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Protecting Children's Learning Futures: Quantifying Climate-Related Loss and Damage in Eastern and Southern Africa

POLICY REPORT

POSTCODE LOTTERY

POSTCODE EDUCATION TRUST

Dalberg

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Executive Summary

Eastern and Southern Africa has endured more than **700 extreme weather events**, affecting over **330 million people** and claiming more than **40,000 lives.**

Between 2005 and 2024, climate disasters **caused about US$1.3 billion in education losses** in Eastern and Southern Africa, **projected to rise to US$3.3–3.8 billion** by 2050.

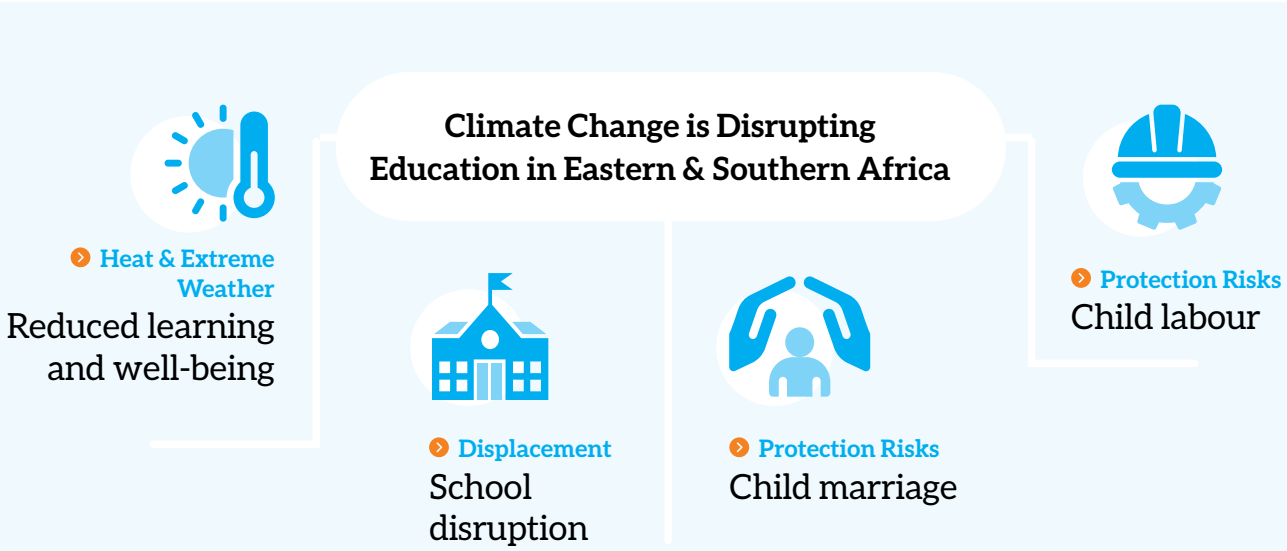
Climate-related events have already disrupted the learning of **130 million children**, causing **US$120–140 billion in lost future earnings**, projected to reach **US$380 billion** by 2050. If no action is taken, **440–520 million more students** could face learning disruptions between 2025 and 2050, resulting in an **additional US$260–380 billion** in lost future earnings.

Over the past twenty years, Eastern and Southern Africa has experienced increasing climate-induced disruptions, a trend projected to intensify in the coming decades. The region is one of the world's most climate-affected, home to one-third of the most climate-vulnerable countries globally.[1] Since 2005, the region has endured more than 700 extreme weather events, affecting over 330 million people and claiming more than 40,000 lives.[2] Climate change has induced or exacerbated nearly three-quarters of these disasters (approximately 520 disasters), driving an escalating pattern of frequency, severity and destruction.[3] Looking ahead, without strengthened action, climate-related disasters are projected to increase in scale and severity, as intensifying climate extremes intersect with rapid population growth, rising exposure and deepening vulnerability.

The increasing frequency and severity of climate-related disasters is already having profound impacts on children's education across Eastern and Southern Africa, generating significant loss and damage to education systems in the region. Between 2005 and 2024, climate-related disasters caused an estimated US$1.3 billion in direct economic loss and damage to education across Eastern and Southern Africa, with projected losses rising to between US$3.3 and 3.8 billion by 2050 – nearly tripling under higher-impact scenarios.[4] These losses primarily reflect damage to school infrastructure and buildings, furniture and learning materials, as well as additional expenditures required to establish temporary learning spaces. The scale of these impacts is equivalent to the cost of constructing nearly 80,000 climate-resilient classrooms, enough to provide safe and sustainable learning environments for close to five million children. Without strengthened efforts to avert, minimize and address loss and damage, impacts to education systems could reach a net present value of US$3.3–3.8 billion by 2050.[5]

