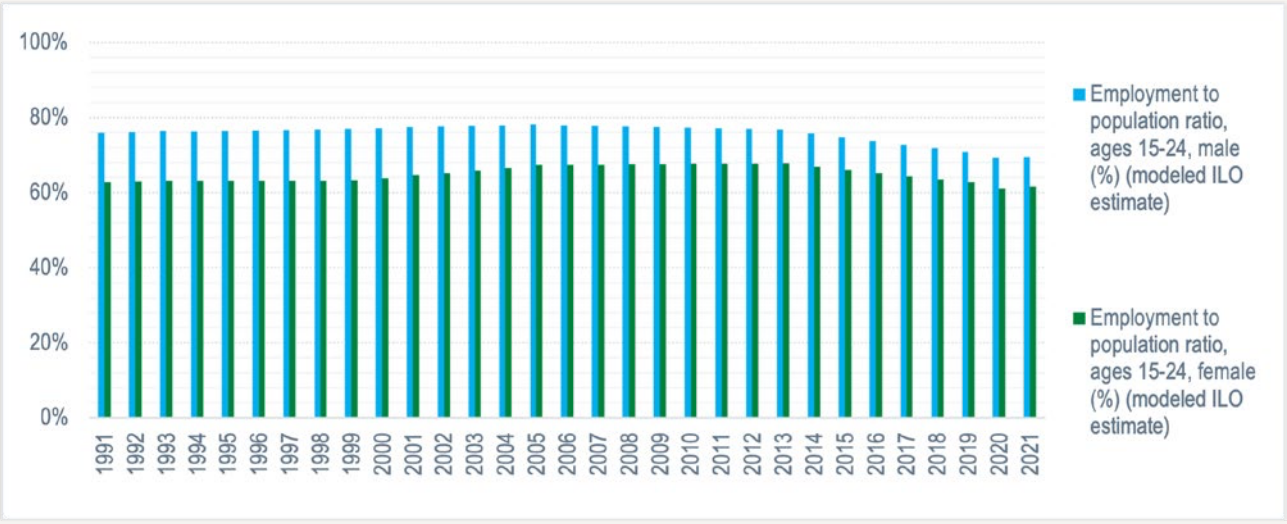


▲ *Source: World Bank data (https://databank.worldbank.org/)*

Boys are spending more time herding animals, but it is girls who bear the responsibility for household chores. Girls appear to be the most negatively affected by the stresses placed on households by climate change (CSA, UNICEF Ethiopia and C4ED (2020). Women and girls are responsible for collecting firewood and water. Environmental destruction means that they must walk longer distances, thereby exposing themselves to additional risk of heat stress and gender-based violence (ibid). The increased demands on their time make it more likely for girls to be removed from school. Stakeholder consultations reflected strong and widespread concern about the impact of climate change on the prospects for Ethiopian children, especially girls.

Ethiopia's growth path was successful in generating job opportunities for young people, but progress has slowed since the late 2000s. As shown in Figure 10, the gap in employment absorption narrowed as female labour force participation increased. However, over the past decade, many young people between 15 and 24 found themselves out of employment.

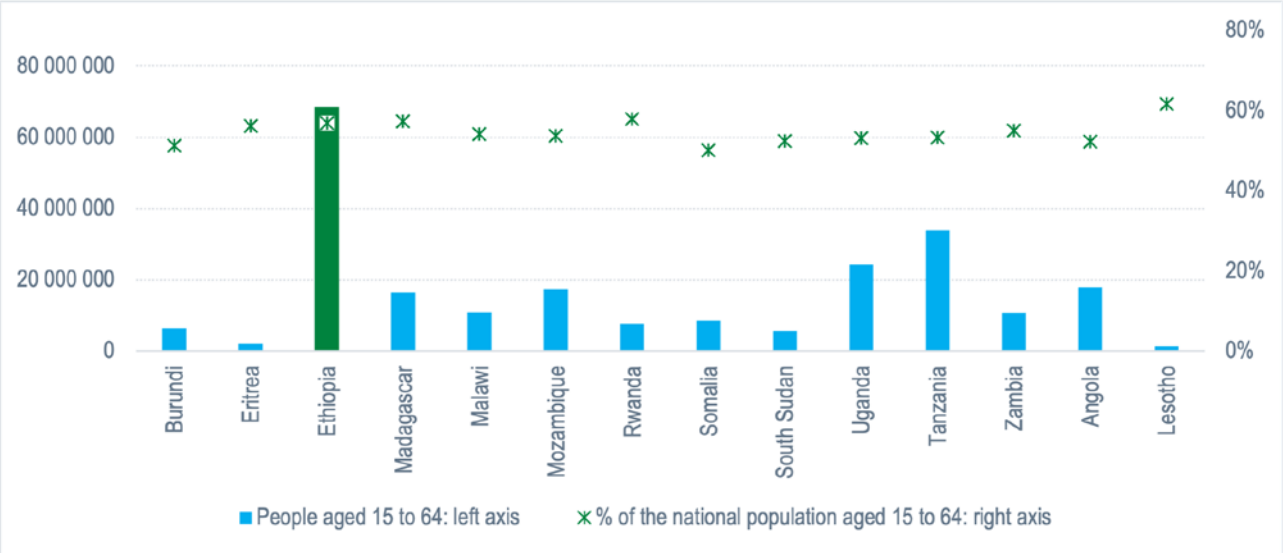
▼ Figure 7. Employment in relation to population for young people, 1991-2021



▲ *Source: World Bank data (https://databank.worldbank.org/)*

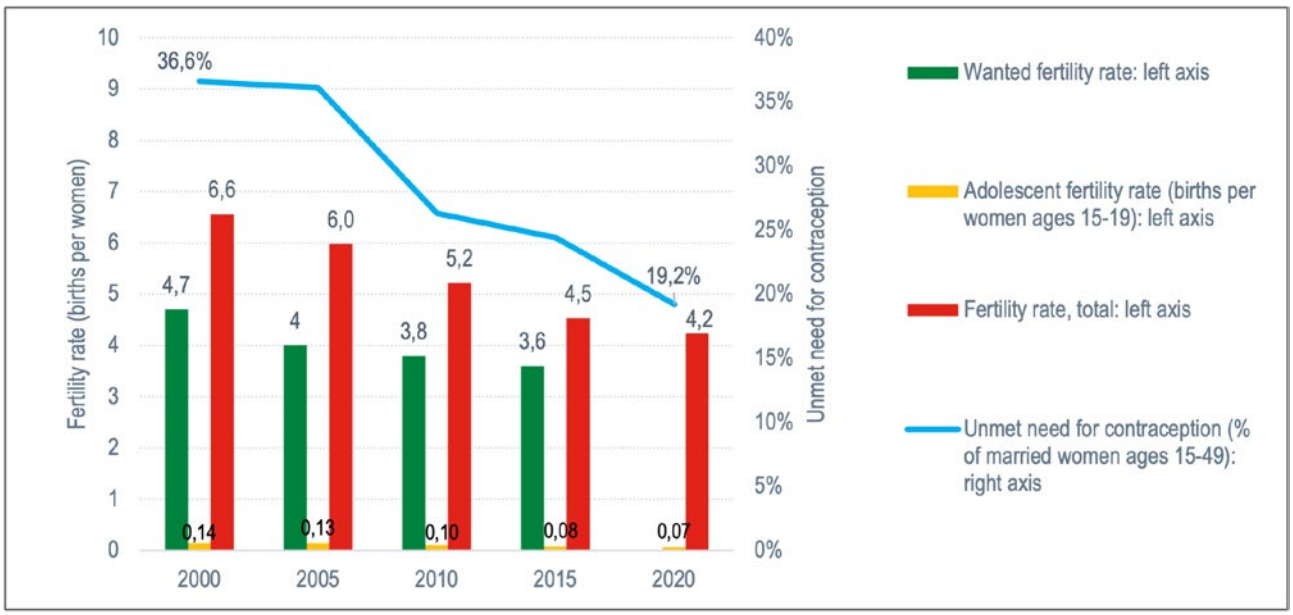
More than half (57%) of Ethiopia's population is of working age, between 15 to 64. This is similar to other low-income countries in East and Southern Africa, although Ethiopia has a bigger population to accommodate (Figure 11).

▼ Figure 8. Ethiopia's labour force in comparative perspective



▲ *Source: UN Population Division (available: https://databank.worldbank.org/)*

▼ Figure 9. Fertility and unmet need for contraception, 2000-2020



▲ *Source: World Bank data (https://databank.worldbank.org/)*

Ethiopia will better meet the needs of its children if women are empowered to plan and space births. This means addressing the unmet need for contraception in Ethiopia and supporting interventions to strengthen the decision-making power of women. Measures to empower women include broader interventions to address gender inequality (Beyene, 2015) such as combatting harmful cultural practices, such as female genital mutilation, which affects two-thirds of women between the age of 15 and 49 in Ethiopia.[7] Labour-market interventions are also needed to address labour-market discrimination and gender-based occupational segregation, as are programmes to improve women's access to financial resources.

Figure 12 shows that fertility rates (and desired fertility rates) have been declining in Ethiopia, as has unmet need for contraception. Even so, according to Demographic and Health Survey (DHS) data, about a fifth of married women who desire contraception do not have access to it. Other studies suggest that the proportion of those with unmet need for contraception could be higher, more in the range of 26% to 37% (Getaneh et al., 2020).

Addressing this shortfall should be an urgent priority, in terms of improving outcomes and the wellbeing of both women and children. This means ensuring availability of contraception, as well as educating and empowering women to make more informed decisions about their fertility.



▲ *Workitu Abera is a health worker at Kolabe Bale Health Post in Sire, Oromia Region, Ethiopia. She's conducting a routine check-up with Birke Mulugeta who is 9-months pregnant. © UNICEF Ethiopia/2023/Ayene*

7 The prevalence of female genital mutilation declined from 79.9% in 2000 to 65.1% in 2016, but remains one of the highest in the world. Data from the World Bank: https://data.worldbank.org/indicator/SH.STA.FGMS.ZS



Dara - Ethiopia/2024/Demissew Bizuwerk

5. CEED IN ETHIOPIA

The world is facing a climate crisis and Ethiopia is particularly vulnerable because of its linked development and environmental challenges. The country's second National Communication to the United Nations Framework Convention on Climate Change (UNFCCC) emphasised recurrent, and at times, consecutive droughts, soil erosion, desertification, deforestation, land degradation and loss of biodiversity (FDRE, 2015: 164). As the Ethiopian Ministry of Development recognises, its low level of development, including its dependence on rainfed agriculture, low health-service coverage, inadequate road infrastructure, especially in drought prone areas), and weak institutional structures, contribute substantially to its vulnerability to climate change and environmental risks (FDRE, 2015: 164).

Persistent CEED issues have major and increasing impacts on health outcomes for children. As shown earlier, there has been a strong improvement in child health outcomes in Ethiopia since 2000. Figure 7 in the previous section, for example, shows a decline in the prevalence of child stunting from more than a half to just over a third. Yet the fact that one-third of the children are stunted remains a major development challenge and demonstrates that the productive potential of a large number of children has been undermined by insufficient nutrition, exposure to disease, and heat stress. As Randal et al. (2020) found in their longitudinal analysis of data from Ethiopia's Demographic and Health Surveys, pregnant women exposed to high temperatures were more likely to have stunted children, while greater rainfall during the rainy seasons in early life was associated with a much lower risk of stunting.

Put differently: Ethiopian children have become less stunted over time, but this pattern is complicated by climate change, with those exposed to high temperatures in utero and to drought in their early years more likely to be stunted. The Emergency Nutrition Coordination Unit (ENCU), a government unit located within the Ethiopian Disaster Risk Management Commission (EDRMC), and well supported by UNICEF, operates at the front lines of these ongoing nutrition-related challenges. In the Oromia region for example, the unit reported an increase in severe acute malnutrition (SAM) cases in children in the latter half of 2023 – the result of a multiplicity of factors including droughts, floods and displacement (Global Nutrition Cluster, 2024). Ameliorating this problem matters for the entire region as Ethiopia accounts for more than half of children under 18 exposed to heat waves in low-income East and Southern African countries (Figure A.1, Appendix 1).

5.1 | Climate change

The effects of climate change are already evident in Ethiopia, as average temperatures have been rising by between 0.1 - 0.4˚C per decade since the 1960s (FDRE, 2015: 168). Recent reports indicate that as of 2020, this amounts to a total average annual temperature increase of

1.7˚C (World Bank, 2024). The highest warming rates are for central Ethiopia, where more than 80% of Ethiopians live, and which accounts for almost all (95%) of the cropped land (FDRE, 2015: 170). The drier areas to the southeast and the northeast (in parts of the Oromia region and much of the Somali region) have the highest variability and vulnerability to climate change, and this is likely to worsen with predicted higher temperatures (ibid: 167).

Ethiopia is ranked the 20th most vulnerable country to climate change globally, and the 44th least ready country for climate change in terms of exposure and adaptation to climate change effects (UoND, 2018). Building resilience to climate shocks is essential, especially in rural areas (Abebe & Bekele, 2017; Eshete et al., 2020). This is further emphasised by contemporary government policy published on the issue, including the MoPD's LT-LEDS (MoPD, 2023).

5.1.1 | Geography and climate

Located in the Horn of Africa, Ethiopia is a diverse and geographically unique country, known for its varied topography, which includes high plateaus, deep valleys, and rugged mountains. The central and northern regions of Ethiopia are dominated by a highland plateau. The Ethiopian Highlands include the Simien Mountains, Bale Mountains, and other prominent ranges. These plateaus are often referred to as the "Roof of Africa" because they contain some of the highest peaks on the continent, including Ras Dashen, the highest point in Ethiopia.

Ethiopia is part of the East African Rift System, and the Great Rift Valley runs through the country. This geological feature has created a series of deep valleys, escarpments, and lakes. Some of the famous lakes within the Ethiopian Rift Valley, important to the economy of the country and the region, include Lake Tana, the largest lake in Ethiopia, and the saline Lake Abijatta.

Ethiopia also has lowland regions in the east and south. These lowlands include arid and semi-arid areas, such as the Danakil Depression, which is one of the hottest and lowest places on Earth. Ethiopia is the source of the Blue Nile, a major tributary of the Nile River, which is shared by ten countries. The Blue Nile originates from Lake Tana and flows northward. Ethiopia is also crisscrossed by various other rivers, including the Awash, Omo, and Juba rivers.

Ethiopia's climate is highly variable because of its diverse geography. Influenced by elevation, geographical location, and mountain ranges, it has a wide range microclimates and ecosystems. This variability makes it ecological and geographically significant.

Overall, Ethiopia is considered largely arid, but it exhibits a high variability of precipitation. The country can be divided into three climatic zones (World Bank, 2023):

1. Alpine vegetated cool zones (Dega) with areas over 2,600 m above sea level, where temperatures range from near freezing to 16°C
2. The temperate Woina Dega zones where much of the population is concentrated, in areas between 1,500 and 2,500 m above sea level with temperatures ranging between 16°C and 30°C
3. The hot Qola zone, which encompasses areas between 1,500 and 2,500 meters above sea level, and has temperatures ranging from 27°C to 50°C.

Ethiopia has two main rainy seasons: the belg, which occurs from February to April, and the kiremt, which happens from June to September. The timing and intensity of these seasons vary by region.

5.1.2 | Observed impacts of climate change

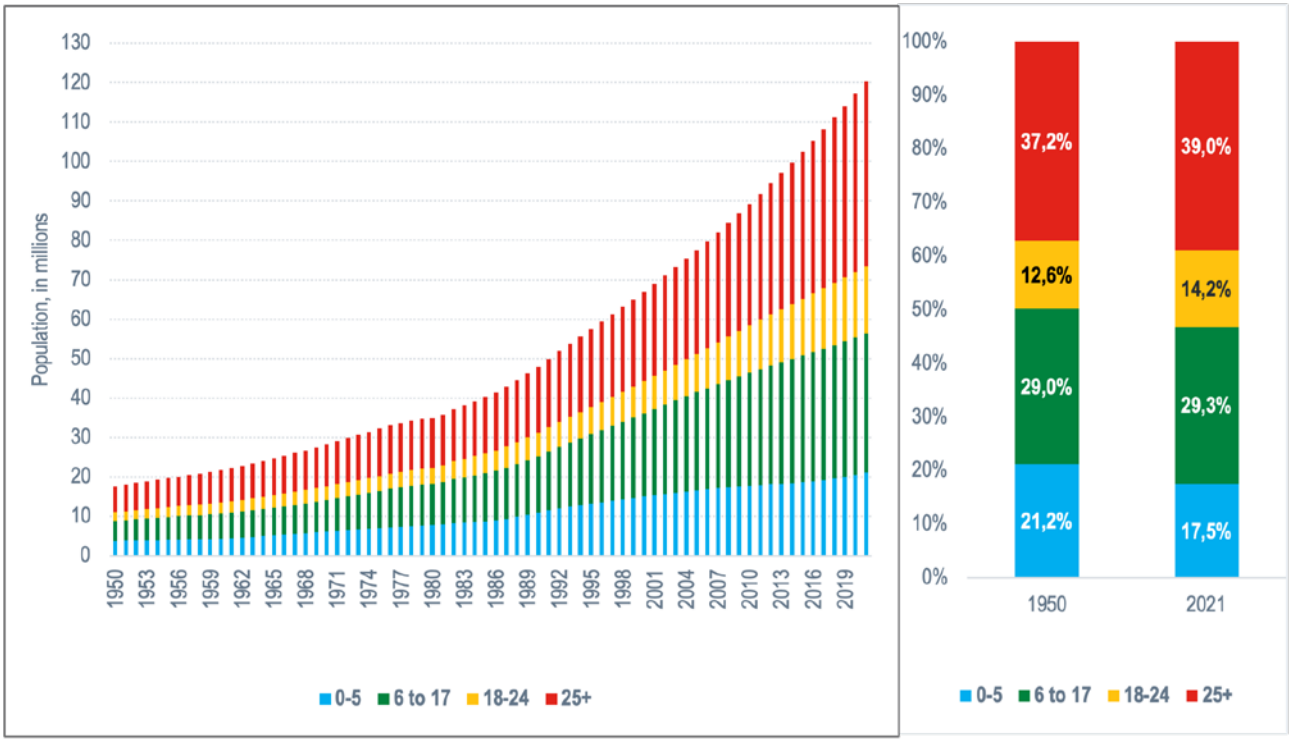
Ethiopia, a landlocked country, is one of the African countries highly vulnerable to the impacts of climate change. The specific effects vary across the regions of the country as discussed in the sections that follow. It is already experiencing severe climate change impacts arising from increased temperatures and changing rainfall patterns (rainfall variability). Rising temperatures are affecting crop yields, livestock, and human health. Heat stress is resulting in reduced productivity in agriculture and increased health risks, particularly in poor communities with few resources for adaptation. Irregular rainfall patterns and shifts in the timing of the rainy seasons have made it challenging for farmers to predict the best times for planting and harvesting.

This is leading to decreased agricultural productivity and reduced food security. When combined, rising temperatures and increased rainfall variability are increasing the frequency and intensity of extreme events in Ethiopia, mainly manifesting in heat stress, droughts, floods, and landslides. The implications for water availability, agriculture and food security, human health, and lives and livelihoods, are significant, as elaborated in the sub sections that follow.

Heat stress

Children are especially vulnerable to heat stress. According to the United Nations Population Division, 17.8 million Ethiopians are under the age of five. About 73.4 million are under the age of 18, accounting for almost half (46.8%) of the total population (Figure 13). Of these, about four-fifths are exposed to heat waves (Figure 14). When children are affected, so is Ethiopia's future.

▼ Figure 10. Ethiopia's population by age, 1950-2019

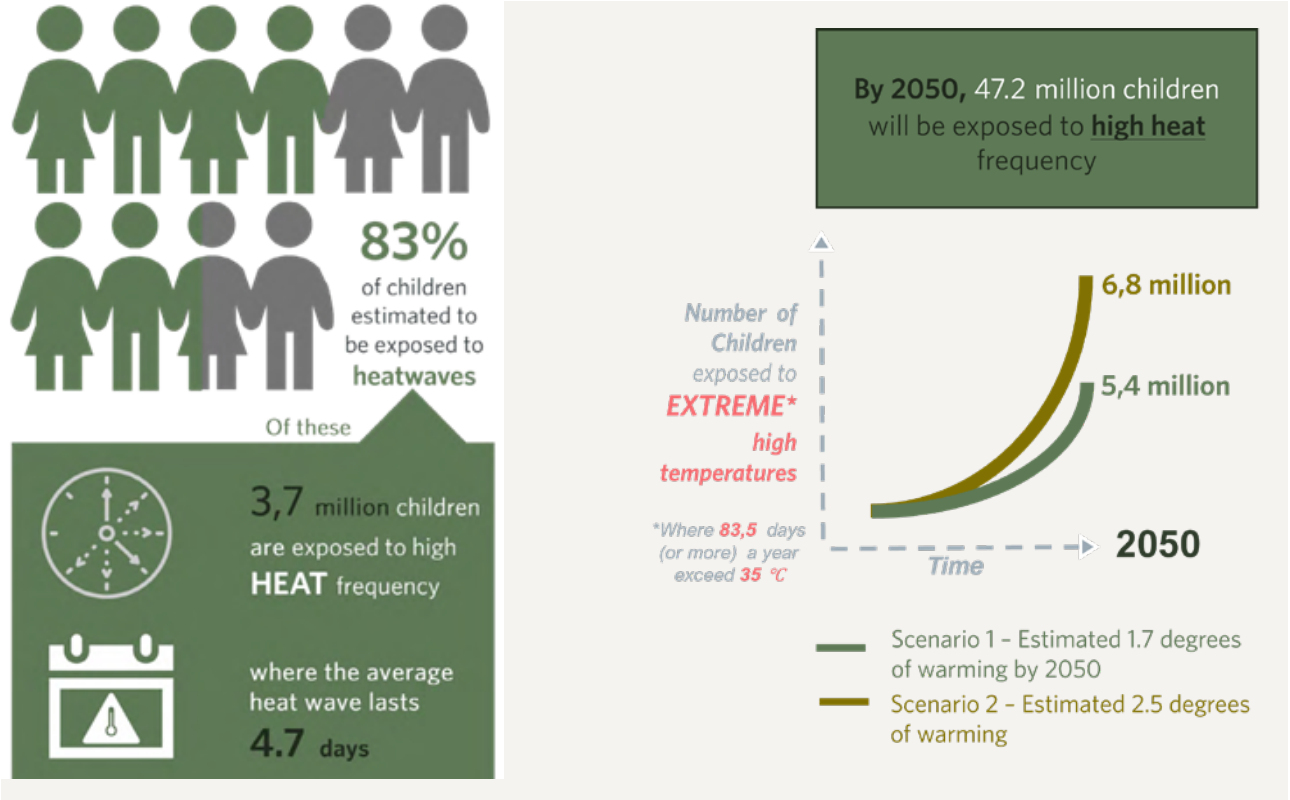


▲ *Source: UN Population Division (https://databank.worldbank.org/)*

Exposure to heat stress is dangerous for children as their bodies are more easily dehydrated than adults, they are less able to regulate their body temperature, and their relatively undeveloped immune systems are more vulnerable (UNICEF, 2022). Heat is linked to asthma and can have detrimental effects on school attendance and mental and emotional health (ibid). Heat waves also threaten children's access to food and water (by affecting the availability and quality of both), leading to malnutrition and waterborne diseases such as cholera (UNICEF, 2022: 14-15).

