

Cascading impacts of climate change on child survival and health in Africa

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Children will bear some of the heaviest burdens of climate change, putting their survival and health at risk. Our Perspective underlines some of the critical routes through which climate change and its interactions with underlying factors of vulnerability affect children in Africa. We highlight the role of non-climatic factors or 'socio-political stratifiers' (poverty, housing conditions, conflicts and violence, displacement and migration) in increasing risks and reinforcing inequalities. We propose three priority areas of action to break vulnerability cycles and protect children: child-centred plans and policies that recognize children as rights bearers and agents of change; financial support for climate action for children; and climate-smart public facilities such as schools and health centres that can continually provide basic services.

The most recent records of climate-related disasters around the world show that climate change is causing unprecedented damage, the costs of which are being carried by children. Approximately 1 billion children live in countries considered to be at extremely high risk, which means that nearly half of the world's child population is living in zones frequently hit by climate hazards¹. An estimated 820 million children worldwide are now highly exposed to heatwaves and 920 million (that is, over one-third of children worldwide) are highly exposed to water scarcity¹. As a threat multiplier, climate change intersects with pre-existing vulnerabilities and increases risks, including those to health. Children suffer from nearly 90% of the disease burden related to climate change and projections indicate that climate impacts will worsen all of the top five causes of death for children under 5 years of age: malnutrition, neonatal death, acute respiratory illness, diarrhoea and malaria^{2,3}. Malnutrition alone (through undernourishment and micronutrient deficiencies) is a major child health issue in Africa and is expected to worsen as climate change increasingly affects food production and food quality^{4,5}.

Recent academic reviews have highlighted evidence of the direct and indirect ways that climate change impacts children^{6–10}. Considering that children are most vulnerable to climate change but also

contributed the least to its root causes, there is a need for a full understanding of this issue as it raises more fundamental concerns over children's rights and intergenerational equity^{11,12}. This is also particularly relevant in Africa, which has contributed negligibly to climate change compared with other world regions but remains one of the areas that is most vulnerable to climate impacts¹³. In 2019, five countries in Africa (Mozambique, Zimbabwe, Malawi, South Sudan and Niger) were ranked among the ten most affected countries in the world¹⁴. The 2023 report of the *Lancet Countdown* on health and climate change showed that Africa was the region most affected by droughts, with 64% of its land area affected by at least 1 month of extreme drought per year on average in 2013–2022, up from 9% in 1951–1960¹⁵.

The fact that Africa has a younger population than other world regions also reinforces its vulnerability to climate change in several ways, especially because child populations tend to have less capacity to cope with stresses due to their shorter life experience¹³. At present, the youth (aged 0–24 years) makes up 62.9% of the population of sub-Saharan Africa¹³. This age group is expected to reach 945 million people by 2050 in sub-Saharan Africa, which means an increase of 51% compared with 2017¹⁶. Malnutrition has been one of the most severe climate–health issues affecting children in Africa. In 2024, an estimated

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Fig. 1 | Major climate change trends in Africa and associated socio-environmental impacts. A map of climatic stressors overlaid onto regions of sparse, moderate and high densities to highlight hotspots in Africa. Figure adapted with permission from ref. 57, IOM.

11.4 million children under the age of 5 years could be suffering from acute malnutrition due to food insecurity in the region of the Greater Horn of Africa alone¹⁷.

Despite the amount of research and data on climate change and its impacts on child health globally, countries lack strategies to deploy targeted action plans and policies. As a reflection of this gap, only 35 out of 103 nationally determined contributions (NDCs) globally would be considered to be child sensitive¹⁸. While there is a higher percentage of child-sensitive NDCs in the East, Southern, West and Central Africa (47%) in comparison with other regions worldwide (for example, 7% in Europe and Central Asia), there is a need for NDCs to reflect stronger adaptation and mitigation strategies that consider children, and younger children in particular¹⁸. Critical climate data for Africa to help the region develop the means to tackle its myriad challenges are still lacking. More research on the pathways through which climate change directly and indirectly affects children is urgently needed for countries across Africa to support child-centred climate action. Such research must unpack how everyday risks accumulate and increase vulnerability to help better direct climate funds and leverage resources.