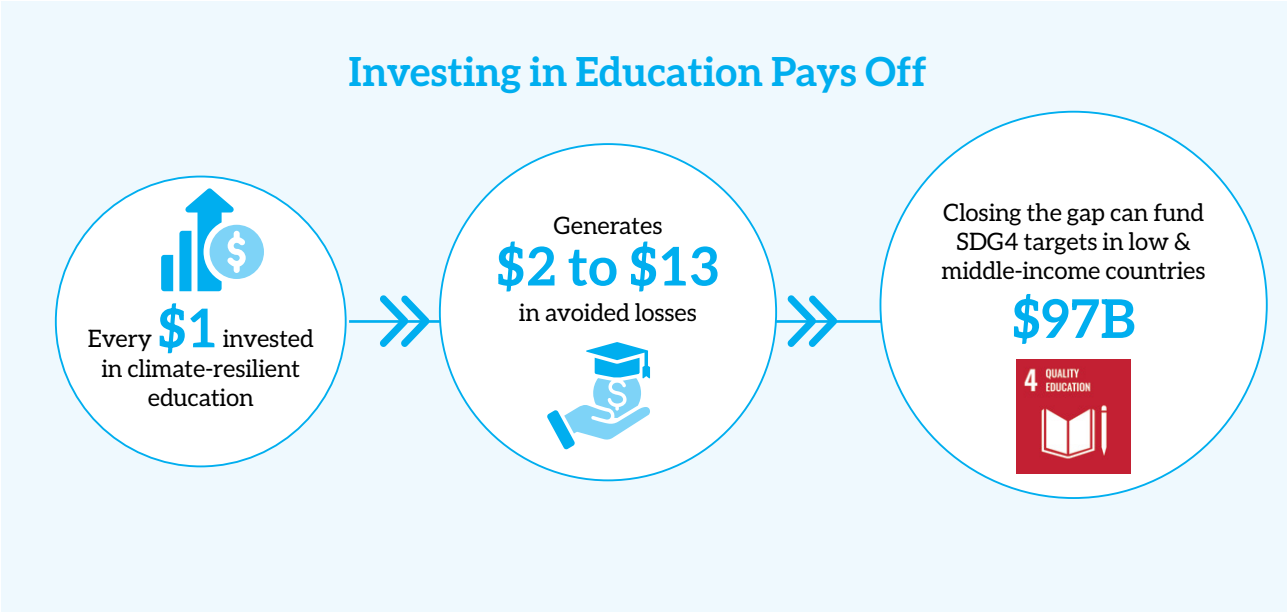
Over the same period, these climate-related events disrupted the learning of 130 million children across pre-primary, primary and secondary levels, resulting in a total of US$120–140 billion in loss of future earnings, projected to increase to 380 billion by 2050.[6] Floods, storms and droughts damage education-related infrastructure, disrupting schooling schedules and continuity, causing repeated closures and shortened school hours, and ultimately leading to loss of learning time and reduced lifetime earnings. These impacts represent irreversible loss and damage to children's development and human development more broadly, extending well beyond the immediate aftermath of climate-related disasters. If no action is taken, it is estimated that between 2025 and 2050, 440 to 520 million students cumulatively will have their learning disrupted, leading to an estimated US$260 to 380 billion in additional loss of future earnings.[7]

Beyond economic impacts, climate change is generating significant non-economic loss and damage, deeply undermining children's education systems in Eastern and Southern Africa, eroding learning, access, safety and well-being – especially for the most vulnerable. Rising temperatures and heatwaves reduce students' cognitive



performance, concentration and exam outcomes, while also impairing teachers' productivity and attendance. Climate-driven poverty and displacement have heightened protection risks such as child marriage, child labour, gender-based violence and recruitment by armed groups, as household stress during crises intersects with prolonged school disruptions that remove structured supervision and peer support. Displacement and climate related disaster-induced migration further disrupt school attendance and access to learning, especially for girls, children with disabilities and internally displaced populations. Teachers also face rising absenteeism, burnout and mental health challenges, while students experience psychosocial distress linked to the destruction of schools, communities and social networks. At the same time, school environments themselves are becoming increasingly unsafe, exposed to heat stress and climate-related infrastructure damage, compounding barriers to equitable, continuous and quality learning across the region.

Despite growing evidence of climate change's impact on education systems and a strong investment case for protecting learning continuity, the education sector remains significantly underrepresented in climate finance and policy. Evidence shows that investments in climate-resilient education infrastructure can help reduce future losses. Every dollar invested can generate between 2 and 13 dollars in avoided direct losses, with even higher returns when learning continuity and future earnings are taken into account. While education systems are highly exposed to climate shocks and already experiencing loss and damage, strengthening education systems can help avert, minimize and address climate-related impacts affecting children's learning and future opportunities. Yet, over the 17-year period to 2023, less than 2.4 per cent of finance from key multilateral funds could be categorized as supporting projects that incorporated child-responsive interventions,[8] while education-specific projects remain negligible.[9] This share is far lower than sectors such as healthcare (where is it approximately 6–7 per cent). If education received a similar share, it could fully close the US$97 billion annual financing gap needed to achieve Sustainable Development Goal (SDG) 4 targets in low- and middle-income countries.[10] At the global policy level, 81 out of 110 of the submitted Nationally Determined Contributions (NDCs) 3.0 (74 per cent) include commitments on education and 74 of 110 (67 per cent) include child-responsive commitments on education.[11] While these numbers have improved from previous rounds of NDC submissions (64 per cent of NDCs 2.0 included education commitments, and 44 per cent of NDC 2.0 commitments were considered child-responsive), greater attention is needed to ensure these commitments are implemented and financed to ensure a holistic approach to protecting learning continuity. Although nearly all (98 per cent) of National Adaptation Plans (NAPs) reference education in some capacity and 73 per cent include specific commitments on pre-primary to secondary school levels, just 16 per cent of NAPs include priorities or actions that address the three components of a climate-resilient education system, and only 27 per cent include cost estimates for education-related priorities or actions.[12] Without systematically integrating education into climate finance and policy frameworks – including efforts to avert, minimize and address loss and damage – countries risk remaining trapped in repeated cycles of disaster recovery spending rather than sustained resilience-building, allowing climate shocks to compound disruptions to learning and generate significant non-economic losses for children and their future opportunities.