As shown in Figure 14, more than four-fifths (83%) of children in Ethiopia are estimated to be exposed to heatwaves (UNICEF, 2023a) (see also Figure 18 which depicts Ethiopia's Children at risk in Comparative Context). Of these, 3.7 million are exposed to high heat frequency, where the average heat wave lasts 4.7 days or longer (UNICEF, 2022: 35). These figures will worsen with climate change. Assuming the 'shared socio-economic pathway 1' (SSPI) climate projection (which assumes low emissions and an estimated 1.7 degrees of warming by 2050), the number of children in Ethiopia exposed to high heat frequency will rise to 47.2 million, that is, 100% of Ethiopia's children (ibid: 40). Of these, 5.4 million will be exposed to extreme high temperatures, where on average, 83.5 or more days a year exceed 35°C. This number doubles to 6.8 million under the SSP5 2050 scenario (assuming a very high emissions scenario and 2.4 degrees of warming) (ibid: 44), which scientists anticipate being a highly likely scenario under current trends. The need to provide access to safe drinking water and shelter from heat waves is therefore urgent.

▼ Figure 11. Children exposed to heat waves in Ethiopia, current and projected



▲ *Source: UNICEF, 2022 & UNICEF, 2023*

Drought

Despite Ethiopia's immense water resources, variability in rainfall patterns and distribution along with extreme climatic events has led to degraded water quality and water scarcity in many regions. Ethiopia is facing more frequent and more severe droughts, with significant impacts on water resources, rain-fed agriculture, and food and water security. Poor households, especially female-headed, are particularly vulnerable.

There have been three major droughts since 2010, affecting the eastern part of the sub region: 2011; 2016/2017; and 2020/2023. These severe drought conditions mainly resulted from consecutive seasons of below average rains, with underwhelming rainfall experienced during the rainy season of October-December emerging as the major influencing factor. The drivers of these seasonal droughts are the three global indices of Indian Ocean Dipole, a climate pattern that affects the Indian ocean[8], the Southern Oscillation Index, which tracks the atmospheric part of the El Niño–La Niña climate pattern, and the El Nino-Southern Oscillation (ENSO), a periodic fluctuation (every two to seven years) in sea surface temperature (El Niño) and the air pressure of the overlying atmosphere (Southern Oscillation) across the equatorial Pacific Ocean (see Box 1 that follows for further information on El Niño events, which sufficiently modify the general flow of the atmosphere to significantly affect normal weather conditions in many parts of the world). Local drivers of drought events include land use or cover changes such as land degradation, and urbanisation (Gebremichael et al., 2024).

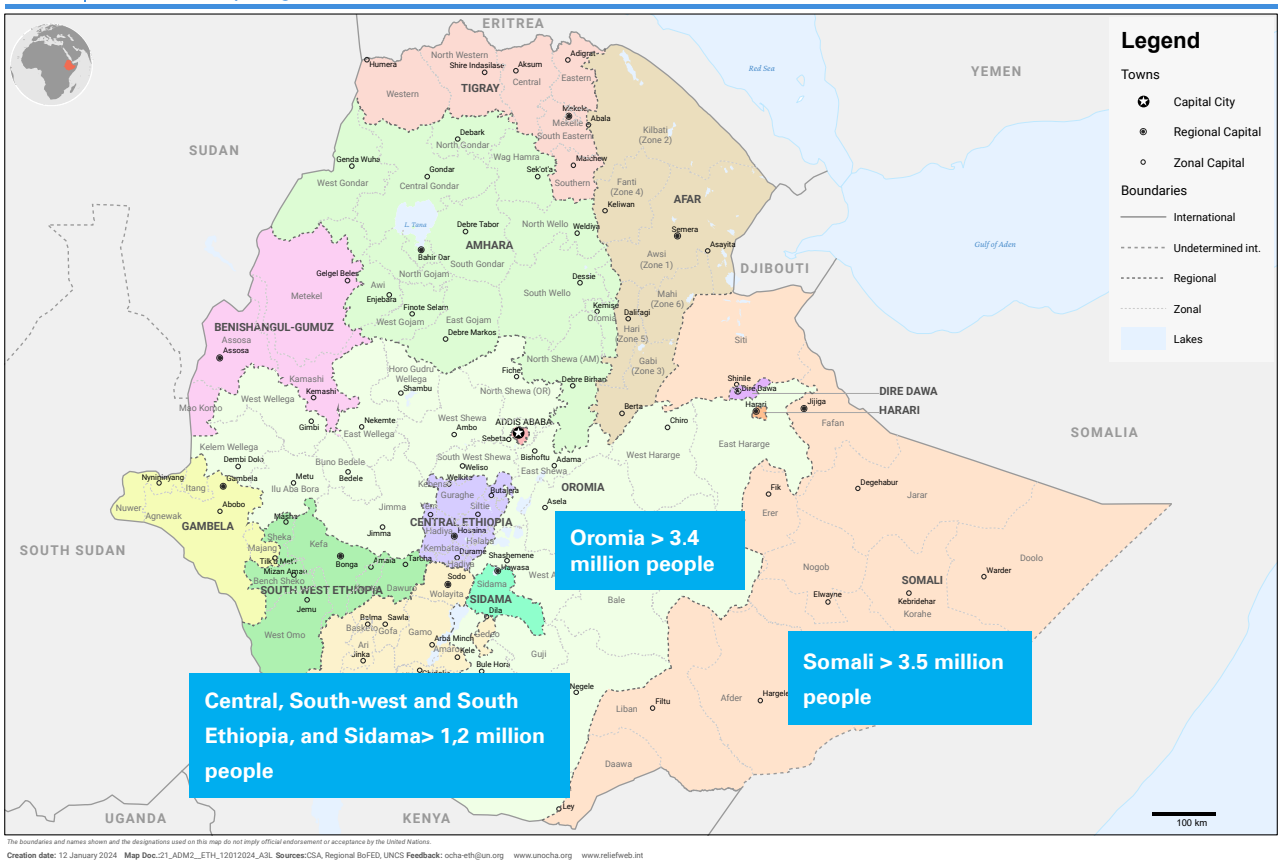
The current ongoing drought, which started in late 2020, is the most severe to hit the Eastern Horn of Africa in the last 60 years (WFP, 2023). As of December 2022, the area had experienced its fifth consecutive below average rainy season: October to December 2022. As at the end of this failed rainy season, more than one million people had been displaced in the region (IOM, 2022).

The emergency resulting from the 2020-2023 drought was exacerbated by additional macro-economic shocks including rising external debt and inflation. Humanitarian assistance-related needs reached record levels in 2022, at nearly 40% higher compared to both 2021, and 2016, which followed the historic 2015 El Niño drought (OPM and HESPI, 2018; WFP, 2023) (see Box 1 that follows). Conflict-affected northern Ethiopia have faced emergency level food-consumption deficits (FEWSNET, 2021). The prolonged drought faced in southern pastoral areas have been as severe and long as those in 2010/2011 and 2016/2017.

More than eight million people have been affected across southern and southeastern parts of the country in the recent and closely sequential drought events, as shown in Figure 15 that follows.

8 The Indian Ocean Dipole (IOD) is a climate phenomenon that occurs in the Indian Ocean and is defined as the difference in sea surface temperatures (SSTs) between the Eastern and Western regions of the Indian Ocean. The IOD can significantly impact weather patterns and climate in the surrounding regions, including parts of Africa, Southeast Asia, and Australia. As a result, the Indian Ocean Dipole climate index is closely watched by long range forecasters because of this phenomena's impact on sub seasonal and seasonal timescales (https://www.worldclimateservice.com/2021/09/02/indian-ocean-dipole/).

▼ Figure 12: Distribution of people affected by the droughts



The boundaries and names shown and the designations used on this map do not imply official endorsement or acceptance by the United Nations.

▲ *Source: Adapted from UN OCHA, 12 January 2024 (administrative map of Ethiopia) & 2022 (distribution of people affected by the droughts)*

The implications of drought for the food sector have been, and continue to be, significant. Preliminary forecasts (made in February 2023) show that it is possible that there will be a sixth consecutive below-average season in parts of the drought-affected areas. The water-food security nexus is a significant issue in times of drought. As these events become more regular, as has been experienced in the past six years, water security is likely to become a pressing issue. This may be somewhat surprising given the country's abundant water resources.[9] However, variability in rainfall patterns and distribution, coupled with extreme climatic events, has caused water scarcity and degraded water quality in many regions of the country where people rely on groundwater, shallow wells, boreholes and springs.

9 Ethiopia operates as a nexus point for the headwaters of multiple different transboundary rivers, including and most notably, the Nile. The country's surface water is managed through 12 basins (which includes 22 lakes), themselves part of four transboundary basins: the Nile, Rift Valley, Shebelle-Juba and North East Coast. Water supply is concentrated in Western Ethiopia (the Abay Basin), while water stress is highest in the east (Awash Basin) (USAID, 2021). Hydropower is essential both for the generation of electricity and the storage of water, with the Grand Ethiopian Renaissance Damm (GERD) a primary example.

Box 1 : El Niño events, climate change and experience in Ethiopia

The El Niño–Southern Oscillation (ENSO) has highly consequential impacts on global climate patterns. While El Niño events are natural phenomena which have been recurring for thousands of years, they are being influenced (and exacerbated) by rising greenhouse gas (GHG) concentrations in the atmosphere (NOAA Research, 2020).

ENSO oscillates between three phases: El Niño (warm phase), La Niña (cold phase), and a neutral phase, bringing wetter, warmer, cooler and drier climates to regions across the world. Linked to trends in equatorial Pacific zonal (wind stress and shifts in the position of subtropical anticyclones) which drive increases in tropical Indian Ocean temperatures, and subsequently stimulate marine convection, ENSO is a natural climatic phenomenon. ENSO related shifts in atmospheric convection can cause severe disruptions in global weather patterns and is one of several examples of large-scale climatological features or modes that can affect local weather patterns. These events, which typically last for between nine and 12 months (and sometimes years), bring about floods, droughts, heat waves, and other extreme weather events. ENSO sea surface temperature variability, and extreme ENSO events are expected to increase under the various global warming scenarios. The exact interactions between ENSO and climate change have however yet to be established.

The experience of the 2015 El Niño event in Ethiopia is, however, instructive. Following typical ENSO patterns, the El Niño peaked between February and October 2015. The 2015 belg rains failed, affecting smallholder farmers and pastoralists in the north-east of Afar and northern Somali in particular. The subsequent summer (kiremt) rains started late and were erratic. For pastoralists in Afar and northern Somali, this back-to-back failure pushed households into severe food insecurity. Other parts of the country were also affected. In north-eastern Afar, consecutive seasons of below-average rainfall prior to 2015 had already led to a deterioration in livestock and rangeland conditions. Farmers dependent on the meher harvest in eastern cropping areas of Amhara, Tigray, Oromia, Central Ethiopia, Southwest Ethiopia and South Ethiopia regions, and Sidama, and South West had also experienced a below-average meher harvest in 2014. From February to September 2015, the north, central and eastern parts of the country received only 50 to 75% of the rainfall they would normally expect.

(Source: adapted from Cai, et al., 2021; OPM and HESPI, 2018; NOAA Research, 2020; and IPCC, 2007)

A useful comparison or reference point is the humanitarian crisis that followed the 2016-2017 El Niño related drought (see Box 1 above on the interaction between climate change and El Niño). Around 5.6 million people in Ethiopia required emergency food assistance in 2017 following the 2016/2017 event. In addition, 2.7 million children and pregnant and lactating mothers required supplementary feeding, 9.2 million people needed support to access safe drinking water, 1.9 million households needed livestock support, and 300,000 children between six and 59 months old were targeted for treatment of severe acute malnutrition in the same year. The condition of livestock also deteriorated, impacting milk production and the nutritional 4estatus of families that depend on livestock for food and income (OHCA, 2017).

Manifestations include the deteriorating nutrition situation in Somali region, the increase in the number of displaced people, as well as the Fall Army Worm outbreak that ravages crops throughout the country. (Government of Ethiopia and OCHA, 2017). Droughts have led to high malnutrition rates among children under five and pregnant and lactating women and have increased mortalities as a result of huge consumption gaps. A recent World Food Programme report (WFP, 2023) estimated that 5.1 million children were acutely malnourished

in drought-affected areas of the Eastern Horn of Africa as of December 2022.

In the region, the areas most affected by food insecurity, the biggest direct impact of these droughts are Somalia, arid and semi-arid parts of Kenya, and southern and south-eastern Ethiopia. In Ethiopia, more than 22 million people are estimated to be food insecure. Of these, 11.8 million are food insecure because of significant livelihood losses in drought affected areas. These numbers are much higher than for the previous two major droughts; 2016/2017 resulted in 10.2 million food insecure people, while those affected in 2011 amounted to 4.5 million (WFP, 2023).

Floods

Climate change has also led to increased rainfall in some regions, causing more frequent and intense floods and landslides. These damage infrastructure, displace communities, and disrupt livelihoods. In addition to these key impacts, Ethiopia's high mountain regions are facing the retreat of glaciers because of rising temperatures. This has downstream impacts on water resources, as glacial meltwater contributes to the flow of major rivers.

Over the past decade, Ethiopia has witnessed more flooding. In the last year alone, flooding and heavy rains have affected or displaced approximately 240,000 people. Vulnerable low-lying areas are particularly prone to flooding, especially during the rainy season. However, the Eastern highlands faced flash floods from July to September 2023, resulting in livestock losses and road blockages, underscoring the vulnerability of these regions (OCHA, 2023b). In the highlands, floods are exacerbated by land degradation and the rugged topography, resulting in sheet floods, which are large bodies or 'sheets' of water moving rapidly across a surface and gully formation (FDRE, 2022).

The implications of flooding in Ethiopia are significant as they affect infrastructure, health, food security, and migration. Infrastructure such as roads, bridges and building bear the brunt of flood damage, exacerbating existing development challenges. The deterioration of sanitation infrastructure is a significant public health hazard, especially in rural communities where flooding leads to runoff from household latrines (FDRE, 2022).

Floods also contribute to an upsurge in diseases, particularly vector-borne illnesses such as malaria, as stagnant post-flood waters provide breeding grounds for disease-carrying mosquitoes (FDRE, 2022). Furthermore, extreme flooding can trigger epidemics, exemplified by the cholera outbreak following the 2006 floods. More recently, the Afar region has grappled with a cholera outbreak, which is projected to worsen as river water levels rise and inundate affected areas (OCHA, 2023b). Floods also facilitate the spread of waterborne diseases, including diarrhoea, which significantly contributes to infant mortality rates.

During the 2020 rainy season, floods displaced just fewer than 300,000 people, resulting in significant food insecurity and negative social pressures. Furthermore, the United Nations reports that flooding and heavy rain have affected or displaced about 240,000 people in several regions of Ethiopia since mid-March 2023 (ECHO, 2023). The Somali region is the worst affected, as flash floods have affected 200,000 people (OCHA, 2023b).

The impact of flooding on food security is immense, with floods harming crop yields, livestock, and water infrastructure. The May 2023 floods destroyed community water systems, natural water harvesting, and storage infrastructure, resulting in substantial water insecurity across several regions. These floods have deepened the vulnerability of

Box 2 : Community resilience through collective action

The El Niño–Southern Oscillation (ENSO) has highly consequential impacts on global climate patterns. While El Niño events are natural phenomena which have been recurring for thousands of years, they are being influenced (and exacerbated) by rising greenhouse gas (GHG) concentrations in the atmosphere (NOAA Research, 2020).

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(Source: adapted from Cai, et al., 2021; OPM and HESPI, 2018; NOAA Research, 2020; and IPCC, 2007)

communities already afflicted by prolonged drought since 2020. This escalation has led to loss of life and livelihoods, and destruction of homes, schools, and health facilities. Thousands of farms with crops have been washed away, amplifying health risks and water source contamination. Furthermore, children's education is disrupted as they are forced to stay out of school, rendering them more susceptible to health hazards due to water source contamination (OCHA, 2023b).

Notably, studies, including those conducted by UNICEF, have shown that building trust and targeting behaviour change through collective action and awareness raising can shift decisions towards positive social outcomes for families and their children, as highlighted in Box 2 above.

5.1.3 | Overview of climate vulnerability per region

Ethiopia's seasonal rainfall is linked to the Inter-tropical Convergence Zone, producing three rainy seasons: June-September ('Kiremt'), which accounts for 50 to 80% of the total, October-January ('Bega'), and February-May ('Belg'). Failure of Kiremt rains has been linked to El Niño, the warm phase of the El Niño–Southern Oscillation in the mid-Atlantic (FDRE, 2015: 167). El Niño conditions are

predicted to return by the end of 2023, posing threats to agriculture in the region and rising food prices (ECB, 2023). Poor people who depend on agriculture or affordable food will be most at risk. Crucially, drought is not linked to El Niño alone, but to La Niña phenomena as well. The three years of consecutive and debilitating drought in Ethiopia and across East Africa between 2020-2023 have been directly attributed to the "so-called triple dip La Niña event" (World Health Organisation, 2023) – the first of its kind in the 21st century (World Meteorological Organisation, 2022).

Climate and environment risk varies regionally in Ethiopia. The Ethiopian Ministry of Environment and Forest emphasises that Ethiopia does not face a catastrophic national failure of rainfall. In fact, some parts, such as Amhara have become wetter. Rather, it faces the problem of regional hotspots, such as in Oromia, Somali and the Central Ethiopia, Southwest Ethiopia and South Ethiopia regions, where the belg season is becoming drier, and which are thus facing more frequent and intense droughts (FDRE, 2015: 183). This is reflected in the assessed regional exposure to rainfall risk and sensitivity to climate change.