In this Perspective we emphasize how children in Africa are disproportionately affected by climate change and explore the multiplicity of direct and indirect ways through which climate change threatens their health and survival. We align with the position that climate change

must be framed beyond biophysical terms, and that its manifestation through political, economic, social and cultural dimensions must also be understood. That is because climate change intersects with non-climatic conditions, such as poverty and housing, which play a role in determining health outcomes and in increasing health inequalities. We start by providing an overview of observed and projected climate patterns across the continent of Africa, highlighting what climate change means for children. We then break down ways through which climate and its cascading effects can affect child survival and health, paying particular attention to the role of socio-political stratifiers. Finally, we highlight three areas of actions that can support policies and strategies to combat cycles of child vulnerability to climate impacts. This Perspective aims to support governmental and non-governmental bodies involved in the development of children-sensitive climate strategies in Africa.

Observed and projected health impacts

Countries in Africa are already critically affected by extreme climate events that keep increasing in frequency and intensity, largely driven by the accelerated impacts of climate change. Cyclone Idai hit Mozambique, Zimbabwe and Malawi in 2019 with torrential rain and destructive winds that caused flash floods and landslides. Later that year, Mozambique was hit by Cyclone Kenneth, the strongest storm to

hit Africa in recorded history—an intensity of storm behaviour that is consistent with warming temperatures in the Indian Ocean^{13,19}. Among the 1.85 million people affected, 1 million were children¹³. Since the beginning of 2020, East Africa has been affected by the most damaging outbreaks of swarms of desert locusts seen in decades, a phenomenon linked to shifting rainfall patterns in the region^{13,20}. In South Africa, the flash floods of April 2022 that took hundreds of lives and caused major infrastructural damage to the greater Durban region were assessed as being the most catastrophic event recorded in the region²¹. Scientific evidence has helped to attribute the severity of such extreme events to rising global temperatures, which increase the likelihood of heavy rainfall and devastating floods.

Besides climate 'shocks', a range of long-term trends or 'stresses' are also being observed across the continent. Climate change in Africa is affecting environmental resources and every economic, social and environmental function that depends on them. Those trends have been observed in densely populated zones referred to as climate hotspots (Fig. 1). These climate hotspots include the Nile Delta, the West African coast and the region around Lake Victoria, which bear the impact of climate change on food production. The West African monsoon shift is considered to be a global tipping point: an abrupt shift in rainfall patterns northwards (wetter) and southwards (drier) is being observed²². In terms of future projections, while some countries will see increases in the frequency and intensity of heavy precipitation (for example, those located near the Equator), others will see decreases in annual precipitation of up to 30% (for example, in sub-tropical Southern Africa)^{13,22}. Coastal areas are expected to suffer from sea-level rise and coastal flooding. This concerns the coasts of Kenya, Madagascar and Mozambique in particular, as well as a large part of the coast of West Africa. Flooding will also affect areas of large inland lakes such as Lake Victoria, which is currently home to an estimated 10 million children¹³.

Climate change is critically affecting Africa's child population through the way it increases health risks^{23,24}. Children's health is at higher risk of climate-related burdens than adult health due to their still-developing physiology and neurobiology, their higher air, water and food requirements per unit of body mass, their unique behaviour patterns, their relative lack of experience in coping with adverse events and handling exposures and their dependence on caregivers²⁵.

As stated in the chapter on Africa in the Sixth Assessment Report of the IPCC: "vulnerability and exposure to the impacts of climate change are complex and affected by multiple, interacting non-climatic processes, which together influence risk including socio-economic processes"²⁶. While there is an increasing understanding of the many underlying determinants of child vulnerability and exposure to climate change, knowledge gaps persist. Deep understanding of the differential impacts of climate change on children remains particularly limited in Africa and more studies on the intersections of different socio-economic dimensions with climate vulnerability are needed for locations across subregions and countries in Africa. This is necessary to create comprehensive socio-economic datasets and strengthen age-disaggregated evidence to build strategies and take action to mitigate climate risks and safeguard child health in Africa.