Closing the gap between climate and education financing requires coordinated action across three complementary pathways: greater allocation of existing resources, mobilization of new and incremental funding and strengthened country readiness. Together, these pathways can reshape how education systems are financed and protected in a changing climate while enabling countries to avert, minimize and address climate-related loss and damage affecting children's education.

The first pathway – greater allocation – calls for directing a larger share of the ***existing*** climate finance toward protecting education systems and safeguarding learning continuity. This includes strengthening education investments through climate-informed planning where feasible, and embedding an education lens across sectors that receive substantial climate finance flows, such as energy, infrastructure and water, sanitation and hygiene (WASH). The second pathway – new and incremental funding – aims to mobilize additional resources to expand the overall pool of financing available to support efforts to avert, minimize and address climate-related loss and damage affecting children and education systems. The third pathway – country readiness – ensures governments have the institutional capacity, expertise and policy frameworks required to access, manage and sustain climate finance effectively. Taken together, these pathways can reshape how education systems are financed and protected in a changing climate.

The first step toward closing the financing gap is the more strategic allocation of existing resources. Multilateral climate funds and financing mechanisms should increase a share of their portfolios dedicated to protecting education systems and learning continuity. Mechanisms such as the Green Climate Fund, the Adaptation Fund and the Fund for responding to Loss and Damage (FRLD) can play a critical role by establishing funding targets or dedicated windows that support children and essential services, including education. In the case of the FRLD, financing should specifically support efforts to address residual and unavoidable losses beyond the limits of adaptation.

At the same time, where feasible, education systems can integrate climate-resilient design into planned investments. This is particularly important in Eastern and Southern Africa, where reallocating existing education budgets toward climate resilience is often highly challenging given high learning poverty, teacher shortages, significant infrastructure deficits and tightening fiscal space. In parallel, governments, donors and implementing partners should apply an education lens across sectors receiving significant climate finance flows – including renewable energy, WASH and broader mitigation and adaptation investments – to ensure education systems benefit from cross-sectoral resilience investments.[13]

Beyond improving the allocation of existing resources, actors must also mobilize new and incremental funding commensurate with the scale of climate-related loss and damage affecting education systems. Increasing climate variability and extreme events are placing growing pressure on education systems, underscoring the need to expand the overall pool of financing available to support efforts to avert, minimize and address climate-related loss and damage affecting children and learning continuity.

Mobilizing new capital requires elevating education within climate finance priorities. Where appropriate and country-driven, governments may explore complementary financing approaches to help mobilize additional resources – such as debt-for-education swaps and results-based financing[14] – alongside public and concessional financing responses to address climate-related loss and damage, while ensuring financing modalities remain sustainable and do not exacerbate existing debt vulnerabilities.

At the same time countries must also be prepared to access, manage and sustain climate finance effectively. Ministries of Education, Environment, and Finance and their partners require the institutional capacity, technical expertise and systems needed to translate national priorities into well-structured and fundable investments. Embedding education considerations within national climate frameworks – including NAPs and NDCs – is essential, as alignment with these frameworks can facilitate access to climate finance mechanisms and strengthen national responses to climate-related impacts on education.

Across all three financing pathways, investments must prioritize the communities and learners facing the greatest climate risks and systemic barriers to education. Targeted allocation helps ensure that financing reaches the most vulnerable populations rather than unintentionally reinforcing existing inequalities. Financing frameworks can incorporate transparent prioritization criteria reflecting age, gender, disability, geography, displacement status and income vulnerability to promote equitable distribution of benefits. Directing resources towards high-risk contexts including drought-affected areas in the Horn of Africa, flood- and cyclone-exposed regions in Southern Africa and high-displacement settings such as Somalia and South Sudan can maximize the effectiveness of limited resources while supporting recovery and protecting children's education in the face of escalating climate impacts.

Recommendations

Close the gap between climate and education financing in Eastern and Southern Africa through coordinated action across three complementary pathways: increasing the allocation of existing resources, mobilizing new and incremental resources and strengthening country readiness to protect education systems from escalating climate impacts.

Governments and climate financing institutions should direct a greater share of climate finance toward protecting education systems and sustaining learning continuity, including through explicit prioritization of education infrastructure and child-critical services within multilateral climate funds such as the Green Climate Fund [15] and the Adaptation Fund. In the case of the Fund for responding to Loss and Damage, financing should support efforts to address residual and unavoidable losses affecting education systems where climate impacts exceed adaptation limits.