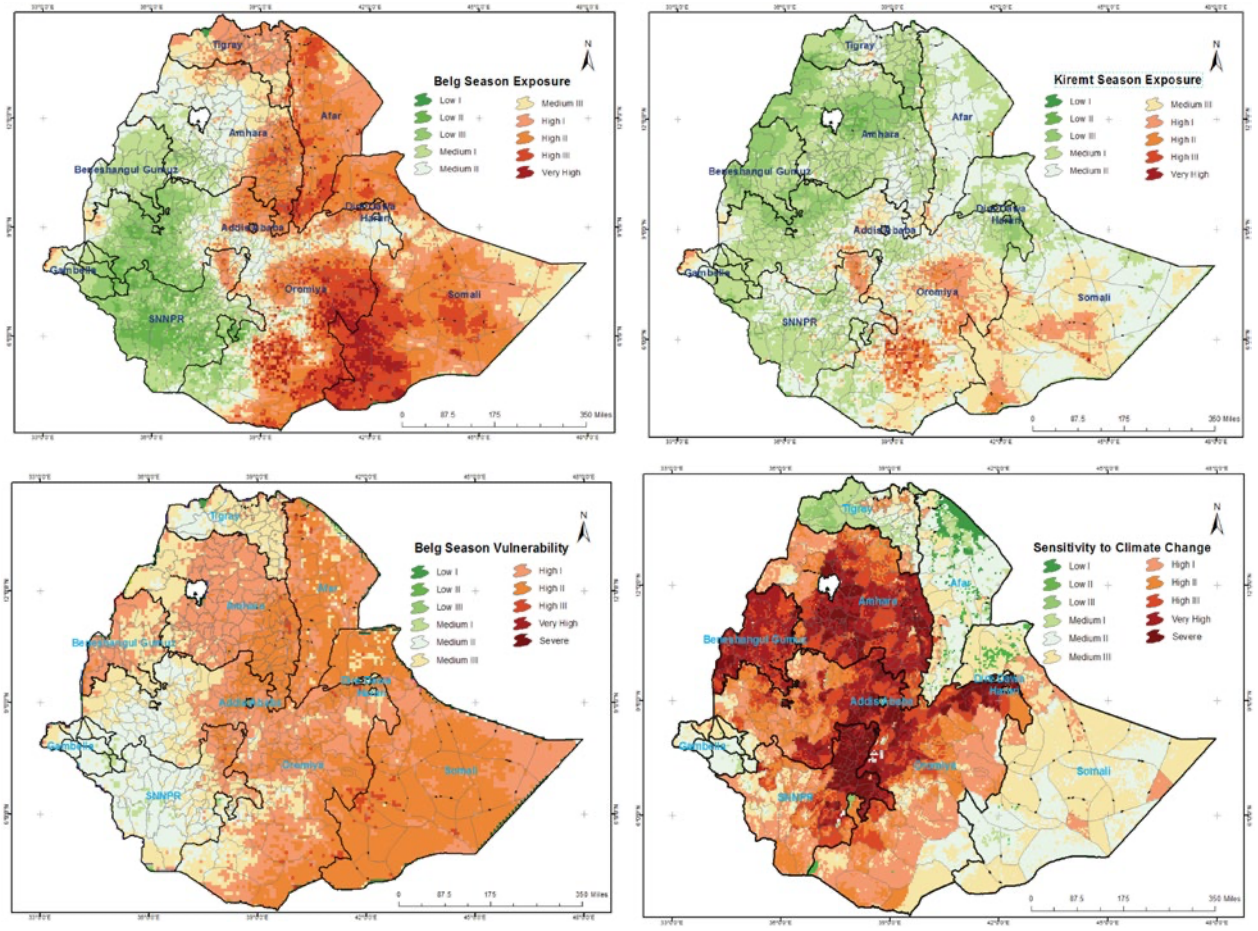
Vulnerability and adaptive capacity – the ability to cope with or withstand climate impacts

Vulnerability to climate and environmental risk is influenced by several factors. These include socio-economic status, as poorer people have fewer resources to help them to adapt, physical and social infrastructure, and governmental capacity, on top of serious levels of food insecurity (food poverty). The bottom right map in Figure 16 reproduces the assessment in Ethiopia's 2nd National Communication to the UNFCCC of 'sensitivity' to climate change. This measure is a composite of various indicators of vulnerability, such as household wealth; type of building material; child stunting; infant mortality; disease prevalence (malaria stability index); poverty index; population density; and child mortality. The map shows that the most sensitive areas are in the central and southern parts of the country (appearing as dark brown), which include most parts of Oromia region, Amhara region, Central Ethiopia, Southwest Ethiopia and South Ethiopia, and Sidama, and South West regions (FDRE, 2015: 187-8). These are the most populous areas, accounting for about four out of five people living in Ethiopia, and more than two-thirds of the GDP – see Appendix 2: Population and Economic Structure by Region.

The Ethiopian economy, as noted earlier, depends heavily on agriculture, which accounts for about a third of GDP and two-thirds of employment. In their assessment of the impact of climate change on the Ethiopian economy, Yalew et al. (2017) conclude that the impact has been almost entirely via the impact on agriculture. This is largely because of the importance of agriculture to own consumption and the economy, and because there are limited inter-industry linkages between agriculture and other economic sectors. This means that in the absence of significant structural change, the economic impact of climate change will largely reflect the share of agriculture in regional GDP.

The share of agriculture is highest in Amhara, Oromia, Central Ethiopia, Southwest Ethiopia, South Ethiopia and Sidama, and South West regions (ibid: 21). This implies that inequality is likely to widen between urban areas (whose GDP is based on industry, finance, real estate, and services, e.g., Addis Ababa and Dire Dawa, and the rest of the country (see Appendix 2).

▼ Figure 13. Regional exposure to rainfall risk and sensitivity to climate change10



▲ *Source: FDRE, 2015. It is important to note that the map showing sensitivity to climate change does not reflect Somali's extreme vulnerability to climate change. This is due to a lack of data availability for this region. It is, however, evident from the Belg season exposure and vulnerability that Somali is highly vulnerable, also evidenced in the map and analysis in Figure 15 which reflects Somali as having the greatest number of people affected by the recent extreme drought events.*

Based on existing and projected climate impacts, as well as socio-economic circumstances, the Oromia, Amhara, Central Ethiopia, Southwest Ethiopia, South Ethiopia, and Sidama, and South West regions demonstrate the greatest vulnerability across Ethiopia. While the well-being of *all* Ethiopians, and especially children, is both a central objective and guiding principle for the government and UNICEF, these findings indicate that the regions identified previously are in need of targeted support to deal with their *unique* vulnerability. Urgent priorities are the areas where conflict continues, where livelihoods are being disrupted, and where people face additional deprivation, in terms of health care and schooling.

Note that these regions are also those with lower food consumption as indicated in Table 1 (sub-section 2.2.3). According to the 2015/16 poverty analysis study, the regions with the highest recorded food poverty are: Tigray (32.9%), Amhara (31.3%), Afar (28.3%), and Benishangul-Gumuz (23.7%). The lowest food poverty is found in Harari

10 The analysis for these regional maps was produced in 2015, before SNNPR was disaggregated into the discrete regions of Central Ethiopia, Southwest Ethiopia and South Ethiopia.

(6.3%), followed by Dire Dawa (12.2%) and Addis Ababa (19.1%) (FDRE, National Planning Commission, 2017: 20-21).

5.1.4 | Projected climate change

The primary climate change projections for Ethiopia are temperature increase and increased rainfall variability. Ethiopia is expected to face a rise in average temperatures, which is predicted to result in various impacts, such as more frequent and intense heatwaves, changes in precipitation patterns, and shifts in ecosystems. The key projections are outlined in Box 3 on the following page.

Notably, the RCP model projections do not take future socio-economic impacts into account. However, these climate projections are expected to result in negative impacts such as infrastructure damage (roads and transportation networks), human health, and ecosystems and their services.

Infrastructure and infrastructure-related disaster risk

Ethiopia is expected to face significant infrastructure damage because of climate change through extreme weather events such as floods and droughts. High rainfall can lead to flooding and related damage to transport networks such as roads and bridges, railroads and airports. High temperatures are also of concern, causing roads and bridges to develop cracks and/or degrade more quickly. Earlier replacements and higher maintenance and replacement costs are expected to result. Transport infrastructure is essential for agricultural livelihoods (e.g., market access), and for access to social infrastructure such as schools, clinics, and financial and digital services. In Ethiopia's rural areas, roads are the backbone of the country's transportation network, with more than 90% of exports and imports transported by road (Potsdam Institute, 2020).

Extreme weather events are also expected to have devastating effects on human settlements and areas of economic productivity, such as urban areas with high population densities such as Addis Ababa, Dire Dawa, and Mekelle. Informal settlements are particularly vulnerable. Shacks, and other forms of makeshift homes are often built in unstable geographical locations, including on steep slopes or riverbanks. In these locations, flooding can lead to landslides and loss of houses and lives, as well as water contamination. The inhabitants of these settlements usually have low adaptive capacities to cope, or to respond to such events. Their extreme poverty and lack of infrastructure increase their risk. Heavy rains in May and June 2019 for example caused flooding in 38 districts across seven regions of Ethiopia, displacing 42,306 families. These events also resulted in livestock death and property damage (Potsdam Institute, 2020).

Flooding and droughts will also disrupt or reduce hydropower generation. Ethiopia is planning to increase its hydropower capacity from 3.7 gigawatts in 2015 to a volume of 19.5 gigawatts in 2030 (Conway et al., 2018) and climate change is likely to place existing and new hydropower assets at risk, both in terms of their physical integrity, and their ability to generate electricity. Whether through reduced water supply due to drought, or stress and damage to infrastructure from increasingly severe flood and storm events, hydropower assets are uniquely vulnerable to climate-related hazards. This vulnerability is unique in comparison to fossil-fuel based power generation in that the latter can operate regardless of climate and weather phenomena, whereas hydropower works both

Box 3 : Key climate projections for Ethiopia

Future climate change is affected by greenhouse gas (GHG) emissions scenarios (a lower GHG emissions scenario results in less severe climate impacts, while a higher emissions scenario results in more intense climate change impacts). Representative Concentrated Pathway (RCP)[14] emissions scenarios are thus used to attempt to capture future climate trends. Two GHG emissions scenarios were available for this analysis, RCP2.6 and RCP6.0.

Depending on the RCP emissions scenario, temperature in Ethiopia is projected to rise by between 1.6 and 3.7 °C by 2080, compared to pre-industrial levels, with higher temperatures and more temperature extremes projected for the east of Ethiopia.

Very hot days: The population affected by at least one heatwave per year is projected to rise from 0.3 % in 2000 to 2.1 % in 2080. This is related to 50 more very hot days (days with daily maximum temperature above 35 °C) expected per year over this period. As a consequence, heat-related mortality is estimated to increase by a factor of three by 2080. There is a high degree of certainty in the climate models over projections for very hot days. The most substantial increases are expected over eastern Ethiopia. Under the medium/ high emissions scenario, RCP6.0 averaged over the whole country, projects 18 more very hot days per year in 2030 than in 2000, 26 more in 2050, and 50 more in 2080. In some parts, especially in eastern Ethiopia, this amounts to about 200 days per year by 2080.

Precipitation trends are far less certain than for temperature and hot days, due to high natural inter-annual variability. Of the models used for this analysis, one model (RCP2.6) projects very little change in mean annual precipitation over Ethiopia until 2080. The other model projects an increase. RCP6.0 projects a precipitation increase of 85 mm per annum by 2080, compared to year 2000. Future dry and wet periods are likely to become more extreme and the number of days with heavy precipitation events is expected to increase, although slightly. The climate models project a slight increase in the number of days with heavy precipitation events, from seven days per year in 2000, to eight days per year in 2080 under RCP2.6, and nine days per year under RCP6.0.

Drought events are expected to increase in frequency and intensity. The RCP models project an increase in crop land exposure to drought, indicated by soil moisture, and evapotranspiration. Soil moisture is an important indicator for drought conditions, and depends on soil parameters, precipitation and evapotranspiration – and therefore also on temperature (higher temperatures translate into higher levels of evapotranspiration). Modelling uncertainty related to high levels of inter-annual variability makes it difficult to establish a clear trend. Potential evapotranspiration (or the amount of water that would be evaporated and transpired if sufficient water was available at and below land surface, noting that warmer air can hold more vapour) is expected to rise in Ethiopia. RCP6.0 projects a stronger and more continuous rise in potential evapotranspiration than under RCP2.6. Under RCP6.0, potential evapotranspiration is projected to increase by 2.0% in 2030, 2.7% in 2050 and 4.4% in 2080 compared to year 2000 levels.

Water resources and availability: high uncertainty is displayed under both emissions scenarios. If population levels remain constant, no or a low change is projected in per capita water availability under RCP2.6 and RCP6.0 respectively. However, assuming population growth in accordance with the Shared Socio-economic Pathways 2 (SSP 2), projections shows a decline of 65% in per capita water availability for Ethiopia by 2080, relative to the year 2000, under both scenarios. Notably, this decline is driven more by population growth than by climate change. Projections of future water availability from precipitation

11 RCP emissions scenarios were created by the Coupled Model Inter-comparison Project, Phase 5 (CMIP5) – a project of the World Research programme providing climate projections to understand past, present and future climate changes. CMIP data is used by IPCC and other national climate assessments. Four scenarios were created and are referred to as a low (RCP2.6); a medium (RCP4.5), a high (RCP6.0) and a very high (RCP8.5) emission scenario.

Box 3 cont.

vary depending on the region and on the scenario: under RCP2.6, water availability will decrease by up to 30% in southern Ethiopia and increase by up to 35% in eastern Ethiopia by 2080. All models agree on this trend. However, the picture is different for RCP6.0, where projections for the south and east of Ethiopia are less certain and the projected difference in water availability is smaller.

Agriculture productivity: a decline in yields of heat- and drought-sensitive crops such as maize and millet is expected, while less sensitive crops such as peas are expected to benefit from CO2 fertilisation. A significant decline in maize production is expected (maize is the most staple crop in terms of calorie intake, volume of production, and the number of farmers growing it). Millet is also expected to suffer. Actual crop yields will depend on site conditions, the year of production, and the regional and local drivers of production, such as farming practices, water availability, and market access. Six zones are expected to face loss of yields under climate change: eastern Tigray, South Omo, North Shewa (Amhara), Metekel, Illubabor, and Gamo. The high level of uncertainty of projections for water availability makes drought projections uncertain. According to the median over all models used, the national crop area of land exposed to at least one drought per year will hardly change in response to global warming. However, some models project drought exposure to triple over the 2000 to 2080 period.

In terms of **yield projections,** a negative yield trend for maize and millet is expected under RCP6.0. Compared to the year 2000, yields are projected to decline by 3.8% for maize and 4.9% for millet by 2080. Under RCP2.6, maize yields are projected to decrease only slightly, and millet yields do not change. Yields of field peas are projected to significantly gain however under the climate change scenarios. Under RCP6.0, yields are projected to increase by 17% by 2080 relative to the year 2000. Wheat is projected to slightly decrease under both RCP2.6 and RCP6.0. Although there appears to be almost no change in national-level wheat yields, it is likely that crop yields will increase more strongly in some areas and, conversely, decrease more strongly in other areas as a result of climate change impacts.

(Adapted from the Climate Risk Profile for Ethiopia developed by the Potsdam Institute, 2020, and author's analysis.)

through and with water resources, the supply of which in Ethiopia is variably distributed and often inconsistent.

Ecosystems

Climate change is widely expected to have a significant influence on ecosystems, which are combinations of plants, animals and other organisms that have adapted to local geographic conditions, Rising temperature, changes in precipitation and increased frequency and intensity of extreme weather events can result in one ecosystem converting to a different ecosystem, resulting in losses of important wetlands or riverine systems. The impacts of climate change on ecosystems can have negative consequences for agricultural productivity and animal and plant diversity.

Model projections of species richness and tree cover for Ethiopia show with high certainty that Northern Ethiopia is expected to gain up to 40% of animal species due to climate change, while eastern Ethiopia is expected to lose around 20%. The results are less certain for tree cover. No reliable estimates can be made under RCP2.6, However, under RCP6.0, tree cover is projected to start changing at around 2050, with more significant and certain changes towards the end of the century (Potsdam Institute, 2020). Notably, these model projections do not account for the impacts on ecosystems and biodiversity loss that result from human activities such as land use.

Climate change, human health, and disaster

Climate change and climate-related disasters pose significant direct threats to human health (both mental and physical), and indirect threats through destructive impacts on critical health and WASH infrastructure. The combined effect of the more severe and frequent extreme climate events related to temperature rise (and concomitant weather variability) – such as heat waves, droughts and floods – increases morbidity and mortality, as well as injury.

Floods and droughts also increase the incidence of vector-borne disease such as malaria, and can even lead to novel incidences in areas previously unaffected by the disease. Non-vector-borne disease, such as diarrhoea and cholera, meningitis, and respiratory disease also increase because of climate change (Simane, B., et al. 2016).

Cerebrospinal Meningitis has been found to be one of the climate-sensitive diseases affected by global warming, in a longitudinal and community-based study in Ghana. Its causal agent, the Neisseria meningitidis bacterium, thrives well in warm conditions and therefore, Cerebrospinal Meningitis epidemics are expected to be exacerbated by the warming effects of climate change. The results of this 2022 study showed a statistically significant relationship between climate variables (temperatures, sunshine, relative and absolute humidity, and rainfall) and meningitus cases recorded between 2012 and 2019 in the study area (Akanwake J.B., et al. 2022). This is likely to become an increasing issue in areas of Ethiopia facing greater levels of heat stress, as discussed previously.

The increased burden of disease, particularly cholera, malaria, dengue fever, meningitis, and air pollution-related diseases such as pneumonia, among others, is worrying for the future of Ethiopia's children. Further, climate change impacts food and water supply which in turn can increase the risk of malnutrition and hunger, as witnessed, for example, in the periods of prolonged drought discussed earlier in this section. Together, increased incidences of disease and rising rates of hunger and malnutrition compound to place immense pressure on an already struggling public health system.

The Ethiopian CRGE acknowledges the previously outlined health impacts of climate change. The document notes that these will be manifested through morbidity and mortality caused by extreme temperatures. The CRGE further highlights an increase in vector-borne diseases, being malaria and bilharzia, as well as in weather condition-related diseases (e.g., diarrhoea and cholera). Further health issues raised in the document are related to poor air quality, and malnutrition due to food and water supply shortages (FDRE, 2012).

The Ethiopian Ministry of Health (MoH) has also flagged escalating health issues due to climate change. In 2017, the Ministry estimated that around 68% of the population was at risk of contracting malaria. Notably, climate change is likely to lengthen transmission periods and alter the geographic range of vector-borne diseases such as malaria due to rising temperatures (Cella et al., 2019), with older reports (Ministry of Water of Ethiopia, 2007), projecting that malaria could expand from lowland areas in Somali and Afar to highland areas in Tigray or Amhara. What contemporary research does confirm, is that during periods of prolonged high temperatures (often accompanied by droughts) which are linked to El Niño, malaria epidemics are more common *and* more widespread (Woyessa et al., 2023).

5.2 | Energy landscape

Energy supply and consumption plays a major role in shaping a nation's sustainable development pathway. Ethiopia is endowed with abundant renewable energy resources, but these are largely underexploited, while energy poverty (see Box 4) remains a persistent issue across the country.

Energy resources

Ethiopia is endowed with various energy resources, including hydropower, geothermal, solar, wind and biomass (including fuelwood and agricultural waste), fossil fuel reserves (natural gas, coal and oil shale) and biofuels (ethanol and biodiesel). The country has significant hydropower potential, estimated at 45 GW and its coal, natural gas and oil shale reserves, although significant, are unexploited. Electricity accounts for a mere 3% of energy supply, even though installed generation capacity has increased more than four times between the 2004/05 and 2018/19 period (Yalew, 2022). Electricity from hydropower continues to dominate energy generation, although, as highlighted previously in this report, this is threatened by climate change.

Transport and industries in Ethiopia rely on fossil fuels, at 99.88% and 86% respectively, as compared to the bioenergy-dependent residential sector. Foreign demands for electricity exports have recently emerged; between 2012/13 and 2018/19, Ethiopia exported an average of 895 GW of electricity per year.

The need for clean cooking sources

Notwithstanding electricity exports, about 93% of Ethiopian households use biomass for cooking, as demonstrated in Figure 16. This contributes to indoor air pollution and further increases the country's burden of disease. This has serious implications for children's health.

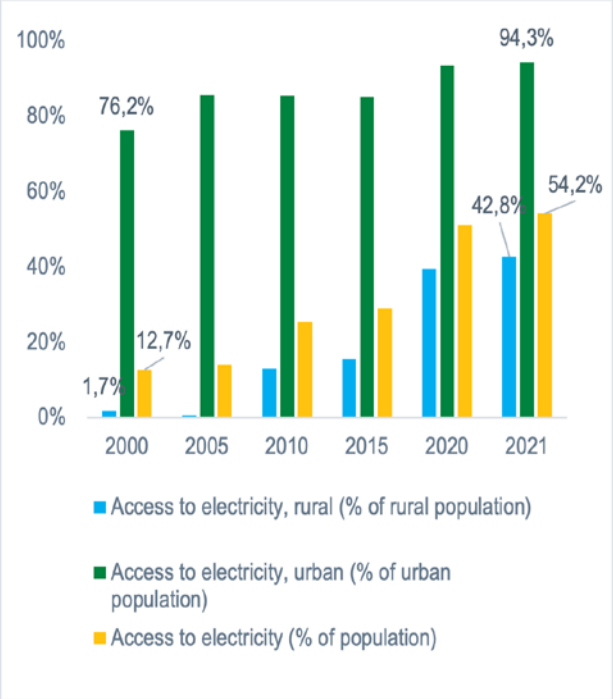
Box 4 : Energy poverty and Ethiopian energy access, and supply and consumption trends

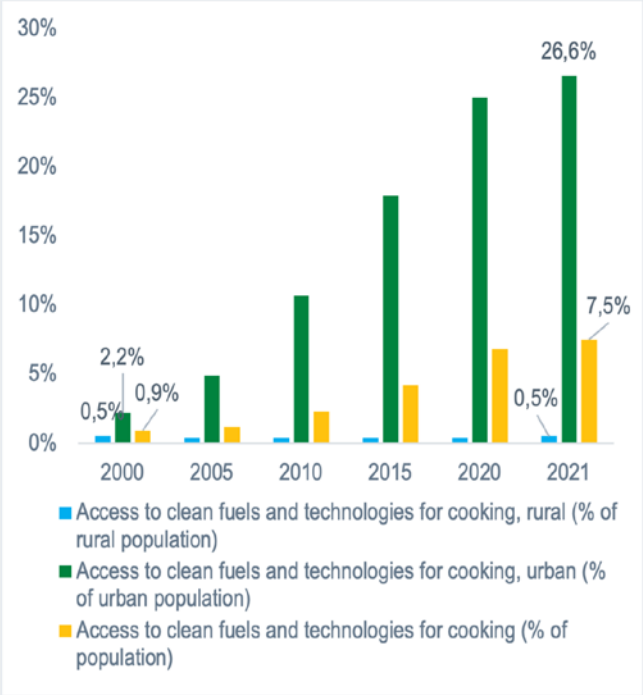
Energy poverty is usually defined in two ways: i) lack of access to electricity; and ii) dependence on traditional fuels, or biomass, through burning these in inefficient and polluting ways (Akbari A., et al., 2022; AFD, 2022). Access to electricity is closely related to affordability (Ledger, 2021). In Ethiopia, energy poverty is a major challenge, with 56% of the population not having access to electricity, only 33% of households having access to the grid, and 11% having access to off grid technologies. Per capita energy supply and consumption in Ethiopia are among the lowest in the world.

Where households use solid biomass fuel for cooking indoors, the risk of acute respiratory infection for children is almost twice as high as compared to those using electricity (Geremew et al., 2020). Women and girls, who are responsible for cooking and cleaning within the house (ILO and CSA, 2018) will be especially affected. Girls are often required to collect firewood for cooking in forests or on the outskirts of towns and cities, increasingly exposing them to risk as they are required to go further and further afield.