Breaking down cascading impacts on child survival and health

There are numerous routes through which climate change impacts child health and survival in Africa. Understanding the multitude of pathways through which both climate and non-climate stressors affect children requires us to recognize the cascading effects that are aggravated by interconnected physical and socio-institutional factors. Evidence from the academic literature connecting climate change and child health in the context of Africa, as well as key grey literature (for example, the IPCC's Sixth Assessment Report), provides key insights into the complex interplay of numerous intermediary factors. Together they show that

climate impacts across the continent are of a heterogeneous nature, with socio-institutional factors exacerbating inequalities among children. Factors such as poverty and violence, referred to as here as socio-political stratifiers, often remain under-estimated, despite playing a crucial role in pre-conditioning vulnerability, exacerbating deprivation and prompting chronic stress when hazards strike households⁷. These factors substantially influence children's development by creating complex, multilayered challenges (Fig. 2).

Climate events and stressors

Climate events and stressors here refer to the range of climate shocks or hazards (for example, storms, heatwaves), and the related longer-term changing conditions that worsen such hazards (for example, sea-level rise, biodiversity loss), that most heavily affect Africa. These critical climate events and stressors in Africa can be synthesized as follows.

Heavy precipitation, storms and flooding. Increases in heavy precipitation are being observed in subregions such as West Southern and East Southern Africa (ESAF), and they are associated with increases in extreme events including pluvial and river flooding²⁷. Projections show that the frequency and intensity of heavy precipitation will continue to increase in ESAF, as well as in South Eastern Africa²⁷. An increase in Category 4–5 tropical cyclones is also expected in these two subregions and in Madagascar²⁷. Other studies have reported a recovery in precipitation amounts and heavy precipitation compared with the 1980s, particularly in Sahel-West Africa (one of the most studied regions of Africa)^{28,29}.

Heatwaves, droughts and fire weather conditions. Increases in hot extremes and decreases in cold extremes will continue throughout the twenty-first century in Africa²⁷. Droughts are becoming more frequent in subregions including ESAF²⁷, despite increases in heavy precipitation events, as these are becoming more and more concentrated over short periods of time and lead to longer dry spells between them. Increases in agricultural and ecological droughts are also being observed in West Africa, Central Africa and West Southern Africa²⁷. In addition, fire weather conditions are projected to occur more frequently in West Southern Africa and ESAF²⁷.

Sea-level rise and coastal degradation. The relative sea level along Africa's coastlines has increased at a higher rate than global average sea-level rise²⁷, and this rise has been steady for four decades³⁰. Projections have indicated that, if the current pace continues, sea levels could rise by 0.3 m by 2030 and affect 117 million people along the continent's coastlines through the resulting erosion³⁰. Sea-level rise is contributing to increases in the frequency and severity of coastal flooding in low-lying areas and coastal erosion²⁷. This means that populations in West Africa (for example, Nigeria) and East Southern Africa (for example, Mozambique) will be heavily affected by coastal flooding³¹.

Biodiversity loss. Vegetation–climate feedbacks are recognized as important mechanisms influencing climate change and impacting human health. Climate change drives substantial shifts in species compositions and species loss, resulting in decreases in the ecosystem services that support humans. Climate change has resulted in substantial shifts in the geographical distributions of east African ecosystems and species, further threatening food security and the provision of clean water³². Biodiversity losses can have an impact on the production of biological resources for foods, fuels and fibres, and the ability to leverage grasslands for agriculture, thereby affecting GHG emissions. Biodiversity loss also has an impact on hydrological cycles and reducing the impacts of storms. Forest degradation and wider vegetation loss have been associated with trends in precipitation extremes in the Congo basin and vast savannah regions, increasing risks of water scarcity and food shortages²⁹.