Achieving this requires coordinated action across both the demand and supply sides of climate finance. Governments should strengthen the design, costing and submission of education-inclusive climate investment proposals aligned with financing requirements. At the same time, multilateral climate funds and financing mechanisms should increase their portfolio allocations and consider dedicated or targeted funding windows to support children and essential services, including education, particularly in contexts experiencing climate-related loss and damage. Greater coordination across humanitarian, development and climate finance should also be strengthened to ensure that responses to climate shocks support both the restoration of education services following climate-related loss and damage and longer-term investments that reduce future climate risks. Climate finance should complement – rather than replace – domestic and development financing for education, enabling countries to avert, minimize and address climate-related loss and damage while sustaining essential education services and protecting children's development and long-term human development.

- **Governments should incorporate climate-resilient standards into planned education investments, infrastructure development and rehabilitation programmes – particularly in high-climate risk contexts – to reduce reconstruction costs, minimize disruptions to learning and prevent future loss and damage.** Where feasible, integrating resilient design within existing and planned investments allows countries to strengthen education system resilience without diverting limited education budgets from core service delivery.

- **Governments, donors and implementing partners should embed education priorities across climate-relevant sectors** – including health, nutrition, WASH, social protection and energy – to avert and minimize climate-related loss and damage affecting learning continuity and child well-being. Ministries of Education should collaborate with sectoral ministries to integrate school-centred components within cross-sector programmes, including school feeding, climate-resilient WASH, reliable energy access for schools and protection measures during climate shocks. Development partners and climate financing institutions should support cross-sectoral programming that links education outcomes with broader climate investments, enabling climate finance to reach education systems while reducing compounded economic and non-economic losses affecting children.

Governments should mobilize new, incremental and accessible sources of finance to address climate-related loss and damage affecting education systems, particularly where climate impacts exceed adaptation limits and disrupt essential services for children. Such financing should prioritize rapid response and the protection and restoration of learning continuity following climate shocks.

Where appropriate and country-driven, governments may explore complementary financing approaches that mobilize resources without exacerbating sovereign debt burdens or creating additional indebtedness for climate-vulnerable countries. This may include debt-for-education swaps and pre-arranged risk financing mechanisms, including parametric insurance solutions and regional risk pools. These instruments can enable timely post-shock financing to restore education services and reduce long-term economic and non-economic loss and damage experienced by children.

- **Strengthen national systems to access, coordinate and effectively implement climate financing for education.** Governments should embed education priorities within NAPs and NDCs and integrate education into cross-sectoral proposals supported by major climate financing mechanisms. This requires strengthened coordination across ministries, alongside institutional and technical capacity to design fundable investments, meet financing requirements and ensure that resources are effectively deployed to protect learning continuity and minimize climate-related loss and damage.

Governments should strengthen technical and institutional capacity to design and implement education investments that address loss and damage. Ministries of Education, Environment and Finance, together with relevant sectoral partners, should be equipped with the skills, systems and tools required to translate education resilience priorities into well-structured and fundable investments. This includes strengthening climate risk diagnostics for education, integrating education within NAPs and NDCs, developing multisector proposals, upgrading education data systems such as EMIS and school infrastructure vulnerability databases and strengthening monitoring of climate and learning outcomes. This can include the technical capacity to collect and monitor education indicators disaggregated by age, gender and disability. Capacity strengthening should also extend to subnational authorities to enable effective implementation in climate-affected contexts.

- **Governments should further strengthen policy and institutional alignment to embed** education resilience within national planning, budgeting and infrastructure standards, supported by child-sensitive policies and indicators. Integrating education within national climate commitments can enhance access to climate financing while supporting sustained protection of education systems and learning continuity.

Cross-cutting consideration: prioritizing the most vulnerable

Governments and financing institutions should prioritize climate financing for communities and learners facing the highest climate risks and systemic barriers to education. Funding allocation frameworks should incorporate clear targeting criteria – including age, vulnerability, geography, gender, disability and income level – to ensure that investments reach the most at-risk populations and avoid reinforcing existing inequalities. Prioritizing high-risk and climate-affected contexts, such as drought-prone areas in the Horn of Africa, flood- and cyclone-exposed regions in Southern Africa and displacement-affected settings including Somalia and South Sudan, can maximize the impact of limited resources by protecting learning continuity and reducing climate-related loss and damage affecting children.