One of the reasons for the rising health impact of emissions and of forest depletion (see section 5.3, Figure 18, in the following pages) is the ongoing use of wood and other biomass fuels for cooking. This is linked to poverty, including energy poverty and inequality. As discussed, access to electricity has risen in Ethiopia, but at the household level, the increase in the use of electricity or other sources of clean fuel has been much slower (Figure 17).

▼ Figure 14. Access to electricity (left) and to clean fuels and technologies (right) for cooking, 2000-2021





▲ *Source: World Bank data (https://databank.worldbank.org/)*

Clean energy potential

As indicated, Ethiopia has substantial, largely unexploited renewable energy endowments, with enormous solar energy potential. The country's sugar factories, along with the availability of land for growing feedstocks, indicate significant potential for biofuel, an alternate fuel applications for transport and cooking. Significant levels of livestock farming (an estimated 77% of households raise cattle) point to biogas fuel production potential which could serve as a substitute for biomass fuels in the country's rural households (Yalew, 2022). There is the danger, however, that biofuel production could replace food crops and potentially undermine food security, either directly or via price increases.

There is strong evidence for increasing energy access and improving affordability toward enhanced health outcomes, including for children, and toward education and livelihood opportunities in a clean energy sector, and green economy. Exploiting Ethiopia's clean energy potential is also essential for restoring the country's ecosystems and environment, which in turn is necessary for strengthening community resilience to the impacts of climate change, and extreme climatic events. The links between energy and the environment are discussed in the next section.

5.3 | Environmental degradation – and air pollution

Ethiopia is endowed with abundant natural resources with the potential to support the needs of its large population. The country has fertile soils, rich biodiversity and adequate water resources (assuming these can be managed and harvested appropriately. Healthy ecosystems (such as forests, rivers and wetlands) can provide the basis for a

sustainable relationship between human settlements and the natural environment by providing an abundance of 'services'. These include, for example, clean water and water security, flood prevention or mitigation, access to natural resources, climate regulation, clean air, and carbon sequestration.

However, these resources are under pressure from a range of interconnected factors such as population pressure, agriculture expansion and activities, migration and urbanisation, conflict and resettlement, climate change, and environmental pollution. The degradation of land, water, forests and rangelands have resulted in severe losses of soil moisture and nutrients, and water availability, which are critical for farmers. Overgrazing and other unsustainable farming and household practices include deforestation, with forest products being used for energy and farming use, intensive cultivation and livestock fodder, among others. These practices lead to soil erosion and environmental degradation, which are badly affecting farm productivity and impacting the livelihoods of farming communities (MoPD, 2020; Wassie, S.B., 2020).

Deforestation, accelerated soil degradation and erosion, and land degradation are considered to be the most immediately pressing environmental problems facing Ethiopia – and its farmers – today. According to Gebreselassie et al., (2016), more than 85% of the land is considered as degraded to some extent. In the same study, the authors estimate the cost of land degradation associated with land use and land cover change in the country to be USD 4.3 billion per annum. Provisioning ecosystem services represents around 51% of this annual degradation cost, while the remaining 49% is representative of the loss of supporting regulatory and cultural services (Gebreselassie, et al., 2016). The same study estimates that the use of land degrading practices in maize and wheat farming resulted in losses amounting to USD 162 million. It further analyses the costs of rehabilitation in terms of the costs of doing nothing. The study estimates that the costs for rehabilitating land that was degraded in the 2001-2009 period were around USD 54 billion over 30 years, whereas the costs of inaction over the same period could be equivalent to USD 228 billion (Gebreselassie, S., et al., 2016).

Thus, land degradation is a serious threat to Ethiopia's society and economy. Although, as discussed, the country's growth path underpinned a significant reduction in poverty and improvements in child health, this has come at some environmental cost.

Figure 18 shows that the carbon-intensity of growth has fluctuated, but appears to have been mostly rising since 2010, and that damage from particulate emissions (estimated here as pertaining primarily to heath)[12] has increased.

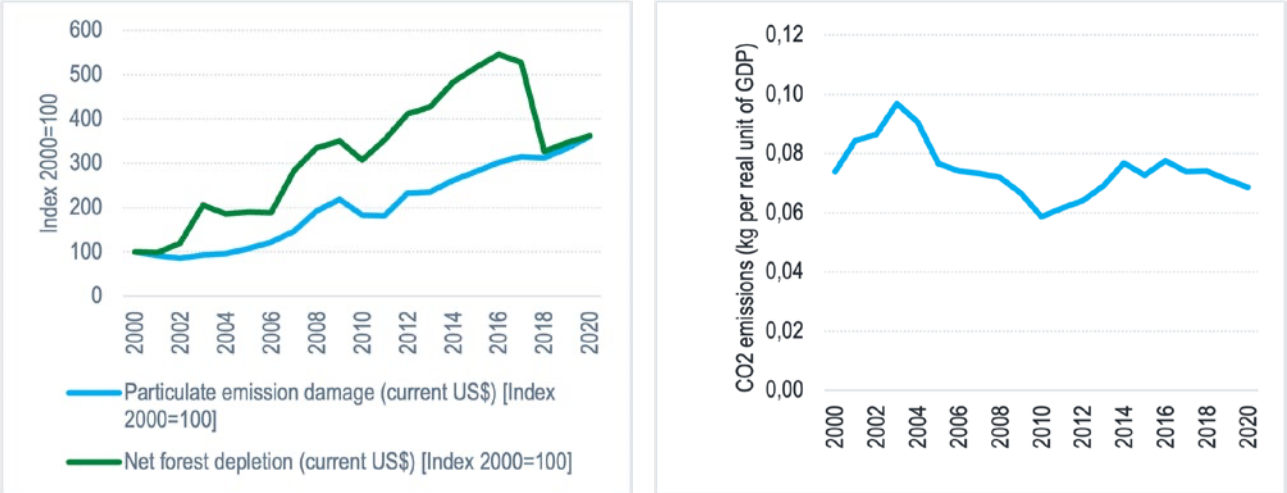
In 2019, Ethiopia's mortality attributable to air pollution was 142.5 per 100,000. This was comparatively better than most low-income countries in East and Southern Africa, but demonstrates some lag behind Tanzania and South Sudan, which is indicative of the progress still to be made (Figure A.2 in Appendix 1).

Air pollution and environmental degradation

As shown in Figure 18, most children in Ethiopia (96%) are exposed to harmful levels of air pollution (fine particulate matter with an aerodynamic diameter of less than 2.5 microns of 10 µg/m3 or above). This is primarily due to a lack of access to clean co

12 These estimates come from the World Bank. Particulate emissions damage is estimated as the damage due to exposure of a country's population to ambient concentrations of particulates measuring less than 2.5 microns in diameter (PM2.5), ambient ozone pollution, and indoor concentrations of PM2.5 in households cooking with solid fuels. Damages are calculated as foregone labour income due to premature death. Estimates of health impacts from the Global Burden of Disease Study 2013 are for 1990, 1995, 2000, 2005, 2010, and 2013. Data for other years have been extrapolated from trends in mortality rates. Net forest depletion is calculated as the product of unit resource rents and the excess of roundwood harvest over natural growth.

Figure 15. Environmental impact of growth (2000-2020): Particulate damage from emissions and net forest depletion (left); and CO_2 emissions per unit of GDP



▲ *Source: World Bank data (https://databank.worldbank.org/)*

cooking stoves and, in urban areas, from exposure to vehicle emissions.

The implications of the combined effects of CEED in Ethiopia for children are significant, as discussed further below in the concluding sub section to this chapter.

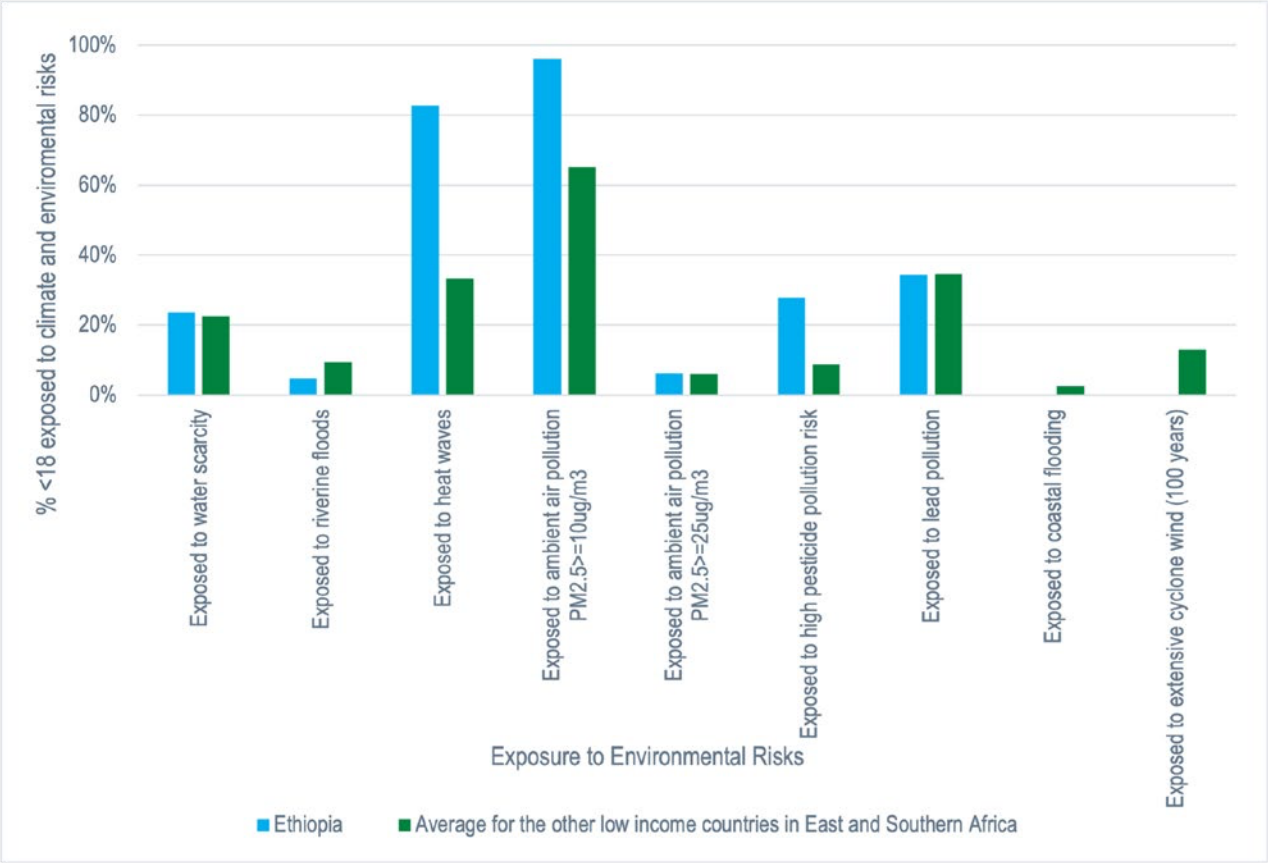
5.4 | Ethiopia's environmental outcomes for children in comparative context

Climate change generally, and CEED issues more specifically, pose serious challenges for Ethiopia's policy makers, in the context of low economic development and a growing environmental crisis. UNICEF's Children's Climate Risk Index (CCRI) ranks Ethiopia 50th out of 163 countries and classifies it as at 'extremely high risk' (UNICEF, 2023: 50). The CCRI draws on two sets of indicators: pillar 1 comprises indicators of climate and environmental risk; and pillar 2 comprises indicators of underlying socio-economic vulnerability. By most of these measures, Ethiopia faces higher risk and vulnerability than is typical for other low-income countries in East and Southern Africa, especially regarding heat stress, water scarcity and pollution. Figure 19 presents selected indicators from the CCRI's pillar 1. This shows that four out of five children under 18 in Ethiopia are exposed to heat waves and almost a quarter are exposed to water scarcity. About a third are exposed to lead pollution, over a quarter are exposed to pesticide pollution and almost all are exposed to air pollution.

Yale University's composite Environmental Performance Index (EPI), similarly emphasises the challenges Ethiopia faces when it comes to environmental health. Many low-income countries face challenges with rising air pollution and difficulties in providing safe water and sanitation, but Ethiopia's problems were assessed to be more serious, and it slipped down the EPI international rankings on both indicators. Ethiopia's Children at Risk in Comparative Context (selected indicators of climate and environmental shocks used in pillar 1 of UNICEF's CCRI).13

13 https://epi.yale.edu/downloads

▼ Figure 16. Ethiopia's Children at Risk in Comparative Context (selected indicators of climate and environmental shocks used in pillar 1 of UNICEF's Children's Climate Risk Index)



▲ *Sources: UNICEF (2023) and UN Population estimates (from https://databank.worldbank.org/)*

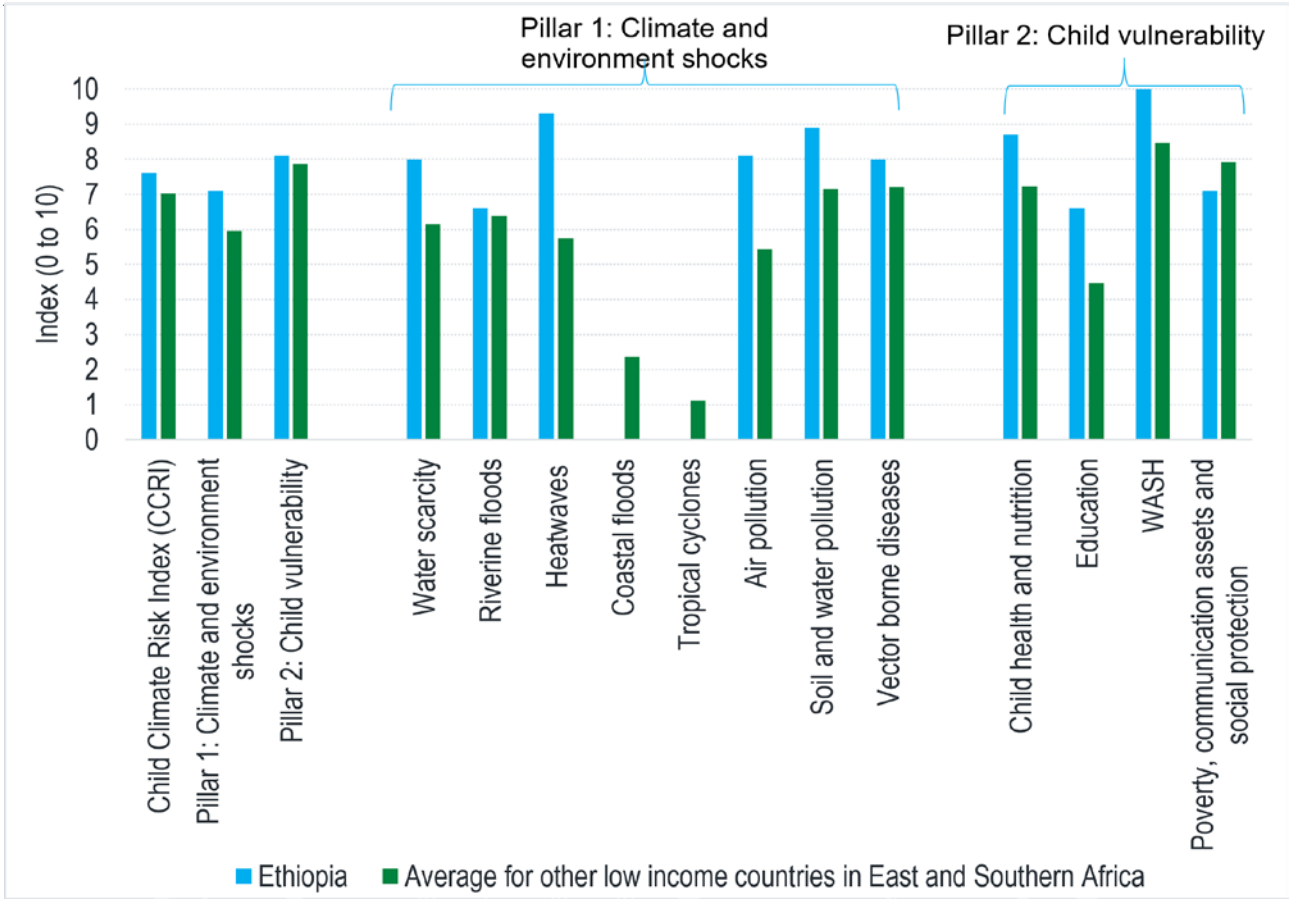
Ethiopian children's vulnerability

The second 'pillar' of UNICEF's CCRI, the 'vulnerability' index, comprises a set of indicators probing socio-economic status and poverty alleviation. This is based on the insight that those children with access to education; water, sanitation and hygiene (WASH); child protection; and a social safety net will be in a better position to respond and adapt to climate and environmental risks. Figure 20 shows that Ethiopia's vulnerability score is relatively high, owing to relatively poor performance in terms of access to WASH, education, child health, nutrition and child protection.

According to the CCRI, Ethiopia performs relatively better in international CCRI when it comes to child access to 'poverty, communication assets and social protection' measures. This highlights Ethiopia's rapid improvements in child health outcomes and poverty since 2000 and social safety net projects such as the rural PSNP. Notably, between 2005 and 2022, the PSNP supported millions of chronically food-insecure people (UNDP Ethiopia, 2018; World Bank, 2022).

In 2020, this was supplemented by the Urban Productive Safety Net Project, which provided emergency work, food and cash for the urban poor (World Bank, 2021). Since 2022, however, economic slowdown and the dual crises of COVID-19, and multiple conflict have plunged more people into poverty and undermined the scale and reach of these safety nets.

▼ Figure 17. Ethiopia's CCRI in Comparative context: Children's vulnerability



▲ *Source: UNICEF, 2023*

Ethiopia's children who live with disabilities or whose family members live with some form of disability can be considered the most vulnerable subgroup. The combination of rural poverty and barriers for children with disabilities arising from communication, infrastructure access, the physical environment, access to education, and negative social attitudes and behaviours, make this the most vulnerable group to the impacts of CEED in Ethiopia. The rights and opportunities afforded to people living with disabilities also vary in accordance with their demographic profile. Women and girls with disabilities face greater restrictions in exercising their rights, for example their legal rights to marriage, education and employment (Krupa, et al., 2022). This unique and differentiated vulnerability also calls for focused and inclusive strategies to ensure the protection and well-being of all children living with disabilities.

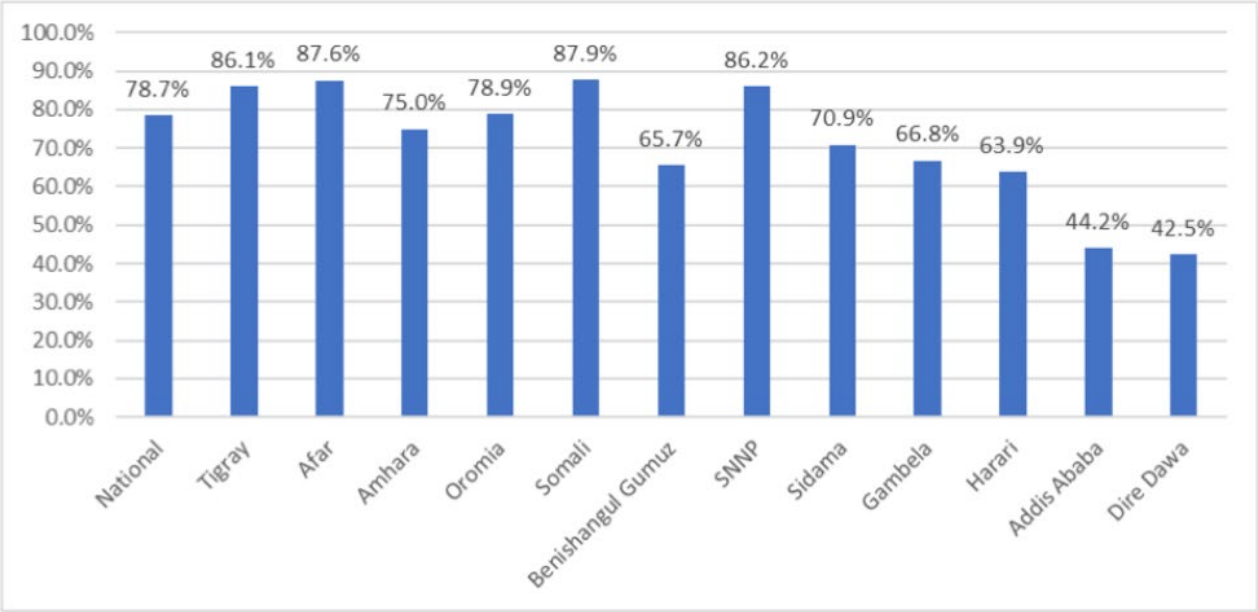
5.5 | Regional socio-economic vulnerability in Ethiopia

National analyses of Ethiopia's vulnerability to climate change obscure the fact that socio-economic vulnerability and population numbers vary significantly by region (Figure 21).

Figure 21 illustrates the regional breakdown of poor children in Ethiopia by region. It uses multi-dimensional poverty measures to calculate child poverty rates, recognising that child poverty is more than monetary

deprivation. Rather, children who grow up impoverished often lack the food, sanitation, shelter, health care and education they need to survive and thrive. Children that are "multidimensionally" poor, lack necessities as basic as nutritious food or clean water.