Cascading climate impacts on child survival and health in Africa

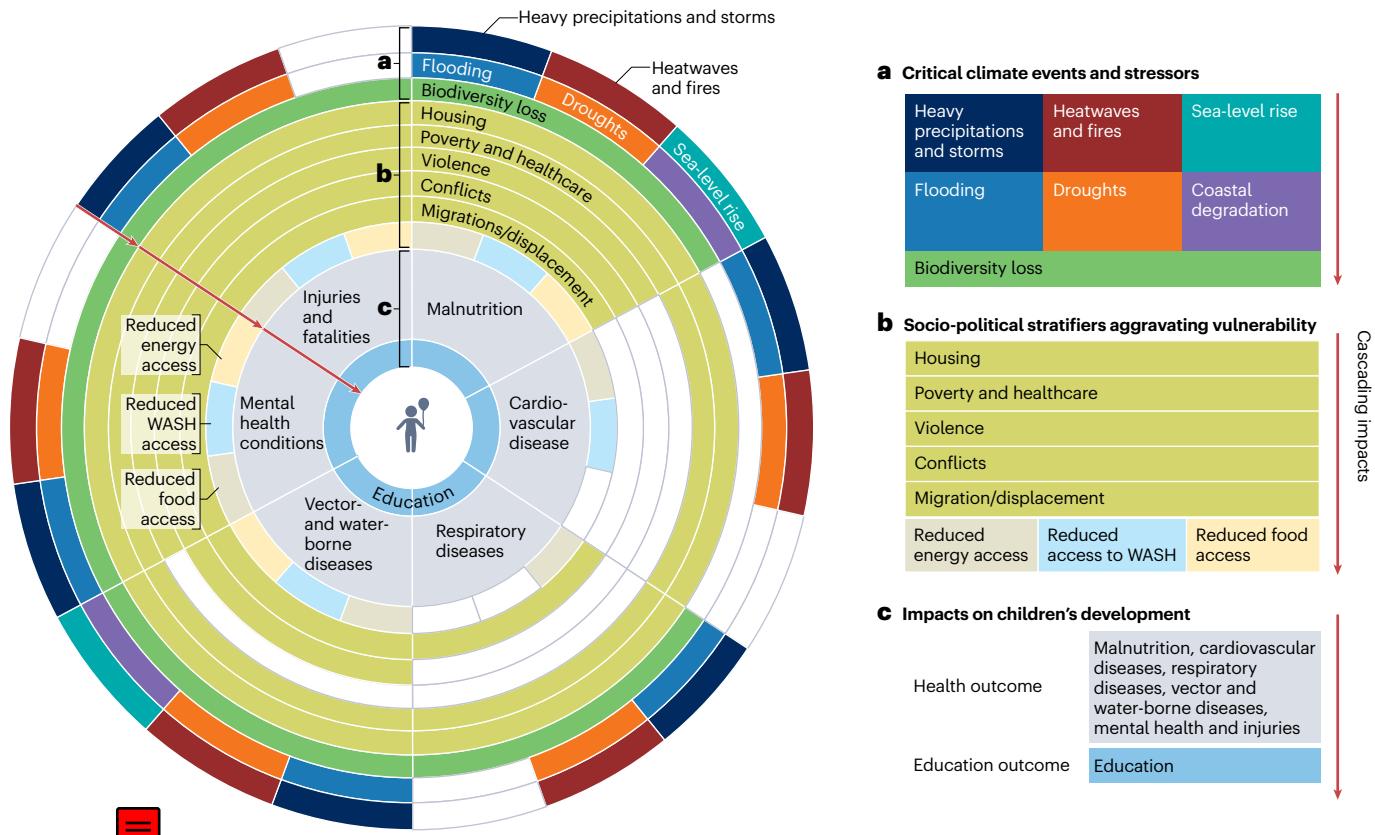


Fig. 2 | The intersection of climate change with socio-political stratifiers critically increases child health risks in Africa. **a**, Critical climate events and stressors. **b**, Socio-political stratifiers that aggravate vulnerability. **c**, Impacts on children's development. Effects cascade inwards from **a–c**. Unlabelled cells do

not indicate the absolute absence of a link, they show that the link between the type of climate event or stressor, stratifier and health outcome was considered to be too indirect for inclusion in the mapping. WASH, water, sanitation and hygiene.

Impacts on child survival and health

Each type of climate event and stressor described above has been causing direct and indirect impacts on children on both short and long terms. We highlight six types of critical health impact: (1) external body injuries and fatalities; (2) malnutrition; (3) cardiovascular and respiratory diseases; (4) vector- and water-borne diseases; (5) mental health conditions; and (6) education.

Body injuries and fatalities. Up to two-thirds of all preventable ill health due to environmental factors in the world is experienced by children, with the burden predominantly on those aged under 5 years (refs. 33,34). According to the climate model used by Chapman et al. to study the relationship between daily temperature and child mortality³⁵, heat-related child mortality in 2009 was twice what it would have been without climate change. More importantly, they projected that heat-related child mortality may increase over the next 30 years in Africa. They also estimated that if 2050 temperature increases were kept within the Paris Agreement target of 1.5 °C, approximately 4,000–6,000 child deaths per year could be avoided in Africa. They further argued that there is still a lack of quantitative evidence of the impacts of weather extremes on mortality and morbidity in sub-Saharan Africa.