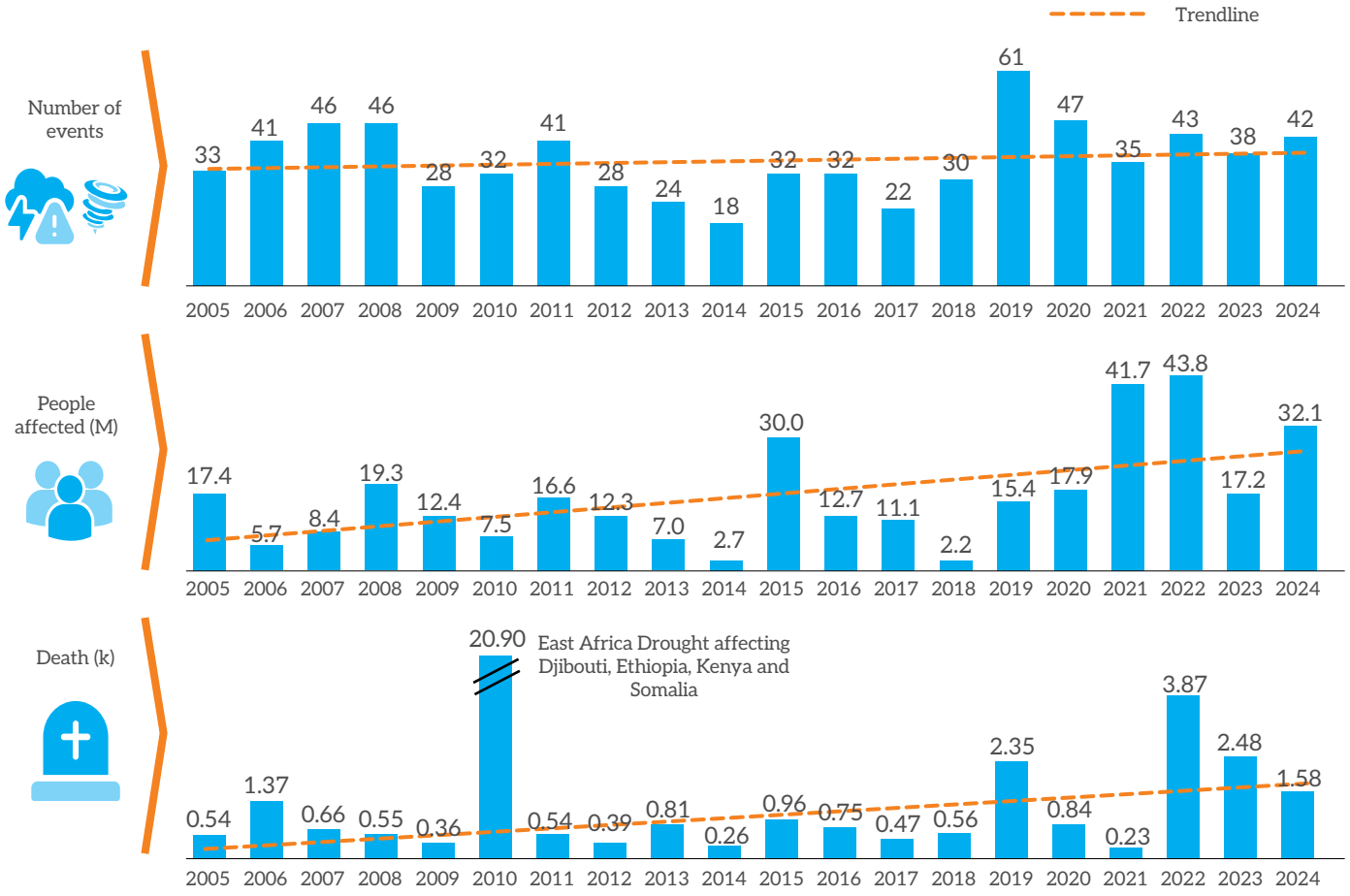
Annexes

Climate Change Context in the Region

Eastern and Southern Africa is one of the world's most climate-affected regions, home to one-third of the most climate-vulnerable countries globally.[16] The region faces an escalating cycle of floods, storms and droughts that threaten lives, livelihoods and learning. Since 2005, the region has endured more than 700 extreme events, affecting 330 million people and leading to over 40,000 deaths, leaving communities with fewer resources to recover.[17]

Climate change has induced or exacerbated nearly three-quarters of all disasters in the region, driving an escalating pattern of frequency, severity and destruction. Rising temperatures and changing rainfall patterns are altering the timing and intensity of seasonal cycles, triggering prolonged droughts, back-to-back floods and heatwaves that strain infrastructure and human systems alike. The number and intensity of these disasters have steadily increased since 2005, with floods, storms and droughts affecting more people and causing greater loss of life, while progressively eroding the coping and recovery capacity of affected communities.

Figure 1: **Increasing human impact of extreme events in Eastern and Southern Africa (2005–2024)**[18]



Looking ahead, without decisive action, rising climate extremes and rapid population growth will continue to increase exposure and deepen vulnerability across the region, particularly for children. By 2050, the population of Eastern and Southern Africa is expected to almost double,[19] significantly increasing the number of people and children living in high-risk areas exposed to floods, droughts and storms. At the same time, average temperatures in the region are projected to rise between 1.4°C and 1.5°C compared to 2005 levels.[20] This will lead to intensified heat stress and disrupted rainfall patterns, while amplifying the severity of extreme weather events. This growing exposure has direct implications for children as rights-holders under the Convention on the Rights of the Child, with potential impacts on their rights to education, health, protection and participation. It also heightens the obligations of governments and institutions, as duty-bearers, to respond. Without urgent action and investment to mitigate, adapt and address rising loss and damage, millions more children will face recurring climate shocks that threaten health, stability and learning opportunities across generations.