▼ Figure 18. Multidimensional child deprivation rate for children 0-17 years, by region[14]



▲ *Source: UNICEF Ethiopia, July 2024, Child Poverty Analysis for Ethiopia (forthcoming)*

Figure 21 shows the national average rate of child poverty (78.7%) followed by a comparative analysis of child poverty rates per region. The most multi-dimensional poor children live in Somali, Afar, Central Ethiopia, Southwest Ethiopia and South Ethiopia regions, and Tigray, and are all above the national average. Children living in Addis Ababa and Dire Dawa are relatively better off, with well below average poverty rates that reflect better access to basic necessities and therefore stronger resilience to climate change.

It is essential that Ethiopian policy makers ensure that climate policies and policies related to development protect vulnerable children and are appropriate for each region. Regional differences in governance, stability and between pastoral and more agrarian areas are important in shaping vulnerability and policy responses. Engaging with local officials and stakeholders within these crucial regions is essential.

14 The analysis for Figure 21 has not disaggregated the results for SNNP into the three regions of Central Ethiopia, Southwest Ethiopia and South Ethiopia, for the purposes of maintaining the comparability of child poverty rates with previous data sets used such as 2016 EDHS where UNICEF used the same sample design and selection method. Primary data had already been collected for this analysis by the time the administrative boundaries were changed.



▲ *Adi Jarso, a mother of eight children says that the past three years have been difficult for the community. They are struggling to save their cattle as sever drought persists. " We get water here. This is our only hope. We pray that the rains will come." ©UNICEF Ethiopia/2022/Demissew Bizuwerk*

Ber'aano Woreda in Somali- UNICEF Ethiopia\2014

6. POLICY AND INSTITUTIONAL REVIEW

Ethiopia has ratified and become party to several international and regional conventions related to children and CEE. These include the Convention on the Rights of the Child, the UNFCCC and its linked Paris Agreement, the Sendai Framework for Disaster Risk Reduction, the Basel Convention on Hazardous Wastes, and the Vienna Convention on the Ozone Layer. Ethiopia also has a comprehensive range of national climate change and environmental policies and strategies.

However, it was only around the mid- to late-2000s that relevant international agreements began to integrate a human rights-based approach, including a focus on the rights of children. The inclusion of human rights in climate-related policies is becoming the norm. The Paris Agreement was the first universal and legally binding climate change agreement to explicitly include human rights, calling on States (Parties to the Agreement), when taking action to address climate change, to "respect, promote and consider their respective obligations on human rights". This approach is also reflected in the transformative ambition of the United Nations 2030 Agenda, which seeks "to realise the human rights of all" including children in its Sustainable Development Goals (SDGs).

Ethiopia's Constitution provides a firm basis for the protection of children's rights and CEED-related issues, as captured below.

Constitution of the FDRE

Ethiopia's Constitution has several articles that protect children's rights either explicitly or as part of the general population. Article 36 affords children the right to be cared for and not be subject to exploitative purposes. It further states that the government shall allocate resources to assist orphaned children and those with disabilities.

The Constitution also offers broad protection for the environment and against CEED related risks. It affords citizens the right to a clean and healthy environment, gives them the responsibility to protect the environment and commits to designing and implementing programmes and projects that do not damage or destroy the environment. It also identifies natural resources as common property and requires government to "*enact laws for the utilisation and conservation of land and other natural resources*". The right to natural resources is thus protected, and the Constitution further promotes the rights to clean water, food security and health and education services, all of which are affected by climate hazards.

In terms of disaster risk reduction and management, the Constitution requires government to provide timely assistance to victims in the event of disasters and to take measures to avert any natural disasters.

Furthermore, the Constitution recognises the importance of stakeholder engagement under Article 92 (c), by giving citizens the right to be consulted with, in respect of policies and projects affecting their communities. It explicitly states that "*People have the right to full consultation and to the expression of views in the planning and implementations of environmental policies and projects that affect them directly.*"

6.1 | Key Ethiopian policies related to CEED and children

Ethiopia has a range of national policies and strategies that address CEED issues. The policy framework also includes social policies that affect children, such as education, health, gender promotion and women empowerment, poverty alleviation and social and child protection. Table 2 indicates the extent to which these policies include issues related to CEED and children, and the linkages between CEED and children.

▼ Table 2. CEE and inclusion of children in key Ethiopian policies

National Policies and Plans	CEED	Children	Linkages between CEE and Children	Key: Significant inclusion or linkage; Some inclusion or linkage; No/ very little inclusion or linkage
Overarching				
Ethiopia 2030: The Pathway to Prosperity Ten Years Perspective Development Plan (2021 – 2030)	●	●	●	The plan has a chapter dedicated to climate change and the environment and identifies the vulnerability of children and importance of integrating them into the country's development strategy. It identifies linkages between CEE and Children, particularly in the areas of WASH and Food Security and aims to build citizens adaptive capacity to natural disasters.
CEED				
Ethiopia's Third National Communication (2023)	●	●	●	CEED discussed extensively but very little mention of children and no linkages drawn between the impacts of CEE and children.
Environmental Policy of Ethiopia (1997)	●	●	●	Large focus on the environment and efficient management of natural resources. Identifies the importance of containing climate change, increasing access to energy and protecting citizens against disasters. Environmental education and building skills are viewed as key to enhancing environmental awareness and sustainable development but children are not discussed extensively.
Ethiopia's Long-Term Low Emissions and Climate Resilient Development Strategy (2020 – 2050)	●	●	●	CEED is discussed extensively, and strategic actions are identified for each climate related sector. Children are not mentioned but youth are identified as both a vulnerable group and key stakeholder that needs to be consulted. Girls and youth are viewed as important to develop the workforce of the future and build green skills.
Ethiopia's Climate Resilient Green Economy Strategy (2011 – 2025)	●	●	●	Prioritises and discusses CEE extensively. No explicit reference to children or vulnerable groups but strong consideration for development aspects such as health, food security and gender equality, which impact children.
Ethiopia's Climate Resilient Green Economy Strategy - Agriculture and Forestry (2011 – 2025)	●	●	●	CEED and climate resilient growth are discussed extensively throughout the document and forms as the basis for its development. Children are discussed as a vulnerable group and identified in the criteria determining options to build climate resilience.

National Policies and Plans	CEED	Children	Linkages between CEE and Children	Key: Significant inclusion or linkage; Some inclusion or linkage; No/ very little inclusion or linkage
Ethiopia's Climate-Resilient Green Economy Strategy - Water and Energy (2015)	●	●	●	CEED and climate resilience is discussed extensively throughout the document. Children are identified as a vulnerable group to weak WASH infrastructure, whose lives will be enhanced through better access to nutrition, health services and education opportunities.
Integrating Climate Resilient Green Economy (CRGE) Strategy in Sector Development Plans (2018)	●	●	●	CEED impacts and action items are discussed extensively. There is no mention of children as stakeholders or as a vulnerable group. No linkage is drawn or action items developed in relation to children.
Ethiopia's National Adaptation Plan (NAP) (2019)	●	●	●	CEED underpins the development of the document and is discussed extensively. Children and youth are mentioned in the document and identified as both a vulnerable group (children) and key stakeholder (youth) to the adaptation options identified.
Updated Nationally Determined Contribution (NDC) (2021)	●	●	●	Strong focus on CEED, but no explicit reference to children and young people. Ethiopia is ranked as Category C (lowest ranking) by UNICEF in terms of the child-sensitivity of its NDC.
National Blue Economy Strategy of Ethiopia (2023 – 2027)	●	●	●	CEED is discussed throughout the report. Children are not mentioned but youth are identified as key participants in this strategy as they are an important group to organise and build capacity for. CEED and youth are linked through the focus on sustainable skills development and training.
National Electrification Program 2.0 (2019)	●	●	●	Energy access underpins the development of the report. Children and youth are identified as vulnerable groups whose livelihoods will be enhanced through better access to electricity.
National Policy and Strategy on Disaster Risk Management (2013)	●	●	●	Disaster risk reduction, climate change and environmental hazards underpin the development of the report and are discussed throughout. Children are identified as a key vulnerable group who need to be integrated into DRM plans.
Youth/Children				
National Strategy for Child Survival in Ethiopia (2005)	●	●	●	Children are discussed throughout the document but there is no mention of CEED related issues, even though the major illnesses discussed are exacerbated by environmental factors.
National Children's Policy (2017)	●	●	●	The document is focused on children and child-related issues. It makes no mention of climate change, disaster risks and other CEED impacts. The environment is mentioned in the context of creating a safe, pollution free environment for children and supporting them to participate in conservation activities.
National Youth Policy (2004)	●	●	●	Youth are discussed extensively. No mention of children. Environmental protection is identified as one of the areas that youth need to be involved in.

National Policies and Plans	CEED	Children	Linkages between CEE and Children	Key: Significant inclusion or linkage; Some inclusion or linkage; No/ very little inclusion or linkage
WASH				
National Water Strategy of Ethiopia (2001)	●	●	●	The policy does not mention children but discusses the importance of stakeholder engagement and mainstreaming communities into water strategies. Energy is discussed in relation to hydropower and protecting the environment and management of disasters are discussed in detail.
Ethiopian Water Resources Management Policy (1999)	●	●	●	The policy does not mention children, youth or vulnerable groups. Climate change is not mentioned but environmental hazards, energy and disaster risk reduction are discussed extensively.
National Hygiene and Sanitation Strategy for Ethiopia (2005)	●	●	●	CEED and the impact of climate change and environmental hazards are not discussed. Children are discussed extensively due to the health and education implications of a lack of access to WASH services.
Gender, Child Protection, and Education				
National Policy on Gender Equality and Women Empowerment (2022) and the National Action Plan on Gender Equality (2010)	●	●	●	The Action Plan and the Policy link environmental issues, disaster risks and energy access to the welfare of women and girls. Identifies that CEED impacts make them more vulnerable. Girl children are discussed extensively. The 2022 Policy builds on the significant strides that Ethiopia has made in advancing Gender equality and Women's empowerment.[15]
Country Gender Equality Profile (2024)	●	●	●	The profile shows the significant strides made in improving access to education for boys and girls at all levels, with net primary enrolment rates increasing from 51% in 2003/04 to 95% in 2016/2017 and 86.4% in 2020/21. The country has also improved gender equality within the education system, however progress is still needed towards achieving gender parity in education given the persistent and significant differences between rural and urban areas as well as between regions. The profile further highlights gender challenges in terms of gender and health, including challenges for reproductive health of women and children, and in maternal care and family planning services.
National Costed Roadmap to on Ending Child Marriage and FGM (2020)	●	●	●	The roadmap discusses children throughout, with a particular focus on girls. However, there is no mention of CEE or disaster risks including drought.
National Social Protection Strategy of Ethiopia (2016)	●	●	●	Children are discussed extensively and are identified as both a vulnerable group and stakeholder. CEE is not outlined very strongly in the strategy or linked to children's vulnerability, but disaster risk management is identified as a key intervention to develop safety nets.

15 For example, Ethiopia was among the five most improved countries in 2019, according to the World Economic Forum's Global Gender Gap Report, 2021 (FDRE, 2024).

National Policies and Plans	CEED	Children	Linkages between CEE and Children	Key: ● Significant inclusion or linkage ● Some inclusion or linkage ● No/ very little inclusion or linkage
Climate Change Education Strategy of Ethiopia (2017 – 2030)	●	●	●	Strong focus on both children and climate change. Aims to integrate CEED issues into education curriculum.
Education Sector Development Programme VI (ESDP VI) (2020 – 2024)	●	●	●	Children are discussed throughout. Climate change is identified as a cross-cutting issue and important area of learning. The impact of disasters is discussed in detail as well as enhancing the management of emergencies through education.
Health and Nutrition				
National School Health and Nutrition Strategy (2012)	●	●	●	Children discussed extensively, No linkage to CEED or climate related hazards such as drought.
National Strategy for Infant and Young Child Feeding (2004)	●	●	●	Children are discussed extensively. Lack of inclusion on impact of CEED. Briefly explains that droughts exacerbate food insecurity and identifies that children are the most vulnerable to natural hazards.
National Health Equity Strategic Plan (2020 – 2024)	●	●	●	Children are discussed extensively. The report links health issues such as malnutrition to climate-related disasters, but identifies that funding needs to be directed towards building the country's adaptive capacity, rather than only going towards emergencies.
The Food and Nutrition Strategy (2021)	●	●	●	Children are discussed extensively due to high prevalence of malnutrition. Climate change and related environmental disasters is discussed throughout the document and identified as a key hazard to food security.
National Adolescents and Youth Health Strategy (2021 – 2025)	●	●	●	Children between the ages of 10 – 19 years are discussed extensively throughout the report. However, there is no mention of CEED and no linkage drawn between health factors and climate-related hazards (e.g. droughts).

6.1.1 | Overarching policies

Ethiopia 2030: The Pathway to Prosperity Ten Years Perspective Development Plan (2021 – 2030) was introduced by the Ministry of Planning and Development (MoPD) in 2020 with the aim of providing the country with a strategic roadmap to developing sustainability over the long term. It will do this by strengthening the country's institutional framework, finding linkages between sectoral action plans and goals, enhancing its physical infrastructure and increasing involvement of the private sector. This national vision has integrated the SDGs and identifies sustainable urban development as a key priority area to both enhance the welfare of its citizens and protect the environment. The plan has ten strategic pillars, which include sustainable developing financing, a resilient green economy, gender and social inclusion and institutional transformation. Children and youth are included as both a vulnerable group and a key stakeholder whose welfare needs to be enhanced through improved WASH, health and education services and increased food security and social protection mechanisms (FDRE, 2021).

6.1.2 | Policies related to Climate Change and Disaster Risk Reduction

Ethiopia's climate strategy is anchored in its **CRGE strategy,** launched in 2011 (FDRE, 2011a). It was developed to identify opportunities and initiatives as well as guide government policies that will assist Ethiopia to reach its growth targets sustainably. The strategy has stimulated the development of several other plans, including the **Agriculture and Forestry Plan (CRGE-AF)** in 2011, the **Water and Energy Plan (CRGE-WE)** in 2015, the **Sectoral Plan Guidelines (CRGE-SG)** in 2018 and the National Adaptation Plan (CRGE-NAP) in 2019. The CRGE has identified the importance of mitigating climate change and building the country's adaptive capacity to withstand the impact of environmental hazards on development matters such as public health, rural development and food security. The plan further discusses the importance of mobilising international finance, particularly for the development of power, water supply and sanitation infrastructure. It does not explicitly mention its relationship with vulnerable groups but does identify important sectors that will support the government in lifting the population out of poverty. These include reinforcing the agricultural sector and rural households, enhancing food security, increasing employment and new business opportunities and strengthening health and productivity through better infrastructure.

The **Long-term Low Emissions and Climate Resilient Development Strategy 2020 – 2050 (LT-LEDS)** was developed by the MoPD and supported by the Global Green Growth Institute (GGGI). It is underpinned by extensive stakeholder engagement across Ethiopia to enhance ownership, promote knowledge sharing and ensure data flows between key stakeholders. It presents the country's main development objectives that are relevant to its LT-LEDS pathway. Even though it does not mention children, it does recognise the role of youth in climate action. It further elaborates on the importance of preparing a young, gender-inclusive workforce that can meet the demands of the future, and develop skills relevant to the green economy. It thus includes curriculum development for reskilling and upskilling women, girls and youth as a key action item for the country's green pathway.

The **CRGE-AF (2011)** is an important document because the agricultural sector underpins Ethiopian growth and development as it is key to both national income and household livelihoods. It identifies the impact of environmental hazards and weather variability on the Agriculture and Forestry sectors and discusses the necessary responses to build the resilience of the population. Children are identified as an important vulnerable group who need to be considered and protected when developing options and policies aligned with this strategy (FDRE, 2011b).

The **CRGE-WE (2015)** sets out the implementation priorities for the water, irrigation and energy sectors. It identifies options to increase clean energy access and enhance efficiency, build the resilience of rainfed agriculture, and prioritise water resource management and sanitation facilities. The strategy aims to reduce poverty through its activities and identifies children as a vulnerable group whose resilience to climate hazards will be enhanced through increased access to services that improve health, nutrition, and education opportunities (FDRE, 2015).

Government introduced guidelines for ministries and regional implementing agencies to integrate and mainstream the CRGE into sectoral development plans in 2018, in the **CRGE-SG (2018)** document. It discusses how CRGE can be incorporated into strategic planning, explains what the roles and

responsibilities of government entities are and identifies action items and indicators for each ministry across climate impacted sectors. It does not, however, identify any action items or indicators related to the impact of climate change on children, and thus fails to initiate the mainstreaming of children across climate-related plans (FDRE, 2019).

Ethiopia submitted its **Third National Communication** to the UNFCCC in January 2023. Children are mentioned in the document in terms of the country's social context but are barely linked to the impacts of climate change discussed throughout. Health and nutrition hazards related to natural disasters that impact children are discussed, but not in relation to their impact on child mortality, as in other documents. The document does, however, refer to the government taking steps to integrate climate change into school curricula at all levels by conducting an initial study on climate change learning in the education sector.

The **FDRE's National Adaptation Plan (2019)** was developed based on the CGRE and the Growth and Transformation Plan II (2016 – 2020). It aims to manage the siloed nature of current adaptation plans by addressing trans-regional, multi-sectoral adaptation issues over the long-term and creating synergies among key stakeholders and organisations. It identifies eight priority sectors vulnerable to climate risks – agriculture, forestry, health, transport, power, industry, water and urban – and 18 major options that need to be implemented across the country. Children and their link to the impacts of climate change are discussed explicitly throughout the options discussed and youth groups are identified as key stakeholders who will be consulted with and required to take ownership of the document (FDRE, 2019).

Ethiopia submitted its **Updated Nationally Determined Contribution (NDC)** to the UNFCCC in 2021. The NDC is predominantly based on the CRGE to align itself with Ethiopia's growth and development pathways and it included extensive stakeholder engagement. It identifies necessary policy interventions in six sectors – land use change and forestry (LUCF), industry, energy, livestock, managed soils, and waste – to reduce emissions and enhance the country's adaptive capacity to climate change. There is no mention of children in the document but adaptation commitments include strengthening community climate resilience, enhancing food security and increasing the number of households with access to energy, which will have an indirect impact on the livelihood and welfare of children.

The **National Policy and Strategy on Disaster Risk Management** was updated in 2013 after 10 years, with the aim of strengthening the institutional and administrative structure for disaster risk management (DRM) and reducing the vulnerability of the population. The strategy identifies the importance of mainstreaming DRM into all development plans and programmes and developing the capacity of communities to enhance disaster management systems. Children are identified in the strategy as a vulnerable group who will need to be incorporated into DRM strategies across all sectors. This is important to note because DRM is currently decentralised. The strategy identifies a lead sector ministry for each hazard, where over 10 ministries have been identified to oversee different types of disasters (FDRE, 2013).

The Ethiopian Disaster Risk Management Commission's (EDRMC) report: A Roadmap for Multi-hazard, Impact-based Early Warning and Early Action System (MH-IB-EW-EAS) 2023-2030: Building Disaster Resilient Communities in Ethiopia, was published in 2022. A pioneering vision document, the roadmap recalls the

mindset shift which occurred as a result of the 1993 reorganising of the Disaster Prevention and Preparedness Commission – an act which ultimately linked relief to development. However, challenges still remained, so the new roadmap for MH-IB-EW-EAS builds on Ethiopia's long history and experience in EWS, as well as its highly developed policy space, to better prepare the country for future disasters. This acknowledges that climate change and its associated challenges need not be a barrier to sustainability, but can instead aid its progression.

6.1.3 | Policies related to the Natural Environment and Land Use

Ethiopia's Environmental Policy (1997) was the first of its kind in the country and places a large focus on the importance of protecting the natural environment and the role it plays in the country's development. There is no explicit mention of children, but there is significant linkage drawn between human welfare and the environment, with the overall policy goal being to improve the health and quality of life of Ethiopians and to promote development through the sound use of natural resources and the environment. It also identifies the importance of promoting environmental education, with a particular focus on the sustainable use of natural resources (Environmental Protection Authority, 1997).

The **National Blue Economy Strategy of Ethiopia (2023 – 2027)** was developed by the Ministry of Transport and Logistics. It aims to set up a sector that makes full use of the country's available water bodies such as lakes and rivers as one of the solutions to reduce reliance on the agriculture sector. The strategy identifies the particular susceptibility of the blue economy to climate change risks and natural disasters and the need for a strong environmental management plan to mitigate environmental risk. Furthermore, hydropower is viewed as an alternative energy source to biomass and will need to be integrated through increased international investment. The youth will also need to be equipped to work in this sector, so training, awareness and skill building initiatives will be implemented across education institutions (Ministry of Transport and Logistics, 2023).

6.1.4 | Policies related to Energy

The second **National Electrification Strategy (NEP II)** was introduced in 2019, two years after the launch of the first strategy. This strategy focuses on providing electricity to all Ethiopians by increasing integrated-grid and off-grid electricity access, providing a detailed off-grid implementation framework and presenting a sector-wide approach to electrification. Children have been identified as a vulnerable group to air pollution due to the widespread use of biomass for the population's energy needs. The NEP II discusses the importance of increasing access to electricity, particularly for children, as it addresses sanitation and safety concerns, creates a more conducive environment for education and reduces health issues associated with alternative forms of energy.

6.1.5 | Policies related to Children and Youth

The **National Children's Policy** was introduced in 2017 and makes no mention of the impact of climate-related hazards on children. It does, however, identify the importance of creating an environment free of pollution and increasing the participation of children in natural conservation schemes. It identifies the major policy issues affecting children, describes implementation strategies that include mainstreaming them into all laws and policies, sets out roles and responsibilities of all stakeholders and develops a monitoring and evaluation strategy to increase data on child-related development.

The **National Youth Policy (2004)** defines 'youth' as people aged between 15 and 29. The aim of the policy is to increase participation of youth in the economy and create a conducive environment for them to take ownership of national issues. One of the areas of focus of the policy is to enable youth to voluntarily protect and preserve the environment by giving them access to education opportunities that teach them about its importance.