Malnutrition. Baker and Anttila-Hughes demonstrated a strong correlation between temperature and children's weight in sub-Saharan Africa³³. Climate change increases the risks of malnutrition through impacts on food production and child malnutrition associated with seasonal food scarcity is likely to increase with temperature rises

and reduced rainfall in Africa³⁶. Girls disproportionately suffer from the health consequences of nutritional deficiencies induced by seasonality^{13,34}. Malnutrition is also an issue that can affect children even before birth, as maternal undernutrition can lead to neurological impairment and immune dysfunction and cause lifelong damage to children *in utero*¹³. Under a global warming scenario of 2.1 °C, an estimated 1.4 million additional children in Africa will suffer from severe stunting by 2050³⁷.

Cardiovascular and respiratory diseases. Children have a high surface area to mass ratio and must divert more cardiac output to their skin to dissipate heat than adults⁵, making them more vulnerable to cardiovascular diseases during extreme heat events. Air pollution overlaps with climate change in complex ways through GHG emissions, but is also a consequence of climate variations that alter atmospheric compositions, leading to respiratory conditions in children^{3,5}. High temperatures coupled with emissions have been associated with effects on pulmonary health in children in Africa and increased risks of lifelong respiratory diseases such as asthma that impair lung function¹³. Wildfires can also contribute to such risks, as smoke that contains harmful particulates can exacerbate respiratory issues in children and increase their susceptibility to conditions such as asthma and bronchitis, especially in regions prone to frequent fires³⁸.

Vector- and water-borne diseases. Climate change is expected to increase the transmission of parasitic, viral and bacterial diseases. Vector-borne diseases such as malaria have been associated with

long-term trends of observed climate change in Southern Africa³⁹ and the East African highlands¹³. In relation to water-borne diseases, studies have shown that the incidence of diarrhoeal diseases is associated with high temperatures, droughts and rainfall events^{2,40}. Wang et al.⁴⁰ recently found that the overall incidence of diarrhoea among children under the age of 5 years in 51 countries worldwide was 14.4%. Several African countries are among the countries with the highest rates: Niger has the highest incidence rate (36.4%), followed by Bolivia (25.1%), Liberia (23.8%), Central African Republic (22.7%), Burundi (21.4%), Malawi (20.7%) and Haiti (20.2%)⁴⁰. In Cape Town, South Africa, a study of children under 5 years old found that a 5 °C rise in minimum weekly temperatures increased cases of diarrhoea by 40% one week thereafter⁴¹.

Mental health conditions. Although less understood and often overlooked, climate change also causes substantial psychological sequelae among children¹⁰. Several studies on the impact of extreme weather events on mental health in Africa have reported symptoms of psychological distress in children after extreme weather events, ranging from decreased playtime to irritability and trouble sleeping⁴². Age could also influence mental health outcomes. For example, in the context of the 2011 floods in northern Namibia, older children (>13 years) were more likely to report psychological symptoms of trauma following flood exposure, whereas younger children more often reported physical symptoms of trauma⁴³. Children will continue to be increasingly exposed to elevated levels of trauma and stress in utero and during childhood, resulting in marked changes in brain development and long-term cognitive and mental health impacts³.

Education. Climate change affecting child health has further impacts on child education. Climate impacts on child health in Africa have repercussions for school attendance, which particularly affects girls. This occurs in contexts where climate shocks and stresses degrade livelihoods and require children to supplement the family income and sacrifice their education by taking over domestic duties, leading to absenteeism, or where families can no longer cover school-related costs. Climate hazards often disrupt education services and/or children's abilities to access them, including where post-disaster rehabilitation costs drain governmental budgets, meaning that funds are diverted from the education sector¹³. Randell and Gray⁴⁴ found that in West and Central Africa, climate change affects educational gains in households of varying socio-economic status, meaning that even wealthier households also experience educational penalties.