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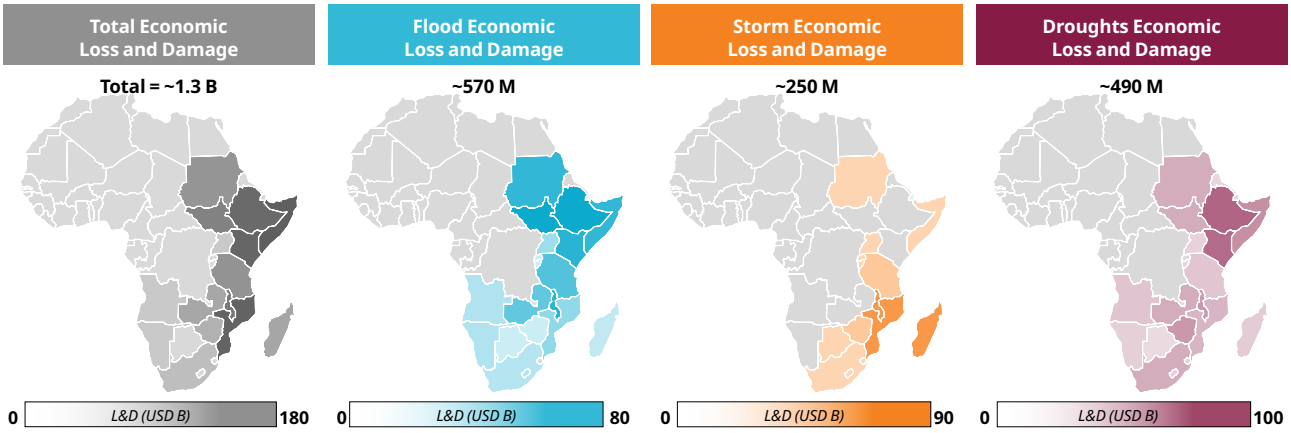
The Problem

Economic loss and damage[21]

Between 2005 and 2024, climate-related disasters resulted in an estimated US$1.3 billion in direct economic loss and damage to education systems across Eastern and Southern Africa.[22] This finding primarily reflects damage to infrastructure and buildings, furniture and learning materials, as well as expenditure required to establish temporary learning spaces following climate-related disasters. The scale of resources required to respond to these impacts is substantial. The estimated losses are equivalent to the cost of constructing nearly 80,000 climate-resilient classrooms, enough to provide safe and sustainable learning environments for close to five million children across the region.[23] Climate-related hazards have affected countries across the region, with floods and droughts predominating in the Horn of Africa and Eastern subregions, while storms have had particularly severe impacts in Southern Africa. Malawi, Ethiopia, Kenya, Somalia and Mozambique are among the most affected countries.[24]

Figure 2: Economic loss and damage in Eastern and Southern Africa (2005–2024)[25]



Top 5 countries affected
- Malawi ~US$175M
- Ethiopia ~US$160M
- Kenya ~US$155M
- Somalia ~US$135M
- Mozambique ~US$130M

Top 5 countries affected
- Somalia ~US$85M
- Malawi ~US$80M
- South Sudan ~US$70M
- Ethiopia ~US$65M
- Kenya ~US$55M

Top 5 countries affected
- Mozambique ~US$90M
- Malawi ~US$55M
- Madagascar ~US$45M
- Tanzania ~US$25M
- Zimbabwe ~US$10M

Top 5 countries affected
- Ethiopia ~US$100M
- Kenya ~US$100M
- Somalia ~US$40M
- Malawi ~US$40M
- Zimbabwe ~US$35M

Over the same period, these climate-related events disrupted the learning of 130 million children in pre-primary, primary and secondary levels across Eastern and Southern Africa, resulting in projected losses of US$120–140 billion in future earnings.[26] In low-income countries, affected students lost an average of 18 days of schooling each year, equivalent to 10 per cent of an academic year.[27] Students in high-risk and marginalized contexts, such as students facing extreme poverty or in informal settlements, often lose far more, as intersecting vulnerabilities deepen the severity of disruptions. These interruptions arise from damaged or destroyed classrooms, reduced physical access to schools, teacher absenteeism, displacement and household coping strategies that lead families to withdraw children from education during crises. Over time, the impacts extend beyond missed instruction, contributing to declining learning outcomes, increased dropout rates and the permanent exclusion of the most vulnerable learners. These cumulative learning losses translate into substantial long-term impacts on children's development and, more broadly, on human development across the region.

Without strengthened investments to avert, minimize and address loss and damage, residual economic and non-economic losses affecting education systems are projected to escalate significantly by 2050. Between 2025 and 2050, total direct economic loss and damage to education in Eastern and Southern Africa is projected to reach a net present value of US$3.3 to 3.8 billion. During the same period, climate-related learning disruptions could

cumulatively affect around 440 to 520 million students, resulting in an estimated US$260 to 380 billion in net present value of additional loss of future earnings.[28] As climate extremes intensify, continued underinvestment in measures that strengthen education system resilience and address climate-related loss and damage risks locking education systems into recurring cycles of damage, disruption and recovery. Early investment in climate-resilient infrastructure and learning systems is therefore not only a moral imperative but also a sound economic decision.