6.1.6 | Policies related to WASH

The policies related to water are nearly two decades old, and do not refer to climate change explicitly, but rather discuss the impact of environmental disasters such as floods and droughts on the country's development. The **Ethiopian Water Resources Management Policy (1999)** aims to develop an institutional framework for the efficient management and use of water that benefits the population. Environmental conservation and protection are identified as integral parts of water resource management due to the detrimental impacts of environmental hazards. The management and monitoring of water related disasters is also outlined because of the sectoral separation of disasters, as discussed previously. In addition, it outlines water management policies in terms of sanitation, irrigation, and hydropower. The Ethiopian **Water Sector Strategy (2001)** document aims to translate the water policy into practice by identifying action items that can be carried out by government and other stakeholders. Even though it does not explicitly mention climate change, it does identify the impact of climate-related hazards and indicates that environmental conservation must be integral to all water policies. Furthermore, it promotes the strengthening of partnerships between the community and government and aims to mainstream gender into all water related policies. However, neither the policy nor the strategy refers to children and the impact that water resource management and water-related disasters have on them.

In contrast, the **National Hygiene and Sanitation Strategy (2005)** for Ethiopia does not discuss the impact of climate change or environmental hazards on access to sanitation but does identify the importance of reliable WASH infrastructure for children's livelihoods and welfare. It aims to create an enabling environment by developing an institutional framework, increasing learning and awareness of hygiene and strengthening the supply of sanitation services with better technologies. Children are identified as a major vulnerable group due to several sanitation related health impacts that lead to high levels of under-five mortality as well as the impact of inadequate facilities on the educational opportunities for girl children (Ministry of Health [MoH], 2005a).

6.1.7 | Policies related to Health and Nutrition

The Ministry of Health has introduced several policies and strategies related to the country's health and nutrition. The aim of the most recent health strategy, the **National Health Equity Strategic Plan (2021 – 2025)**, is to improve access to health services, while also improving the quality of these services. It notes that due to the country being in a frequent state of environmental emergency, funding tends to be emergency orientated rather than addressing the underlying issues and enhancing adaptive capacity. Children are discussed extensively throughout the report, particularly in relation to nutrition and disease prevalence. Apart from the impact of environmental disasters such as droughts and floods, climate-related interventions are not discussed extensively in the strategy (Ministry of Health [MoH], 2020). Similarly, the **National Adolescents and Youth Health Strategy (2021 – 2025)** aims to improve the health of adolescents

and youth by developing an integrated health sector response, but makes no mention of the impact of climate change, energy pollution or environmental hazards on their health. Essentially, the linkage between climate-related disasters such as droughts and floods are not drawn, and responses have therefore not been developed to address this root cause.

The **National Food and Nutrition Strategy (2021)** has been developed to address major issues of food security and quality in the country. It defines the roles and actions of key implementing sectors – with one of them being the Environment, Forest and Climate Change Commission (EFCCC). Children are discussed extensively due to their high levels of malnutrition and stunting, which is exacerbated by the impact of droughts. The development of climate resilient technologies in the water, electricity and agriculture sectors are further identified as key to building the country's adaptive capacity, along with improving early warning systems and disaster risk management.

The **National School Health and Nutrition Strategy** was developed by the Ministry of Education (MoE) in 2012 to enhance school children's ability to thrive in educational environments, which is often hampered by poor health and nutrition. Children are discussed throughout the document, but there is no discussion or linkage to CEED, climate hazards such as drought or building climate resilience (Ministry of Education [MoE], 2012).

The **National Strategy for Child Survival in Ethiopia (2005)** was introduced with the aim of reducing high under-five mortality rates caused by malnutrition and HIV and exacerbated by malaria and diarrhoea. The main pillar of the strategy is the development of the Health Services Extension Programme (HSEP) that focuses on expanding primary health facilities and training adequate human resources. The strategy makes no reference to climate change, environmental hazards or disaster risks and, thus, does not link CEED-related issues to child survival and disease prevention (Ministry of Health [MoH], 2005b).

The **National Strategy for Infant and Young Child Feeding (2004)** focuses largely on reducing the impact of malnutrition and food insecurity among children and mothers. There is no discussion on climate change, but the strategy has linked the impact of frequent environmental hazards such as droughts on food insecurity – which is a major factor affecting children in Ethiopia. Furthermore, the strategy identifies how natural disasters have exacerbated problems of access to food and social protection mechanisms, by impacting on migration (Ministry of Health [MoH], 2004).

6.1.8 | Policies Related to Education

In 2021, the Ministry of Education introduced the Education Sector Development Programme VI (ESDP VI) that develops the policy framework for education, identifies priority programmes, sets out the implementation plan and explores financing for each area. Climate change and environmental disasters are viewed as cross-cutting issues that children need to be prepared for. Natural disasters impact on children's ability to access educational opportunities because of resulting migration, as well as low quality infrastructure, diversion of funding and unsafe environments. This is especially true for children with disabilities, due to a persistent lack of accessibility and accessible spaces, special education support and disability friendly school equipment. The programme thus aims to increase disaster management education in addition to building skills relevant to the growing green economy (Ministry of Education [MoE], 2021).

To combat the lack of awareness and knowledge about climate change, the

government introduced the **Climate Change Education Strategy of Ethiopia (2017 – 2023)**, a comprehensive framework for Climate Change Education (CCE), with the support of the Swiss government. The first stage aims to integrate CCE into the formal primary and secondary education system, with the mission of having every school becoming a champion of building a climate resilient and green economy. The government aims to do this by developing learning materials, increasing the capacity of schoolteachers and strengthening the institutional environment for CCE.

6.1.9 | Policies related to Social protection, Child Protection and Gender

The aim of the **National Action Plan for Gender Equality (NAP-GE)** introduced in 2006 is to enhance awareness of gender-related issues and to develop an institutional framework that facilitates its implementation. The plan discusses girl children extensively in terms of their role in society and the challenges they face. It identifies how climate-related hazards, and the availability and quality of natural resources exacerbates these challenges by increasing the vulnerability of women and girls, particularly those with disabilities. Furthermore, it discusses the importance of mainstreaming gender across environmental policies and strategies because of the relationship women and girls traditionally have with natural resources (e.g., their role in collecting firewood and water).

This plan is currently being updated by the Ministry of Women and Social Affairs (MoWSA) with support from various institutions, including UNICEF Ethiopia, and is still in a draft version. During engagements with the MoWSA, it was confirmed that the new policy would be including the environment and climate change as a strategic pillar.

The National Policy On Gender Equality and Women Empowerment (NP-GEWE, 2022) intended to replace the National Policy on Ethiopian Women (NPEW), has recently been developed through a multi-sectoral and inclusive process. This process was conducted through guidance and coordination of the steering and technical committees, which were formed by experts from sectoral ministries, the Ethiopian Policy Studies Institute, Women's Rights Organisations (WROs), Civil Society Organisations (CSOs) and development partners. The process was led and coordinated by MoWSA. The policy includes climate change and environment as a pillar and is pending the approval of the Council of Ministers.

In 2019, MoWSA, with the support of several UN agencies and NGOs developed the **National Costed Roadmap to Ending Child Marriage and Female Genital Mutilation (FGM)**, which identifies the actions that need to take place and the actors who need to be involved to protect women and girls from child marriage and FGM. It highlights the issue of data on these issues, while also broadly indicating the regions where it occurs most often. There is no discussion of the impact of climate change and disasters throughout the report and no link is identified on the relation between the two.

The **National Social Protection Strategy of Ethiopia (2016)** aims to enhance the wellbeing of citizens and protect them from the adverse effects of environmental and conflict-related shocks. Vulnerable children are discussed throughout the document and mechanisms to reduce their vulnerability are identified. Because they are one of the main beneficiaries of this policy they are also viewed as a key stakeholder. The strategy further discusses the importance of social safety nets in the context of disaster risk management, and enhancing climate resilience, given the major


Haro Huba Kabele, Fantale Woreda, East Shoa Zone. © UNICEF Ethiopia/2016/Ayene

impact of hazards such as droughts and floods. However, the National Child Policy discussed previously, mentions that this social protection policy does not sufficiently address all issues faced by children in the country (Ministry of Labour and Social Affairs, 2016). The National Social Protection Policy of Ethiopia is currently undergoing a gap analysis review and showing responsiveness to existing programmes is one of the focus areas of the document.

6.2 | Do existing CEED policies and strategies address children's needs?

While there is a strong climate change policy framework in place, environmental policies and climate-related strategies often fall short of directly addressing the unique needs of children. Many of these policies focus on broader objectives, primarily aiming to alleviate poverty and promote overall development within the society. While these policies recognise the relationship between climate change and development, children are not explicitly mentioned as a specific target group, even though they belong to a demographic that would greatly benefit from sustainable development practices. Typically, these policies prioritise the protection of vulnerable groups, with children being viewed as part of these groups, rather than stakeholders in their own right. The challenge lies not in the absence of strong policies but in their uneven implementation, often hampered by shifting institutional structures and unstable environments. To fully address children's needs in the context of climate change and environmental efforts, it is crucial for policymakers to recognise them as distinct stakeholders and ensure that their interests are explicitly integrated into the policy framework.

6.3 | Do sector policies and strategies related to children incorporate CEED issues?

Child-related policies in the country demonstrate a growing awareness of the interaction with CEED-related issues. The Ethiopian government is actively working to enhance its adaptive capacity in the face of frequent climate-related disasters, such as droughts, a theme consistently present in both climate-related and development policies. Most social policies acknowledge the adverse effects of droughts on children, with a particular focus on issues such as malnutrition, health, and child protection. Even older social policies, though not explicitly addressing climate change, recognise environmental hazards as a substantial factor influencing the development and well-being of vulnerable groups. There is, however, still significant room for improvement to integrate and mainstream climate change and other CEED-related issues into development and social policy planning, particularly for policies related to children and youth.

6.4 | Main institutional arrangements for CEED and Children

The Federal Democratic Republic of Ethiopia comprises 12 autonomous regional states and two City Councils that have their own respective branches of government, with their own parliament, executive body and judiciaries. The country faces significant conflict, which has resulted in an unstable political environment. The institutional

arrangements for climate and environmental matters have shifted frequently over the last few years, with the latest proclamation defining the powers and duties of executive organs being implemented in 2021.

The Environment, Forest and Climate Change Commission (EFCCC) was established in 2015 to manage and direct the country's environmental objectives. However, in 2021 its powers were transferred to several ministries. The EFCCC was renamed and restructured as the Environmental Protection Authority (EPA). It is responsible for coordinating national policies in relation to the environment, taking part in international environmental negotiations, establishing an environmental information system and promoting environmental education programmes, among others. Currently, it is an autonomous federal government body having its own legal personality that answers directly to the Ministry of Planning and Development.

The Ethiopian Disaster Risk Management Commission (EDRMC) mentioned previously as the implementing agency for Ethiopia's flagship roadmap on impact-based EWS, is the primary governance entity in charge of preparing the country for disasters. This preparedness includes actions to broaden and refine the existing policy and institutional space related to disaster response, as well as expanding the capacity of government and people to enhance their resilience to the cascading impacts of disasters – including, and especially, climate-induced events such as droughts, floods and heatwaves.

Other government ministries that oversee environmental matters include the MoPD, the **MoA**, the MoWE and the National Meteorological Institute (EMI). The MoPD is mandated to coordinate and support climate change and environmental activities as well as initiate policies with respect to development, national statistics, population, climate change and the environment. The MoA has been entrusted with the powers and duties of the previous Ministry of Environment, Forest and Climate Change. The EMI is required to conduct meteorological and climate change studies, collect climate related information and coordinate adaptation and mitigation activities.

MoWSA oversees issues related to protection of children and upholding their rights, in addition to gender, social protection and disabilities. It has the duty to monitor and implement the National Child Policy and must aim to collect data and mainstream child-orientated policies and programmes across other government organs.

To conclude, while Ethiopia has a strong policy environment, and it is being strengthened, the treatment of children and youth, among other vulnerable subgroups such as people with disabilities, is not being articulated well enough. This has affected the support available to address the highly differentiated needs of children. Targeted interventions, and finance targeted towards enabling these, will be critical to building the resilience of Ethiopia's children.

This perspective will be further elaborated in the ensuing CLAC, as augmented by further analysis, perspectives gathered and synthesised from stakeholders, and the insights garnered from children and youth engagements in a sample of the country's sub regions.



Qoloji, Somali region - © UNICEF Ethiopia/2024/ Bethelhem Assefa

7. RECOMMENDATIONS

The CLAC has highlighted that Ethiopia's challenge is both environmental and developmental: heat stress, droughts and floods pose direct threats to child health and severely threaten food and water security; and high levels of poverty and deficiencies in educational and health services undermine the capacity of households to adapt. Children living with disabilities, or who come from families whose members live with disabilities, are especially vulnerable due to communication, infrastructure, physical environment, and education access barriers, among others. Women and girls are also especially vulnerable due to exposure to sexual violence, labour market discrimination and cultural norms that disempower them. Since disability intersects with gender, girl children living with disabilities are the most vulnerable to the impacts of climate change.

Industrialisation and the development of transport networks have helped generate alternative income sources but bring with them additional environmental risks such as air and soil pollution. Air pollution is a major issue for children, who contract related respiratory diseases more easily than adults, with lifelong implications for their health. While Ethiopia's pollution index is moderate, it exhibits higher levels of indoor air pollution in comparison to many of its East African neighbours, emphasising the urgent need for response.

The increase in frequency and intensity of extreme weather events leaves affected populations with little time, if any, to recover. Communities need to be better prepared and to develop strategies that reflect their specific circumstances and assist the most vulnerable. Ethiopia has been working on climate adaptation and mitigation strategies, with an emphasis on alignment with existing national policy response frameworks such as the TYDP, LT-LEDS, and the CRGE Strategy. More focus is needed on child responsive and differentiated interventions that include enhanced child protection, including of children living with disability, and accelerated efforts towards behaviour change, particularly in the most vulnerable regions to CEED.

The findings from this CLAC have left little doubt that holistic strategies, as well as differentiated solutions (e.g., gender and disability inclusive clauses in national climate strategies and disaster response plans for girl children, and for children living with disability) are needed across sectors, and that these need to include interventions, support and action by government and non-government entities. Comprehensive strategies are needed to address food and water security, and to combat health crises that result from the climate and CEE crises. The health sector is often a downstream actor in the climate crisis, having to manage the impacts of climate change that occur in other sectors, on human



health. This is particularly the case for health issues arising from water contamination (e.g. diarrhoea) and from air pollution (respiratory disease).

The consequences for the health sector include the need to respond to these impacts often after emergency funds have been disbursed, and the inability to contain the increased burden of disease that may arise from inaction in other sectors. Collective action is needed for food sourcing, climate resilient agriculture, water conservation, improved air quality, and disaster risk preparedness, while continuity of education and improved and targeted healthcare also require attention. Furthermore, efforts are needed to ensure that the social gains made on issues such as early marriages and GBV are not reversed or worsened as a result of CEED issues. The health sector needs to be integral to such collective action in terms of proactively planning and budgeting for child responsive climate action.

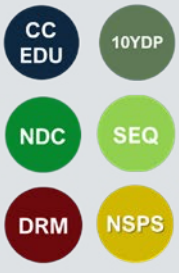
A set of six interrelated recommendations, as depicted in Figure 23, and further outlined as follows, are identified to provide a coherent strategy for addressing the primary CEED challenges facing children. These interrelated recommendations are intended to feed into, and build out of, Ethiopia's existing initiatives and strategies as far as possible. Four interrelated recommendations have been identified as technical solutions to the primary hazards that threaten Ethiopia's children. Integral to each of these are child disaggregated data, information, and policy, and social protection that is targeted towards households that are the most vulnerable to climate change and shocks, the participation of children, and finance.

Furthermore, two additional but key recommendations have been identified to target child protection, and social behaviour change – each being fundamental to effective and transformative CEED responses. Together, these recommendations seek to ensure water for food, health, and income security; diversified livelihoods and social safety nets targeted towards the most vulnerable households; sustainable energy resources, services, and healthy ecosystems; and continuity of education in schools that can also serve as social havens. These four solution-oriented recommendations will be enabled by enhanced child protection from the impacts of climate change, and by behaviour change within and among vulnerable communities towards positive coping responses to the impacts of climate change.

Given how foundational social protection and behaviour change are to ensuring the rights of children in the ongoing climate crisis, the more detailed recommendations commence with these, establishing clear guidance towards ensuring that social norms and behaviours do not regress as Ethiopian families and communities struggle with the daily, harsh realities of climate change, and energy and environmental issues.

▲ *Figure 19. Overview of the interconnected recommendations (continued over the page)*



Climate-related Linkage	Recommendation	Policy Linkage
 Climate Change impacts	**Integrate children into leading climate change, environment, energy, and disaster risk policy instruments, especially NDC and 10-year development Plan**	
 Drought	**Protection of children under a climate transformed future** • UNICEF to work with community structures to enable the availability and understanding of positive coping mechanisms for climate affected families. • UNICEF will accelerate child protection efforts in regions most vulnerable to climate change.	
 Migration	**Collective action and social behaviour change** • Integrate traditional knowledge and practices, address cultural constraints and optimise cultural opportunities for effective climate responses.	
 Flooding  Disease	**Water for food, health and income security** • Promote a climate resilient water use and management system through an all-of-society approach that centres on the protection of children.	
 Drought  Poverty	**Diversified livelihoods and targeted social safety nets** • Identify, promote and support opportunities for livelihood diversification and support efforts to develop skills for the green economy. • Support programs that support children directly. • Assist with the collection of food price data and develop early warning systems for child malnutrition.	
 Indoor air pollution  Transport emissions	**Sustainable energy resources, services and healthy ecosystems** • Promote solar installation/systems. • Leverage Ethiopia's microfinance infrastructure and subsidy instruments as enabling concessional finance. • Promote the rehabilitation and protection of high-risk ecosystems and landscapes. • Stimulate enterprise opportunities in job opportunities related to ecosystem rehabilitation/protection.	
 Drought  Flooding  Heat stress  Poverty	**Continuity of education in schools that also serve as social havens** • Support the implementation of schools as green spaces and community centres in hotspot areas. • Work with the national finance facility to mobilise. resources for climate-related disrupted education.	

1 Recommendation #1: Protection of children under a climate transformed future

It is evident from experiences of climate change, but particularly other economic and social crises faced around the world that social norms shift, or even change under persistent and harsh conditions. As poor families and communities get poorer, they seek coping mechanisms, and these do not always have positive outcomes for children, particularly, although not limited to, for women and girls, and for children living with disabilities.

The extended period of back-to-back drought has led to the loss of livelihoods and incomes of farmers in affected areas. More families are needing to reduce the burden of feeding and providing for their families and/or are seeking more productive land on which to farm.

This report has highlighted that targeted efforts have resulted in positive social gains for children, women and girls in Ethiopia, for example a pleasing reduction in early marriages for young girls, and in GBV. However, the extended period of consecutive droughts has led to the loss of livelihoods and incomes of farmers in affected areas. The families of these farmers have had to adjust. The capacity of families to provide sufficient, meaning nutrient-rich, food is increasingly stretched, and they therefore seek more productive land on which to farm. Coping mechanisms available to them include, for example, the marriage of their girl children into other families. These girls are typically under the age of 18 and who, once married, either represent one fewer mouth to feed, or are able to secure financial compensation for their biological family as a result of the marriage. Other mechanisms include taking their children out of school, or migrating to other areas, exposing their children to danger in the migration process. In some families, the emotional and mental stress drives them towards violence, with an increase in GBV as a result. Furthermore, young boys and girls are leaving home earlier than before, sometimes as young as 16 years of age, to find alternate lives and livelihoods. All of these are negative coping responses in that they bring about an unwelcome shift or regression in social norms.

It is imperative that positive coping mechanisms are available to and understood by climate affected families. Implementing this recommendation seeks to ensure that Ethiopia's social gains made in recent years are not reversed, and that social norms and standards do not worsen from baseline thresholds.

UNICEF should also increase its efforts for the prevention/limitation of unsafe migration, that harshly impacts young girls the most, in the aftermath of an extreme weather event. Such efforts need to be part and parcel of more effective, participatory and community aligned disaster risk reduction programmes in each of the country's most climate vulnerable areas.

UNICEF has deep institutional experience and knowledge on child protection that it can build on in implementing interventions for protecting children, women and girls from

UNICEF's experiences have shown that awareness raising and proactive support to family and community decision makers can bring about positive responses. For example, a cash transfer beneficiary dealing with the impacts of the droughts in Oromia decided to marry off his daughter in response, but with support, recognised possible alternatives and changed course.

the harsh impacts of climate change. It is not necessarily that new interventions are needed, but rather that UNICEF's depth of knowledge and experiences is leveraged and adapted to target enhanced child protection in Ethiopia's regions most vulnerable to climate change to protect the most vulnerable households and people to climate change and climate related shocks. In these areas, UNICEF should work with government and key partners to: i) enhance the shock-responsiveness of the Social Protection system, and 2) enhance income-generation opportunities of safety net beneficiaries to enhance their resilience to climate related shocks. Achieving these objectives necessitates that UNICEF:

- Strengthen existing capacities across all levels of government for protecting children particularly children living with disability, and girls, from the impacts of CEED.
- Build the capacities of targeted community platforms and communities to respond positively to climate change by supporting decision making processes within impacted families, and enabling alternative livelihoods among safety net beneficiaries, access to income support, the prevention of early marriages and alternative solutions to migration. Skills development for resilience should be included in this capacity building effort, including on how to apply climate forecasts in decisions that affect lives and livelihoods, as well as to enable access to alternate income generating opportunities.
- Invest in the community workforce that is already supporting social protection by orienting these efforts towards CEED specific responses, particularly in high-risk regions. This would also enhance the communities' role and efficacy in terms of supporting social protection and helping with mindset and norm shifts. The roll-out of tailored case management frameworks in humanitarian settings would be a good first step.
- Work with fathers and community leadership to mitigate the increasing risks of GBV, and to support family and community decision makers to make effective choices that in difficult trade- off situations that do not compromise the rights of their younger family members.
- Work with community and local government platforms and structures to enhance both existing climate strategies and general preparedness for disaster risk amongst families and communities, and particularly to ensure that children – especially children living with disabilities – receive differentiated attention and support when a climate disaster strikes.