The role of socio-political stratifiers

A number of pre-existing socio-political factors are linked with climate stressors and children's health and survival, and they aggravate vulnerability in ways that are too often overlooked and/or misunderstood. Socio-political stratifiers include: (1) housing conditions; (2) poverty and access to healthcare; (3) domestic violence and conflicts (including protracted armed conflicts); and (4) forced migration and displacement. Each of these directly or indirectly depend on political priorities and economic growth, and can lead to inequalities in access to basic services including food, energy and WASH.

Housing conditions. Housing is one of the key nexuses of climate vulnerability^{45,46}. Substandard housing means that the risks of being affected by floods, storms, heatwaves and other extreme events are higher. The role of housing is not limited to the provision of shelter, but also relates to living conditions being reduced when the presence and/or reliability of critical infrastructure is compromised. For example, the global epidemiology study conducted by Wang et al.⁴⁰ demonstrated how children under 5 years old who are exposed to 6-month-long mild or severe droughts face diarrhoea risks of 5% or 8%, respectively, and that this association is stronger in households with limited or no access to water and hygiene services.

Poverty and access to healthcare. Climate change and poverty also intersect in multiple ways, particularly through impacts on food security. For example, temperature variations that affect crop production can result in increases in meal prices and affect access to food¹³. High temperatures and extreme weather events also negatively affect agricultural and livestock production by creating a favourable environment for food-borne pathogens. In Somalia, one of the most food-insecure countries in the world, this materializes in the aforementioned malnutrition issues in children, including a diminished ability to absorb nutrients that can be worsened by limited access to healthcare services¹³. Studies have also demonstrated how climate change can exacerbate poverty and result in emotional distress and traumas. For example, a qualitative study on droughts in Botswana highlighted the coping mechanisms used by children to earn money for food, including prostitution, causing considerable psychological impacts⁴⁷. It also shows how gender and age factors, as well as changing roles within households, can affect vulnerability, leading some children to leave school or turn to alcohol and smoking as a way to cope with the pressure⁴⁷.

Violence and conflicts. Exposure to violence affects the health and well-being of children through many interconnected pathways. Here we consider both violence at home or in shelters and refugee camps and violence from conflicts such as wars and armed conflicts that affect entire populations. There is evidence from around the world that domestic violence can increase in times of disaster⁴⁸, including in sub-Saharan Africa, where evidence was found for an association between drought and intimate partner violence among adolescent girls⁴⁹. In relation to conflicts, regional water conflicts have been compounded by droughts and continue to compromise access to water resources and affect the health of entire communities⁵⁰. Climate change can also exacerbate food insecurity, hunger and malnutrition in contexts where conflicts over land already affect agricultural production and food distribution (for example, in Uganda)⁵¹.

Migration/displacement. The scale at which climate- and environment-related displacement and migration is unfolding in Africa puts child health at huge risk. Shifts in rainfall patterns and heat stress have caused population movements out of areas where freshwater was once available towards areas where these same populations might lack access to basic resources to survive, including water resources. Conditions within which displaced populations—of which women and children generally account for a large proportion—settle are generally inadequate due to the temporary nature of the dislocation, making them more susceptible to adverse health effects and outbreaks of disease⁵². Forced migration due to adverse climatic conditions from Somalia into refugee camps in Kenya has led to many children being at high risk of developing trauma-related disorders, malnutrition and disease, and at greater risk of premature death⁵³. The interconnectedness of several of the above factors (such as conflicts leading to migration and displacement) must also be acknowledged, as it contributes to the vulnerability of children to climate change.

Proposed areas of action

Given the way that climate change amplifies pre-existing inequities, child health cannot be protected and improved without addressing the underlying factors that produce existing social and economic gradients in child health outcomes³. We argue that actions must consider the multiple and differentiated impacts of climate change and combine long-term visions with immediate needs while taking socio-political stratifiers into account to reduce inequalities. As such, actions must aim to break paths of vulnerability that enable the cascading impacts of climate change on children by paying explicit attention to all relevant climate and non-climatic factors and considering geographic and economic disparities, to age and gender disparities.