Non-Economic loss and damage[29]

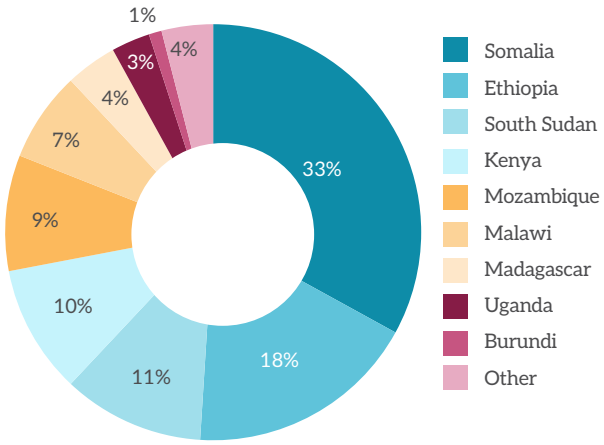
Climate change is generating significant non-economic loss and damage to education systems by disrupting schools' protective, social and developmental functions. Beyond learning, schools serve as critical protection and resilience systems, and when climate shocks disrupt education, they dismantle these safeguards. Schools can provide access to mental health and psychosocial support, prevention and referral pathways for gender-based violence, school feeding, WASH and basic health services, and safe environments during crises, while linking children and families to social protection. When climate shocks disrupt education, these essential safeguards are weakened or lost, increasing risks to children's well-being, safety and long-term development.

Climate-related disruptions prevent millions of children from attending school each year, with girls and children with disabilities disproportionately affected. In 2024 alone, nearly 8 million students across Eastern and Southern Africa missed school due to extreme events.[30] These impacts are uneven: girls face heightened dropout risks linked to safety concerns, caregiving responsibilities and social norms that deprioritize girls' education during crises. During the April–May 2024 floods in Kenya, school enrolment among girls declined approximately 50 per cent more than among boys (10.5 per cent versus 7.1 per cent), equivalent to roughly 1.5 girls leaving school for every boy.[31] Among students with disabilities, the enrolment declines were about one-third higher than for their peers without disabilities (11.7 per cent versus 8.8 per cent).[32]

Climate-related disasters also heighten risks to children's safety and well-being, increasing exposure to violence, child labour and child marriage, particularly in fragile and displacement-affected contexts. Between 2017 and 2023, weather-related disasters displaced an estimated 8.8 million children across Eastern and Southern Africa, an average of 1.3 million each year.[33]

Displacement disrupts community safety nets and leaves children, especially girls, more vulnerable to gender-based violence, exploitation and child marriage. In some countries, climate shocks and conflict interact to reinforce cycles of displacement and educational disruption. In Somalia, years of alternating droughts and floods combined with prolonged conflict have led to mass displacement and economic losses equivalent to 35 to 45 per cent of GDP each year.[34] Children bear the brunt of this compounded crisis: Somalia now records the highest number of child displacements in Eastern and Southern Africa, and has over 4.5 million children, more than 60 per cent of the school-aged population, out of school.[35]

Figure 3: Child displacement in Eastern and Southern Africa, percent of children (2017–2023)[36]

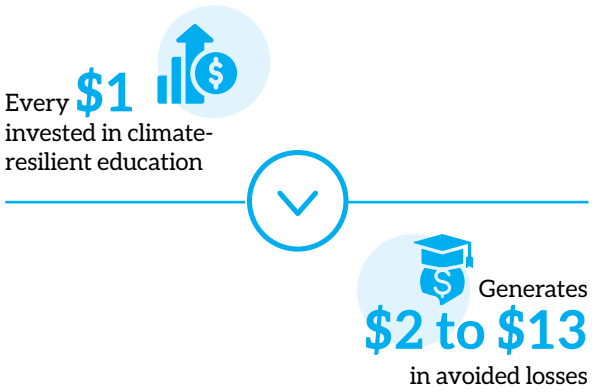


Even when children remain in school, climate change reduces learning quality by placing a growing strain on classroom environments and educational resources. Rising temperatures and heatwaves impair students' cognitive performance, concentration and examination outcomes, while also impairing teachers' productivity and attendance. Teachers face increased absenteeism, burnout and mental health challenges, while students experience psychosocial distress linked to the destruction of schools, communities and social networks. At the same time, school environments are becoming increasingly unsafe, due to exposure to heat stress and infrastructure damage, further compounding the barriers to equitable, continuous and quality learning across the region. In Ethiopia, for example, exposure to high temperatures during school years has been linked to lower academic performance, with evidence showing that ten additional hot days in a year can reduce average results by about 2.3 per cent. As temperatures are projected to continue rising, the cumulative effect of high temperature on learning outcomes will continue to exacerbate the existing learning crisis.[37] These findings are consistent with global studies showing that prolonged exposure to heat during school years can significantly affect learning outcomes and future employment.[38]

Mind the Gap: Underinvestment in Addressing Climate-Related Loss and Damage in Education

Despite growing evidence of climate-related loss and damage affecting education systems, the education sector remains significantly underrepresented in climate finance and policy frameworks. Education systems are among the sectors most exposed to climate shocks, while investments in resilient education play a critical role in averting, minimizing and addressing loss and damage by safeguarding learning continuity, protecting children's development and broader human development and reducing long-term recovery costs. Investing in climate-resilient education equips children and communities with the infrastructure, knowledge, skills and agency needed to anticipate, withstand and recover from climate impacts.