UNICEF can leverage and/or strengthen the following relevant policy instruments to facilitate these interventions:

- Ten Years Development Plan (TYDP) Pillars for Quality Economic Growth and Shared Prosperity and for Gender and Social Inclusion.
- Adaptation Option in the CRGE Strategy for Improving Early Warning Systems.
- Ethiopia's National Adaptation Plan (NAP).
- Ethiopia's Long-term Low Emissions Development Scenarios (LT-LEDS).
- National Social Protection Strategy Focus Area for addressing violence, abuse and exploitation.
- National Policy and Strategy on Disaster Risk Management Objective for reducing and eventually preventing disaster risk and vulnerability that pose challenges to development through enhancing the culture of integrating disaster risk reduction into development plans and programmes as well as by focusing on and implementing activities to be carried out before, during, and after the disaster period to address underlying factors of recurrent disasters.

Climate-related migration and displacement of people can cause, and exacerbate, social conflict. Social behaviour change through community engagement and participation is a necessary and critical condition for transformative CEED responses. Integrating traditional knowledge and practices and addressing cultural constraints and optimising cultural opportunities for effective climate responses will rely on the understanding and action of communities as a collective rather than working household by household.



2 Recommendation #2: Collective action and social behaviour change

Social behaviour change, with and through community engagement and participation, is a necessary and critical condition for transformative CEED responses. Integrating traditional knowledge and practices and addressing cultural constraints and optimising cultural opportunities for effective climate responses will rely on the understanding and action of communities as a collective rather than working household by household. This requires working with community platforms and the existing foundational structures that support communities. The support of these foundational structures is essential and can drive collective action and behaviour change. Moreover, once case studies and demonstrable successes are available, the multiplier effect can assist in scaling up behaviour change.

Trust is key for introducing collective action and altering community and household behaviour. In establishing trust and fostering community engagement and participation, the UNICEF SBC will also enable implementation of the technical solutions outlined in Recommendations 3-6 in the section that follows. Overall, UNICEF should seek to shift Ethiopia's most vulnerable communities from a state of understanding, or being aware of, the CEED issues, to a state of taking transformative, corrective and positive action. In taking action, communities and households need to both understand the consequences of negative coping mechanisms, and the alternative pathways before them.

UNICEF can play a vital role in shifting people away from deeply entrenched cultural practices as an alternative to negative responses that negate the rights of children. Working in tandem with the Child Protection Unit, the Social Behaviour Change (SBC) team should enable a necessary paradigm shift and promote collective action through existing community structures. UNICEF should seek to shift Ethiopia's most vulnerable communities from a state of understanding, or being aware of, the CEED issues, to a state of taking transformative, corrective, and positive action. The UNICEF SBC team should build on its community relationships and structures to enable implementation of the technical solutions outlined as follows:

- Integrate traditional knowledge and practices, address cultural constraints and optimise cultural opportunities for effective climate responses, and enable inclusive climate dialogue to enhance discourse amongst different stakeholders and groups.
- Take a long-term perspective to energy consumption and use, and to water conservation and design, and implement behaviour change interventions over time that achieve incremental changes and successes.
- Document these changes and successes, and apply learnings to accelerate and scale up change, including through art and other media accessible to communities.
- Leverage NGOs, Organisations of Persons with Disabilities (OPDs), community platforms, schools, and clinics as suitable platforms for promoting collective action and behaviour change.

UNICEF could work with partners such as the AfDB to develop/leverage a revolving fund targeted at Ethiopia's most vulnerable populations, for supporting their livelihood development needs.

- Explore how access to information (which is itself clear, relevant and understandable) can empower communities to be better prepared for disasters such as droughts and floods, and how to respond to these when they do occur.
- Foster co-operation between government, communities, and NGOs in strengthening decisions and enabling behaviour change. Include a special focus on ensuring that the health sector is integral to climate action planning in sectors such as agriculture, where inadequate action can result in a greater burden on the public health system.
- Identify avenues for supporting society-wide understanding of climate risks and impacts – that are both economic and social. This includes raising awareness across all levels of society (government, communities – including civil society and grassroots organisations – and private sector) of positive and transformative response options and the positive, if difficult decisions that could be made.

UNICEF and partners can leverage and/or strengthen the following related policy instruments in facilitating these interventions:

- TYDP Pillars for the Resilient Green Economy.
- Climate Change Education Strategy's first Strategic Objective for facilitating the setting up of an enabling policy and institutional frameworks at national and sub-national levels with a view to fostering sustainable CC education.
- CRGE Adaptation Option 13 for mainstreaming endogenous adaptation practices.
- National Policy and Strategy on Disaster Risk Management objective for reducing dependency on and expectations for relief aid by bringing attitudinal change and building resilience of vulnerable people.

3 Recommendation #3: Water for food, health and income security

UNICEF, with partners, should promote climate resilient water use and management as well as food systems, through an all of society approach, with child health, protection and rights to a decent future at the centre. Efforts should be directed towards supporting climate resilient infrastructure for water harvesting and storage in every community, school, clinic, and informal community structure in Ethiopia's CEED hotspot areas. This kind of coordinated CEED response requires technical engineering solutions and the application of Integrated Water Resource Management (IWRM) principles, including capacitating and empowering local communities to participate, with agency, in their water resource management decisions.

To ensure successful implementation of such strategies, holistic, cross-sectoral cooperation and coordination is required – which is only possible with enhanced water resource management technical and decision-making capacity at every level of water governance.

All this is critical for ensuring adequate supply of water resources and food, and for promoting the health and education of children in the most vulnerable areas to climate change. Drawing on its mandate and experience in advocacy and recognising the increasing prevalence of water-borne disease as a result of climate change, UNICEF should advocate for climate resilient WASH infrastructure in every community, school and clinic in the country's hotspot areas. Furthermore, UNICEF

should partner with appropriate institutions, such as the EPA, and International Institute of Environmental Development (IIED) to stimulate ecosystem and services protection and rehabilitation and enhanced absorptive capacity for floods. To enable this, UNICEF Ethiopia should work with civil society partners to provide relevant training, education and awareness raising, and with the country's climate finance facility and MoPD to leverage finance and advocate for subsidies for social infrastructure. In terms of the latter, UNICEF should include an emphasis on ensuring that there is a capacitated workforce to support the implementation of subsidies. Social workers should for example be trained and capacitated to both implement climate change related subsidies effectively, and to promote livelihood options for vulnerable women and for youth with disabilities.

Flooding damages housing and social infrastructure (roads, water storage facilities, clinics, and schools). All Ethiopians living in regions vulnerable to climate change face health-related risks, for example arising from lack of access to safe water and exposure to diseases from standing water (the recent cholera, dengue fever and malaria outbreaks are linked to climate change).

In addition to enhancing resources, capacities and awareness on water conservation and demand management, UNICEF should work with relevant partners to increase the understanding of the conjunctive use and management of surface and groundwater and the potential of groundwater for increasing climate resilience. UNICEF should also promote effective, balanced and inclusive water allocation policy.

Furthermore, UNICEF should concentrate on increasing the capabilities of households to grow nutritious food throughout the year. Households that grow and produce the variety of food needed to feed children and their families, affordably, throughout the year are likely to result in positive outcomes for child nutrition and health, as well as for family livelihoods and incomes. Healthy children are also more likely to attain higher levels of education, while families that have greater reliability of income are also less likely to hold their children back from attending school. An additional benefit could be expected from protecting girls from early marriages. Families that have sufficient food and water for their households and children are less likely to force their female children into early marriages, a coping mechanism for families struggling with poverty.

As a cross-cutting intervention, UNICEF should work towards increasing the visibility of children in water and environmental data, information, and policy. In addition, UNICEF should partner with relevant NGOs, particularly those working at the grassroots, to greatly enhance the participation of children in the process of enhancing the management of water and food systems in Ethiopia's most vulnerable areas.

Overall, implementing this recommendation stands to promote the health and education of Ethiopia's children in the most drought and climate change affected areas of the country. It also stands to provide enhanced social protection for young girls, including those living with disabilities, who are disproportionately affected by the impacts of climate change.

UNICEF and partners can leverage the following related policy instruments in facilitating these interventions:

- TYDP pillars for Economic Productivity and Competitiveness; and Gender and Social Inclusion.
- NDC Adaptation Intervention for enhancing food security by improving agricultural productivity in a climate-smart manner and Improve access to potable water to strengthen community climate resilience.
- CRGE Adaptation Option for improving crop and livestock production practices for higher food security and farmer income while reducing emissions.
- National Food and Nutrition Strategy Strategic Objective for strengthening the national capacity to manage natural and man-made food and nutrition emergencies with timely and appropriate responses, including emergency management for internally displaced persons and refugees.
- Ethiopian Water Resources Management Policy which provides for managing and combating drought as well as other associated slow on-set disasters through, inter alia, efficient allocation, redistribution, transfer, storage and efficient use of water resources.
- Water Supply and Sanitation Policy's objective for the provision of, as much as conditions permit, sustainable and sufficient water supply services to all the peoples of Ethiopia.

4 Recommendation #4: Diversified livelihoods and targeted social safety nets



UNICEF has a role in supporting agro-processing industries producing nutritious foods at low cost, such as egg powder, which not only improve food security, but help diversify the economy, boost exports and generate jobs.

The CLAC identified the serious threat posed to poor families by rising food prices. This trend will worsen with climate change, especially where food shortages drive up the price of staple goods. The Food and Agricultural Organisation (FAO) monitors prices in key regional markets, but the data is sporadic and incomplete. UNICEF could assist with the collection of data and to encourage communities to monitor the price of staple foods, and to develop an early warning system when signs of child malnutrition emerge. Such EWS research and development can also align with, or leverage off, the EDRMC's flagship roadmap on impact-based early action and early warning systems for disasters. In sum, enhanced early warning protocols can be used both to mitigate nutrition *and* disaster-related impacts.

Thus, in addition to increasing the climate resilience of Ethiopia's food systems in terms of both production and utilisation, UNICEF should anticipate, consider empowering and enabling affected communities to respond to food price fluctuations driven by climate impacts such as droughts. It will be critical for ensuring a sustainable future for Ethiopia's children for UNICEF to research and identify and promote household savings schemes as a household reserve that can kick in when food prices are inflated as a result of drought. In addition, the government could consider a national insurance scheme linked to a weather index, meaning that when rainfall drops below average/target levels, the insurance scheme is catalysed, with payments for affected households.

Droughts severely undermine rural livelihoods. Those with access to land suffer directly through the loss of crops and livestock. Those dependent on food purchases suffer indirectly through rising food prices. Vulnerability to climate and environmental risk is mediated by socio-economic status (poorer people have fewer resources to help them to adapt), the quality and scope of physical and social infrastructure, and governmental capacity to provide emergency relief and sustained social safety nets.

UNICEF can generate the necessary evidence base for such saving and insurance schemes, for example, through using schools and informal community structures as sources of data. UNICEF can also partner with institutions such as the FAO to leverage the school network to periodically conduct food price surveys in drought hotspot areas. UNICEF is well placed to work with government and donors to find appropriate, regionally specific, solutions.

Emerging research also shows that **anticipatory action** – such as the rapid disbursement of cash grants in the face of *projected future* disaster shocks – is a promising strategy to enhance people's short-term resilience to climate change impacts (World Food Programme, 2022). Utilising widely available technology such as cell phones, governments are able to quickly provide short-term, debt-free financing to vulnerable people all over the country. This ensures that people have a financial safety net through which they are able to protect themselves and their families – either by evacuating the area where the disaster is projected to strike, or by purchasing food, water, and health-related necessities.

With this in mind, UNICEF should partner with MoA (the implementer of the Rural Productive Safety Net Programme), MoWSA (which holds the overall mandate of the country's social protection system), MoPD and MOF to identify, promote and support opportunities for livelihood diversification in the green economy, and initiate and support efforts to develop skills for the green economy, particularly among the youth. In general, green skills are understood to include technical knowledge and abilities that enable people to participate in a low-carbon, sustainable economy. For example, skills related to Climate Smart Agriculture, renewable energy (including construction, maintenance and power generation), environmental management, green finance, and conservation – to name a few – can be considered green. This is a rapidly expanding segment of the regional and global economy and offers Ethiopian youth a chance to productively engage in society – benefiting themselves, their families, and their communities.

In tandem with Recommendation 3 outlined previously, which focuses on increasing the resilience of food and water systems, UNICEF recognises that livelihood diversification can occur within the country's food systems, as well as outside of these. Even with significant job creation, however, the need for social safety nets such as the PSNP will remain acute. Building on the PSNP, more attention should be paid to emergency social safety net responses in regions most affected by climate

risk. For example, UNICEF should support the shock responsive component of PSNP to enable vertical and horizontal application and expansion during a climate crisis such as an extended drought.

The rapid delivery of income support can prevent households falling into deeper poverty – thereby obviating the need for households to pursue negative coping mechanisms such as taking children out of school to engage in economic activities and forcing girls into early marriages. Programmes that support children directly, such as school feeding schemes, are also essential. Notably, the upcoming iterations of both the CPD and the PSNP locate and prioritise support for the most vulnerable households through skills development for income generation, as well as expanding access to finance. The ultimate objective of this targeted focus is enhanced resilience to shocks (climate or otherwise) for Ethiopia's population. For UNICEF, emphasising priority sectors within these iterative policy updates will be essential. The focus should include, but should not be limited to, food, WASH systems and green economy skills.

UNICEF's social protection efforts should be directed towards designing disaster risk reduction and responses that are shock-responsive and child-sensitive – as highlighted in Recommendations 1 and 2 above - particularly in Ethiopia's CEED hotspot areas, with emphasis on differentiated solutions that recognise the particular gender and disability disadvantages. With this UNICEF should urgently advocate for the recently revised national disaster risk management roadmap and system to be enabled to anticipate shocks, as well as respond to these events when they happen.

UNICEF should work with and across its government partner network to ensure the quick, effective and comprehensive implementation of the policy recommendations made in the Ethiopian Disaster Risk Management Commission's (EDRMC) visionary roadmap report on impact-based early warning and action systems. Application of these recommendations will ensure that communities are provided with early warning of extreme events, and thus enjoy enhanced preparedness and participation in disaster risk reduction efforts. In its mission towards enhancing disaster risk reduction programmes across the country, UNICEF should also tailor its programmatic approach to align with the differentiated needs and practices that exist in the country's multiplicity of community types, as well as the existing national policy infrastructure related to disaster and disaster preparedness.

Child protection-oriented social safety nets should be developed for CEED-affected children in the country's most vulnerable areas. These aim to build the resilience of households and families, ensuring that children are protected and ultimately benefit from increased resilience. Particular attention should be paid to ensuring that GBV, child labour, which is a common coping mechanism families employ in the face of shocks, and child marriages of young girls do not increase as a consequence of climate change. UNICEF should also support and promote the diversification of existing safety nets, for example for the enhancement of water and forest management as public works actions. UNICEF should also increase the emphasis within social protection programmes of children living with disabilities. In conjunction with this, the importance of engaging children and parents with disabilities in planning and implementation of strategies – to ensure that their specific needs are adequately addressed – cannot be overstated.

UNICEF and partners can leverage the following related policy instruments in facilitating these interventions:

- TYDP Pillars for Quality Economic Growth and Shared Prosperity.
- Climate Change Education Strategy's second Strategic Objective for enhancing the level of integration of CCE in the curricular of the formal education system of Ethiopia.
- Adaptation Option in the CRGE Strategy for building social protection and livelihood options of vulnerable people.
- National Social Protection Strategy Focus Area for productive safety nets and livelihoods and employment support (FDIs).

5 Recommendation #5: Sustainable energy resources, services, and healthy ecosystems

UNICEF should explore and exhaust all options for reducing the reliance of households on biomass. UNICEF should work with institutional partners and the government to promote solar installation/systems in every community, school, clinic, and informal community structure in every community. UNICEF should also support the development of programmes for the productive use of clean energy to stimulate livelihood and enterprise opportunities. This would support the goals of the country's low emissions strategy and improve air quality, and therefore health outcomes for children. At the same time, UNICEF should contribute towards tackling air pollution through renewable energy solutions in high-risk areas such as Addis Ababa, which is both more urbanised, and more densely populated than other regions in Ethiopia.[16]

UNICEF can partner with, or promote awareness of, micro-, small- and medium-enterprises (MSMEs) for the rollout of small-scale renewable energy technologies, as well as gas cook stoves, if necessary, which would contribute directly to reduced emissions of harmful pollution. More indirect partnerships, with MoF for example, could also help facilitate support for these MSMEs, and through this expand the scope and reach of supply of such technologies.

In line with the recommendation, UNICEF should support the design and promotion of subsidies and climate finance solutions for renewable energy in hot spot and high-risk areas. This is an important source of finance for enabling solar installations in every high-risk community, school, clinic and informal community structure. UNICEF can also leverage Ethiopia's microfinance infrastructure to enable these installations by leveraging enabling concessional finance, for example, from the Green Climate Fund, or from Development Finance Institutions.

Along with stimulating renewable energy installations, Ethiopia's vital ecosystems need to be restored and protected. UNICEF and its partners should pro mote the rehabilitation and protection of high-risk ecosystems and landscapes in Ethiopia's hotspot areas. The most effective rehabilitation efforts are those that bring tangible, immediate and direct benefits to the communities that inhabit them. UNICEF should stimulate enterprise opportunities and participation

16 The type and combination of air pollution (indoor or outdoor) which presents a health concern to a population generally varies geographically – often determined by the level of urbanisation in the area of focus. However, indoor air pollution almost always presents a challenge because whether a person resides in a rural or urban area, they likely still live in a closed space of some kind, and in which they must cook and keep warm. Therefore, the introduction of small-scale renewable energy technologies which decrease reliance on biomass for heat and cooking can be recommended widely. Outdoor air pollution issues in Addis Ababa, for example, are more complex and while studies show they can be somewhat mitigated by the introduction of these technologies (Blazy et al., 2021), they will ultimately require a more comprehensive, coordinated all-sector response.

in job opportunities related to ecosystem rehabilitation/protection, for example by stimulating and supporting local enterprises engaged in ecosystem rehabilitation. Again, UNICEF could leverage Ethiopia's microfinance infrastructure to enable finance for start-up enterprises through accessing concessional finance to soften financial terms, for example pay back holidays, or low interest rates for borrowers. In doing so, UNICEF should tailor its efforts to the differentiated needs and practices that exist in the country's multiplicity of community types. These actions will be linked to, and guided by, UNICEF's own social protection programmes and through this alignment, bolster job creation for youth across Ethiopia.

Ethiopian households use biomass (wood and dung) for cooking, as well as for producing charcoal. This contributes to indoor air pollution, increases the country's burden of disease and has especially serious implications for women and children's health given the fact that at household level women and girls are responsible for cooking. Most Ethiopian children (96%) are exposed to harmful levels of air pollution. This is a function primarily of lack of access to clean cooking stoves and, in urban areas, from exposure to transport emissions.

Carbon trading is a climate finance mechanism that Ethiopia is exploring including as a means for co-financing clean cooking stoves.

As a cross-cutting intervention, UNICEF should increase the visibility of children in energy and environmental data, information and policy. This means ensuring that data is disaggregated to include indicators which highlight both children *and* their different vulnerabilities. For example, disaggregated data can identify and differentiate between children's geographic location, their gender, their disability status, level of education, financial stability, overall health, and their home environment (what family is present and to what degree are they supported and protected by this family). Disaggregated data on children is a fundamental requirement for the development of targeted and relevant government policy. Without data that identifies and differentiates between children's needs across the entirety of Ethiopia, any child-focused policy that is produced will fall short of its guiding objectives – the well-being of *all* Ethiopian children.

Furthermore, noting that switching to alternate energy (and other) technologies and innovations requires behaviour change among communities and consumers, UNICEF should channel budget and effort toward related awareness raising activities and to ensure that the aforementioned financing schemes are designed to meet differentiated community needs, and promote desirable behaviour change.

Ethiopia's vital ecosystems, including wildlife, need to be restored and protected. UNICEF and its partners should promote the rehabilitation and protection of high-risk ecosystems and landscapes. The most effective rehabilitation efforts are those that bring tangible, immediate and direct benefits to local communities. This also links directly to previous recommendations on promoting green skills amongst Ethiopia's youth, in that participation in conservation and protection efforts offer a hugely valuable entry point for young people to become productively engaged in the green economy. UNICEF could also work

with government and donors to stimulate enterprise opportunities (including in tourism) and participation in job opportunities related to ecosystem rehabilitation/protection, for example by supporting rehabilitation efforts that are led by local enterprises and community-based organizations. Underpinning all of these actions however, will be a focus on upskilling Ethiopia's youth and enhancing their capacity to engage productively in society.

UNICEF and partners can leverage and/or strengthen the following related policy instruments in facilitating these interventions:

- TYDP pillar for the Resilient Green Economy.
- NDC Adaptation Intervention for enhancing sustainable natural resources development, management and watershed protection and Increase number of households using renewable off-grid energy sources.
- Adaptation Option in the CRGE Strategy for expanding electricity generation from renewable energy sources for domestic and regional markets and Improving ecosystem resilience through conserving biodiversity.
- Adaptation options in the NAP-ETH and LT-LEDS.