Within the institutional sphere, we argue that governments must develop strategic climate plans and policies that specifically target children. Such strategies can enable people to grow up to be informed and active individuals who can respond to the challenges in their lives, and thereby allow them to become future agents of change who participate in building more resilient communities. Climate resilience and adaptation through 'social infrastructure' brings opportunities to reduce risks by providing children with protection, as well as the knowledge and confidence to support individual and community adaptation⁴⁵. The enforcement of plans must be accompanied by the required financing mechanisms to activate and sustain action, including those for infrastructure and services. Building on Godfrey and Tunhuma¹³, we therefore highlight three areas for climate action in Africa: (1) child-centred plans and policies; (2) financial support for climate action for children; and (3) climate-smart public facilities such as schools and health centres.

Child-centred plans and policies

The 2023 Africa Climate Summit highlighted that while all children have a degree of exposure to most climate stresses and shocks, the extent to which they are vulnerable to this exposure depends greatly on whether they have access to good-quality essential services such as water, sanitation, hygiene, health, nutrition, social protection and education. There is a critical need to review and incorporate the multidimensional and differentiated impacts of climate on children in NDCs and national adaptation plans so that they address current socio-economic barriers to accessing such services. Plans and policies should be informed by local climate models and the resulting datasets. In view of the disproportionate vulnerability of children to climate change, and given their potential role as active agents of change, they should be actively engaged in discussions related to climate and environmental policies. For example, the United Nations Children's Fund and other NDC partnership members can support youth-inclusive and youth-led climate action and co-design youth-aligned NDC processes through the Youth Engagement Plan¹⁸. This is not only important to support children's learning and development, but to include the knowledge they have of local issues.

Financial support

It is estimated that an investment of US\$2.8 trillion is required to support the NDCs of countries in Africa, out of which only 10% has been promised⁵⁴. Financial innovation is required to consider the different social determinants of health, ranging from economic stability to access to healthcare and housing. To ensure the delivery of basic services for children, there is a need to develop child-centred climate financing strategies that consider the diversification of financial instruments with grants, guarantees and blended agreements for food, energy and WASH. In relation to water and sanitation, for example, a review of the Sustainable Development Goals by the United Nations Children's Fund in 2020 found that US\$14 billion yr⁻¹ would be required across 21 countries in East and Southern Africa to reach SDG6 targets by 2030³⁵. Loss and damage funds should provide an opportunity for member states to apply measures that specifically target child health and well-being, and will need to include substantive investment in infrastructure to address existing gaps in services.

Climate-smart facilities

Given how crucial school and health facilities are to child survival and well-being, and the vulnerability of these facilities to climate shocks, it is important to develop strategies that prioritize their protection. Investing in schools, health and youth centres, emergency facilities and the wider social infrastructure to make spaces that are resilient and adapted to climate change should support all children, regardless of their socio-economic status. These include storm-resistant school buildings and healthcare infrastructure powered by renewable energy,

all of which should have flood- and drought-resilient water supplies¹³. Current infrastructure is unlikely to be adequate in extreme events as infrastructure design values are informed by approaches based on analyses of trends in annual maxima, meaning that they probably underestimate future events²⁹. To make these spaces climate-smart, different forms and levels of climate shocks and stresses must be considered, as well as different socio-political stratifiers that range from conflicts to poor access to housing. The creation of norms and standards can guide climate-smart development of such facilities, which should aim to provide continued access to basic services including WASH, food and energy. Climate-smart facilities that offer children safe environments during emergencies can also serve as hubs for climate education and awareness. Climate-smart schools can provide a central environment for children to thrive and have access to education, particularly where their household cannot do so. As such, schools can be used to disseminate information, with children playing the role of active messengers with their peers, household members and wider community⁵⁶.

In conclusion, we call for a multipronged approach to address climate-related impacts on children in Africa. It must involve the development of actions that tackle the range of climate vulnerabilities. To do so, policy and financing mechanisms that consider the multiple ways through which climate change impacts are manifested across Africa must be developed. Such mechanisms must consider how poverty, conflicts and other forms of violence, poor housing conditions, and migration intersect with, and multiply climate-related risks. Research that addresses the lack of comprehensive data and is embedded in local contexts can support the development of differentiated strategies that can safeguard children's health. The design of targeted adaptation strategies will help to direct funds that support child-centred climate action and contribute to the development of infrastructures that protect children in Africa.

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S.G., F.T., L.D. and P.P. conceptualized the Perspective. L.D. wrote the original and final draft of the paper. All authors contributed to interpreting the results and provided input on the text.

Competing interests

The authors declare no competing interests.

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