Evidence shows that every dollar invested in climate-resilient education infrastructure yields between 2 and 13 dollars in avoided direct loss and damage, with even higher returns when learning continuity and future earnings are taken into account. Experience from Mozambique demonstrates that climate-resilient school construction standards may increase upfront costs by approximately 10–25 per cent, but can avoid reconstruction and emergency expenditures two to fourteen times higher, with even greater returns in repeatedly affected areas and when accounting for loss of future earnings.[39] These investments therefore improve long-term efficiency and return on education investments while reducing future loss and damage. Comparable benefit-cost ratios are also observed for additional measures within education systems, including early warning systems and locating schools in lower-risk areas. Despite this strong economic and loss-and-damage rationale, education remains insufficiently prioritized within climate finance and disaster planning frameworks. Between 2006 and March 2023, only around 2.4 per cent of climate finance from multilateral climate funds supported projects that could be categorized as child-responsive, according to analysis by UNICEF and partners, and education-specific projects remain negligible.[40] This share is significantly lower than sectors such as healthcare (where it is approximately 6–7 per cent). Increasing education's share of climate finance to comparable levels could make a substantial contribution toward addressing investment needs and help narrow the broader US$97 billion annual financing gap associated with achieving SDG 4 targets in low- and middle-income countries.[41]



In addition, most national governments do not explicitly reflect education sector needs within forward-looking climate planning processes. As a result, children's education priorities remain insufficiently integrated into national climate policies and investment frameworks. Key national climate policies include NDCs and NAPs. NDCs are communicated every five years and contain actions countries will take to reduce emissions in line with the Paris Agreement, although many NDCs also contain commitments on adaptation, and, increasingly, loss and damage. NAPs are voluntary plans designed to reduce vulnerability to climate change by building adaptive capacity and resilience and focusing on medium- and long-term adaptation needs. While these policies serve different purposes, alignment between NDCs and NAPs can lead to greater policy coherence.

With 110 NDCs 3.0 submitted as of March 2026, covering 136 countries, a total of 74 per cent of Parties included climate change education measures, up from 64 per cent in NDC 2.0 submissions. 74 NDCs 3.0, or 67 per cent, included commitments in the education sector that specifically responded

to the needs of children. Most NDC actions focus on aspects such as updating curricula, making schools and educational institutions more low-carbon and climate-resilient, and providing training and resources for teachers and educators. Compared with NDC 2.0s, the focus on strengthening the resilience of the education system, thus minimizing education disruption in the face of climate-related shocks, was increased in NDCs 3.0.[42] There is still limited reflection on the significant impacts of climate change on children's education and learning over the short and long term.[43] In terms of the gendered impacts of climate change on education, there has been some progress in the NDCs 3.0, with multiple countries recognizing the potential impacts to girls' education. However, the level of ambition is far below where it needs to be to ensure the fulfilment of child rights.

NAPs show broader acknowledgment of education but limited integration into adaptation planning. Although nearly all (98 per cent) of NAPs reference education in some capacity and 73 per cent include specific commitments on pre-primary to secondary school levels, just 16 per cent of NAPs include priorities or actions that address the three components of a climate-resilient education system, and only 27 per cent include cost estimates for education-related priorities or actions.[44] Although 84 per cent include at least one education-related adaptation action, most focus narrowly on curriculum reform rather than on protecting schools or ensuring uninterrupted learning during climate shocks.[45] Box 1 includes examples of specific child-responsive education commitments in NDCs and NAPs.

BOX 1. Example language of education commitments in NDCs and NAPs

Mozambique (NAP): Priority actions include ... Resizing a resilient and green classroom model; Disaster risk reduction plans at school level (Emergency Basic School Plan), not only in schools but also through youth/children's clubs.

Zambia (NAP):

- Infant and child feeding at under-five clinics and School Health Nutrition in schools to address increased under nutrition or malnutrition from food shortages caused by floods.
- Develop access roads to social amenities such as clinics and schools based on climate-resilient infrastructure codes and standards to address loss of access to social amenities.
- Enhance designing and construction of climate-proofed infrastructure; Promotion of climate resilient infrastructure; Strengthen early warning system to address damage to infrastructure and buildings such as residentials, schools, health centres, etc.

Eritrea (NDC): Project: Efficient stoves, LPG stoves and biogas at rural farms. Benefit to children: Frees up times for children, especially girls, to attend schools and study time by reducing time for collection of fuel woods.

Kenya (NDC): Enhance climate education and awareness by integrating climate change education into the national curriculum, to ensure that youth and children are equipped with climate literacy and skills to drive climate action.

Somalia (NDC): Integrate climate literacy into school curricula and vocational training, emphasizing gender equity and disability inclusion ... Promote child participation and awareness by supporting climate education in schools and engaging children and youth in climate action and decision-making processes.

By systematically integrating education into climate finance and policy frameworks, countries can reduce the need to allocate scarce resources toward repeated recovery efforts and instead invest in measures that avert and minimize future climate-related loss and damage. This persistent gap locks education systems into recurring cycles of disruption and reconstruction, diverting resources away from quality improvements and long-term system strengthening toward emergency repair. Repeated disruptions also generate significant non-economic loss and damage, including learning loss, psychosocial distress and reduced future opportunities for children. National climate policy instruments, such as NDCs and NAPs, play a critical role in catalyzing investment and guiding implementation.[46] These frameworks should therefore clearly articulate how countries will protect education systems from climate-related loss and damage and strengthen learning continuity, enabling governments to align financing from multiple sources – including climate funds and private sector investment – toward sustained and risk-informed education investments that strengthen education systems and reduce future climate-related impacts. Such investments today can help break this cycle by safeguarding learning, reducing future fiscal pressures and protecting children's development on which long-term human development depends.

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