6 Recommendation #6: Continuity of education in schools that also serve as social havens

To limit the impacts of climate change on school going children, UNICEF should partner with the education system to manage the climate impacts of heat stress, floods, and increased hunger that are likely to result in an increase in Out of School Children and GBV, as well as a decline in child mental health. Ethiopia's children need to be protected from the impacts of climate change on their education and learning, so as to optimise the gains made in school enrolment rates across the country.

To ensure that children receive adequate and nutritious food, UNICEF should work with key partners and the Ministry responsible for education to support school feeding schemes in each school and informal community structure in every hotspot area. Noting that school feeding schemes have proven to be resource and labour intensive, UNICEF should furnish a strong climate rationale for its support to such schemes in areas that are heavily climate change impacted. Moreover, UNICEF should work with relevant partners

Ethiopia's challenge is both environmental and developmental. Heat stress, droughts and floods pose direct threats to child physiological and mental health and severely threaten education and learning, as well as food and water security, while high levels of poverty and deficiencies in educational and health services undermine the capacity of households to adapt. Heat stress can also increase the incidence of GBV, as well as the ability of children to go to, and/or concentrate in school.

to explore innovative, cost-effective designs and to secure support across the One UN system for enabling and implementing these schemes. UNICEF could work with MoPD and the national finance facility to leverage climate finance for these schemes. Efforts will be needed to ensure that these schemes are structured and financed for sustainability.

Green spaces and community havens are essential for mitigating the effects on children's mental health, and on GBV, especially in times of drought and heat stress, and in the immediate aftermath of a flood. UNICEF could assist with the design and support the implementation of schools as community centres by adapting these as green spaces and cooler environments in hotspot areas. Where schools do not exist, other community structures should be considered. Trees should be planted for shade, greenery and water retention. Planting fruit trees in schools and community centres will also provide nutritional value for children and their families. UNICEF should also monitor the impact of this approach and generate case studies of its costs and benefits. Schools and other community structures can serve as community or social havens by providing:

- Safe community centres, green and shaded spaces, and cooler environments during heat stress
- Access to nutritious food, energy and water during droughts and floods
- Extra curricula education support
- Teachers trained on climate change curriculum
- Heightened climate change awareness for students, which will both enhance their resilience to climate change, and equipped them to act as agents of change, through leading youth clubs, community fora, etc.

UNICEF should work with MoPD and MoF to mobilise resources for CEED-disrupted education for affected children. Critically, UNICEF Ethiopia should monitor the impacts of schools as climate and social havens and generate case studies disseminated to the international community of the efficacy and benefits of this approach.

In addition, UNICEF could work with likeminded social partners and civil society groups, as well as the ministry responsible for education, i.e., the MoE, to support school feeding schemes, especially in hotspot areas. It should work with MoPD and the national finance facility to mobilise resources for CEED-disrupted education, and work with MoPD and the national climate finance facility to leverage sustainable climate finance for these schemes.

Policy making for children in Ethiopia lies under the mandate of the MoWSA. Article 1a (Proclamation 1263/2021) states that the Ministry "initiate policies, strategies, and laws for women, youth, children, persons with disabilities, elderly and other vulnerable groups in development; prepare a detail program compatible with the country's overall development plan; implement the same upon approval". UNICEF should thus continue to work with MoWSA as part of its efforts to protect children.

UNICEF and partners can leverage and/or strengthen the following related policy instruments in facilitating these interventions:

- Climate Change Education Strategy: support co/extra-curricular activities and further the integration of CCE among formal, non-formal and informal education systems.
- TYDP Pillars for Quality Economic Growth and Shared Prosperity.
- NDC Adaptation Intervention for undertaking climate-adaptive urban planning.
- CRGE Adaptation Option for reinforcing adaptation research and development.

- National Policy and Strategy on Disaster Risk Management objective for saving lives, protecting livelihoods, and ensuring all disaster affected populations are provided with recovery and rehabilitation assistance in times of disaster.
- National Social Protection Strategy Focus Area for access to health, education, and other social services.

Cross-cutting recommendations also apply and include:

- UNICEF support of efforts to strengthen Ethiopia's climate facility, and work with other international partners and organisations to mobilise financial, technological and technical resources towards building the resilience of Ethiopia's child population to climate change.
- UNICEF support of efforts to build the capacities of its partners and community organisations to access climate finance.
- UNICEF is well placed to develop a policy marker for children, in line with existing policy markers for gender and climate, such as the widely utilised Gender Equality and Social Inclusion (GESI) framework.

Fundamental to enabling the implementation of these recommendations is enhanced access to climate finance. The scale and urgency of children's unique needs under a changing climate mean that a cooperative and coordinated effort by UNICEF and Government needs to be made towards catalysing the flow of climate finance. This funding should be drawn from key regional and global development partners and funders– such as the Green Climate Fund – and channelled towards projects and programmes in Ethiopia which target children's climate resilience. This is in part why project design which emphasises cross-sectoral cooperation and co-benefits is so important, as it expands the available pool of financing.

Further, and in particular, the government should target the Loss and Damage (L&D) Fund which is being operationalised at the international level and is setting a new quantified global goal on climate finance. Ethiopia stands to access finance from the L&D Fund, particularly towards Ethiopian children that are facing increasingly severe heat stress, and are especially vulnerable to the impacts of extreme weather events. This CLAC has provided initial evidence of the relatively severe plight of Ethiopia's children, and building from this, the government could demonstrate strong evidence of the need for new and additional funding for children.





8. CONCLUSION

Ethiopia's challenge is both environmental and developmental. Heat waves, flooding and lack of access to safe water sources, and to productive land, pose direct threats to child health and threaten food security, or even famine. High levels of poverty and deficiencies in educational and health services undermine the capacity of households to adapt to, or mitigate, such environmental risks. Industrialisation and the development of transport networks have helped generate alternative income sources but bring with them additional environmental risks such as air and soil pollution. Air pollution is a major issue for children, who contract related respiratory diseases more easily than adults, with implications for their health that can last for the rest of their lives.

Ethiopia has been working on climate adaptation and mitigation strategies to address its key climate challenges. These efforts include improving water resource management, promoting sustainable agriculture, and enhancing disaster preparedness and response. Targeting child responsive and differentiated interventions will be critical for ensuring that children can build their long-term and immediate resilience to climate change impacts, and to extreme climate disasters, respectively. International assistance and climate finance are also crucial for Ethiopia to build resilience and adapt to the ongoing impacts of climate change. Some of these resources will need to be directed towards child responsive CEED action.

UNICEF advocates for child-centred policies and the mainstreaming of child-focused interventions in all developmental initiatives and government policies. Household-level approaches, such as alleviating poverty and improving livelihoods, and assisting with climate and environmental disaster relief, can be helpful for all members, including children. Child-centred approaches go further, by focusing on children explicitly, for example, paying additional attention to the health, educational and nutritional needs of children. UNICEF also emphasises the importance of family planning and maternal health, and child differentiated disaster risk management measures.

In a low-income context it is essential to sharpen, target and prioritise what might easily become a long 'shopping list' of 'nice-to-have' interventions for children. The specific nature of climate and environmental risk varies across the country, as does the nature of vulnerability to these risks. Paying attention to regional differences in climate and environmental risk, vulnerability, and capacity to respond is thus essential.

An emerging priority is agriculture, in all of Ethiopia's regions that are highly affected by climate change. As highlighted, warming is particularly expected to affect agriculture. Projections suggest altered patterns of rainfall in Ethiopia, with the possibility of more intense rainfall events during the rainy season and increased variability in precipitation. Drier conditions can exacerbate droughts and water scarcity, while heavy rainfall leads to flooding. These changing climate conditions will require Ethiopian farmers to adapt to new crop varieties and cultivation techniques. Changing conditions will also result in shifts in crop growing seasons, further affecting crop

yields. Such actions are important for ensuring child nutrition and health, while also securing their future livelihoods.

While Ethiopia has a strong policy environment, the treatment of children, among other vulnerable subgroups such as people with disabilities, simply as part of a broader category of vulnerable populations to climate change, is likely to be inadequate in terms of addressing the highly differentiated needs of children. Targeted interventions, and finance targeted towards enabling these, will be critical to building the resilience of Ethiopia's children. Strengthened institutional arrangements will also be important. For instance, a more efficient way of dealing with disasters is possible. The current arrangements of sectors mandated to address types of climate disasters potentially creates silo-based disaster management even though climate disasters, such as droughts and floods, usually cut across sectors and communities. The 2013 National Policy and Strategy on Disaster Risk Management does identify disasters as a cross-cutting issue, paving the way for amended institutional arrangements for disaster risk management.

For a low-income country such as Ethiopia, where developmental and humanitarian demands are many, but resources limited, prioritisation is essential. Ensuring the health and education of children, the outcomes for which have been further constrained by the conflict, ought to be one of the top priorities. Poor childhood nutrition, health and education has long-term adverse effects on productivity and greatly reduce adaptive capacities: targeting these priorities is thus both humanitarian and developmental. The UNICEF Ethiopia Country Office has a key role to play in ensuring more positive outcomes for the country's children, including through targeted and child responsive CEED.

In conclusion, UNICEF Ethiopia has a vital role to play in addressing the unique needs of children in relation to CEED impacts. The specific attention that children in Ethiopia require includes a range of issues, such as youth, women, and people with disabilities. It will be critical for UNICEF to work with the institutions established for this purpose, under the leadership of MoPD and MoWSA, but inclusive of the corresponding institutions operational at local levels.

The focus on children in Ethiopia is inadequate when compared to the size of the problem. As a result, UNICEF's role as a development and humanitarian partner is critical for singling children out and ensuring that they function effectively under a very different climate and development future.



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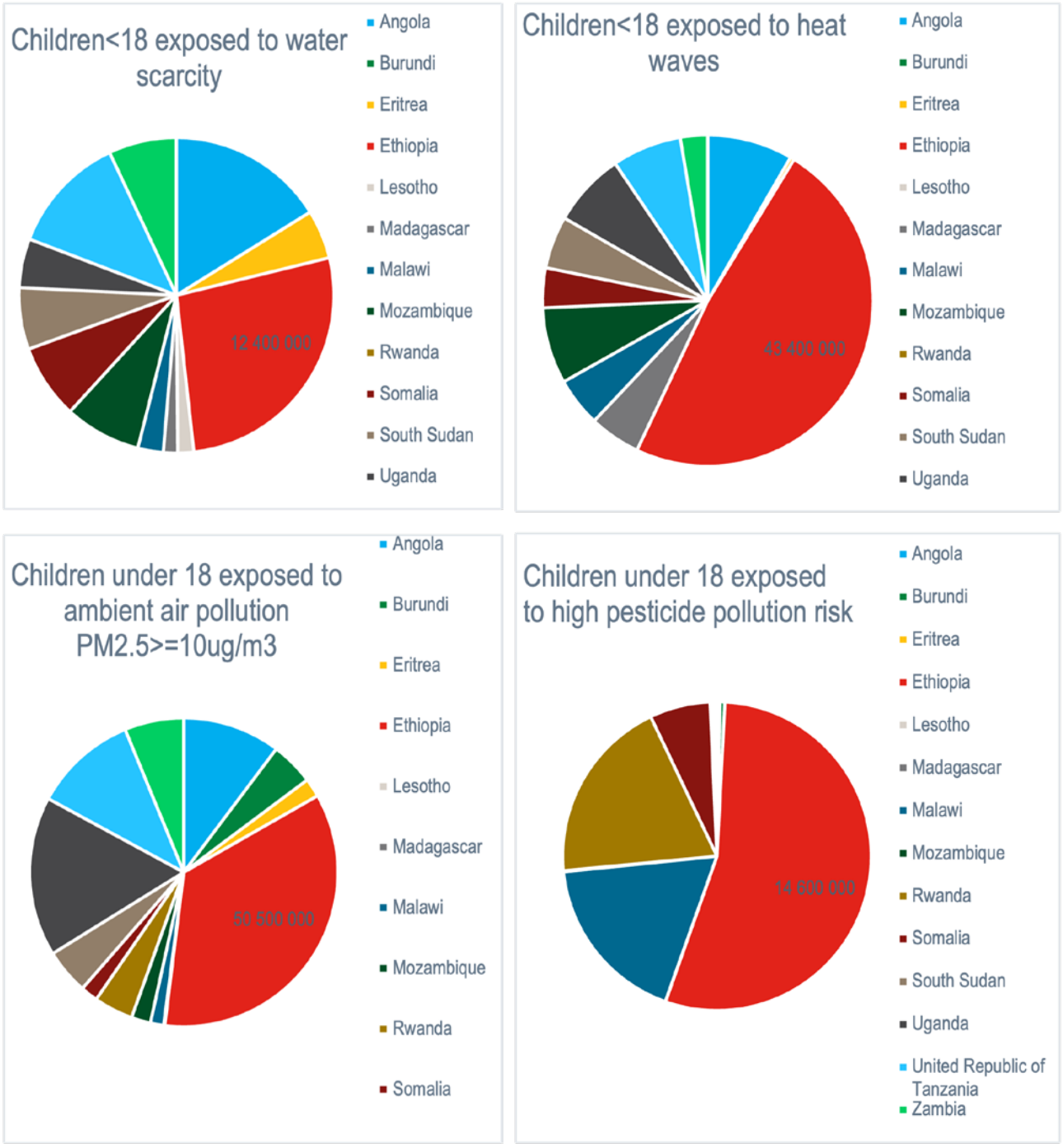
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10. APPENDICES

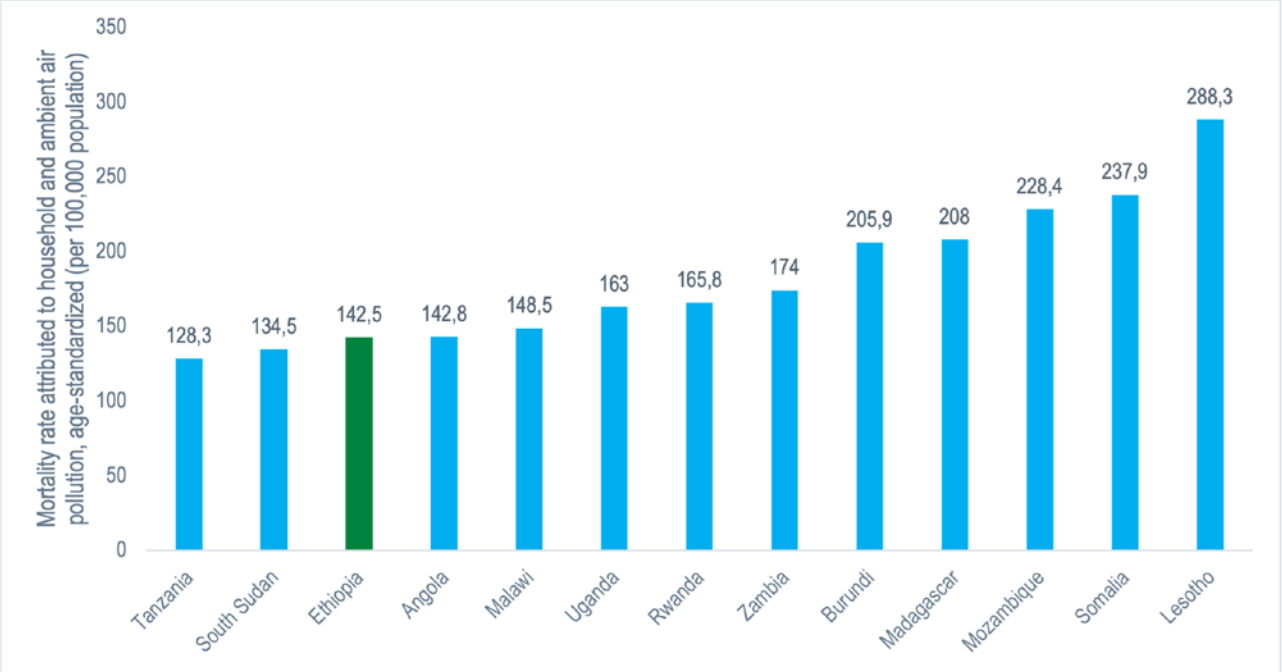
Appendix 1: Ethiopia's climate risk in a comparative context

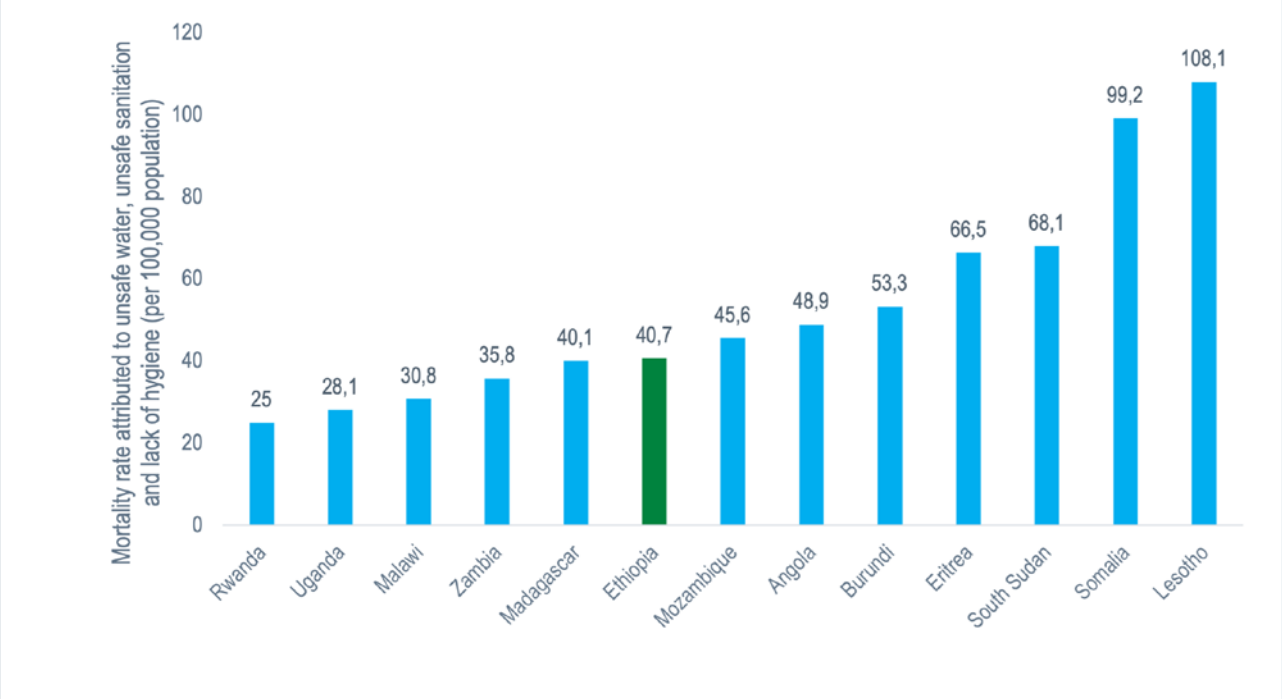
▼ Figure A.1 Children exposed to environmental risks in low-income East and Southern African countries



▲ *Source: UNICEF, 2023; UN Population estimates (from https://databank.worldbank.org/).*

▼ Figure A.2: Mortality due to air pollution and lack of access to WASH: Ethiopia in comparative context with other low-income countries in East and Southern Africa





▲ *Source: Data from the World Health Organization obtainable from https://databank.worldbank.org/*

Appendix 2: Population and economic structure by region[17]

*Totals might not add up to 100% due to rounding errors. *Regional distribution from CSA, 2013, projection for 2022. **Industry comprises manufacturing, construction, trade, transport, accommodation (from Yalew et al, 2017).*

	Contribution to:								
	GDP	Population*	Crops	Livestock	Fishing & forestry	Mining & quarrying	Industry**	Finance, real estate & renting	Services (social & other)
Tigray regional state	5,4%	5,5%	23%	5%	0%	2%	35%	8%	26%
Affar regional state	2,5%	2,0%	14%	15%	3%	0%	38%	11%	19%
Amhara regional state	17,5%	21,8%	41%	12%	2%	0%	26%	8%	9%
Oromia regional state	33,6%	38,1%	33%	20%	2%	0%	28%	6%	10%
Somali regional state	7,5%	6,2%	15%	13%	25%	1%	26%	11%	10%
Benishangul-Gumuz regional state	1,0%	1,2%	31%	3%	0%	9%	37%	3%	17%
SNNP, Sidama, and South West regional state	19,9%	20,5%	37%	20%	8%	0%	22%	5%	7%
Gambella regional state	0,7%	4,8%	27%	2%	0%	2%	40%	9%	21%
Harari regional state	0,4%	0,3%	14%	1%	0%	1%	47%	7%	32%
Addis Ababa city admin-istration	11,2%	3,7%	0%	0%	0%	0%	48%	32%	21%
Dire Dawa city council	0,8%	0,5%	6%	2%	0%	1%	62%	14%	16%
Ethiopia	100%	100%	29%	14%	5%	1%	29%	10%	12%

17 This analysis relies on data collected prior to the disaggregation of SNNP into the Central Ethiopia, Southwest Ethiopia and South Ethiopia regions

Appendix 3: CLAC Stakeholder engagement report

Attached separately.

CLIMATE LANDSCAPE ANALYSIS FOR CHILDREN

ETHIOPIA

Scan here to Download the Policy Brief: Ethiopian Children in an Escalating Climate Crisis

This Climate Landscape Analysis for Children (CLAC) in Ethiopia, prepared by OneWorld Sustainable Investments (OneWorld), is submitted to the Ministry of Planning and Development and UNICEF Ethiopia Country Office

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for every child

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