Policy Paper

# Promoting Climate-Sensitive Early Childhood Care and Education in Emergencies

Inter-agency
Network for Education
in Emergencies

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# Acronyms

**ACEs** — Adverse Childhood Events

**DRR** — Disaster Risk Reduction

**ECCE** — Early Childhood Care and Education

**ECD** — Early Childhood Development

**ECE** — Early Childhood Education

**EiE** — Education in Emergencies

**IDMC** — Internal Displacement Monitoring Centre

**INEE** — Inter-agency Network for Education in Emergencies

**SDG** — Sustainable Development Goal

**IPCC** — Intergovernmental Panel on Climate Change

**UNHCR** — United Nations High Commissioner for Refugees

**UNFCCC** — United Nations Framework Convention on Climate Change

*Key terms in this brief are defined in the INEE EiE Glossary, the UNHCR Master Glossary of Terms, and the IPCC Glossary.*

# Executive summary

Climate change events have affected around 85 percent of people around the world (Callaghan, M., et al, 2021). According to the World Health Organization (WHO), between 2030 and 2050, climate change will cause about 250,000 additional deaths per year from malnutrition, malaria, diarrhea and heat stress. The number of people displaced by extreme weather disasters has also increased over the past decade. In 2021 alone, disasters caused 23.7 million internal displacements; most were caused by weather-related hazards (IDMC & NRC, 2022). Children are among the most vulnerable to the effects of climate change. Nearly 1 billion children live in places and situations that make them highly vulnerable (UNICEF, 2021a). Climate change worsens the risks that children face, like malnutrition, limited access to healthcare, and experiencing violence and stress.

## Why focus on early childhood in the context of climate change?

Investing in Early Childhood Care and Education (ECCE) is crucial in building a sustainable future in the context of climate change. The early years of a child's life are critical for healthy growth and development, so investing in ECCE can have a positive effect on children's lives in many ways: economically, neurologically, in terms of human rights, skills development, care, and health. ECCE helps enhance society's adaptive capacity and develop more climate resilience. This enables children to become agents of change and lead their lives in ways that help sustain the planet. In the context of climate-related emergencies, investing in ECCE can help vulnerable populations to better manage climate shocks and damage. Failing to address climate change and the effect it has on the environment and biodiversity violates children's rights. Investing in ECCE is an opportunity to build a more resilient world with more equitable and more inclusive systems of care for people and the Earth.

# How climate change affects young children and their caregivers

Climate change severely impacts young children and their caregivers, especially if they live in crisis or emergency contexts. A disruption in any of the nurturing care components, including health, nutrition, responsive caregiving, early learning opportunities, and safety and security, can be detrimental to young children in the following ways:

**Health:** Young children are more susceptible to climate-sensitive diseases, toxins, and environmental hazards, and more vulnerable than adults to changes in temperatures. This puts them at a much higher risk for heat-related illness and death.

**Nutrition:** Children are more vulnerable to food scarcity than adults because they need more food per unit of body weight. Climate change affects children's food consumption by influencing local and global food availability, quality, and access.

**Responsive Caregiving:** Climate change increases the risk that children will be neglected physically or psychologically by caregivers. The interactions between children and their caregivers are one of the most important environmental factors that affect healthy brain development. Extreme weather events can put both caregivers and children at greater risk of trauma because of how it can affect responsive caregiving.

**Early Learning Opportunities:** Extreme weather events can shut down schools and other learning spaces for weeks, months, or even permanently when there is severe damage. Long-term hazards such as air pollution can also affect cognitive performance and absenteeism. Restricting access to clean, green play spaces and safe areas can discourage physical movement and social relationships.

**Safety and Security:** Climate change increases children's safety and security risks through factors such as food insecurity, water scarcity, and extreme weather events. Caregivers stressed by these issues may become more aggressive or violent. Children may also be at risk of exploitation, abuse, and neglect, especially if they are displaced by climate-related events. Adverse Childhood Experiences (ACEs)[1] can have long-term effects on children's health, development, and future risks like substance use, violence, and maternal health problems.

1 Adverse Childhood Experiences (ACEs) are stressful or traumatic events during childhood (like physical, emotional, and sexual abuse; neglect; household and community violence; being unhoused, and more). The more ACEs experienced, the greater the likelihood of these experiences interfering with a person's health, education, job opportunities, and earning potential throughout their lifetime, even potentially affecting future generations (Felitti et al., 1998; CDC, 2021).

# Opportunities for climate-sensitive ECCE in emergencies

Climate-sensitive ECCE programming considers climate-related risks and opportunities for design and delivery. Climate-sensitive ECCE can contribute to climate action in two ways: through climate mitigation and climate adaptation. The focus of climate adaptation is to build resilience to climate change events. The aim of climate mitigation is to create awareness of environmental impact and to reduce emissions. Both pathways can achieve climate resilience and systems transformation and focus on climate justice. Many climate-sensitive approaches to ECCE were not designed as such but rather as adaptable high-quality ECCE programs, including those developed in response to the COVID-19 pandemic. Some examples include:

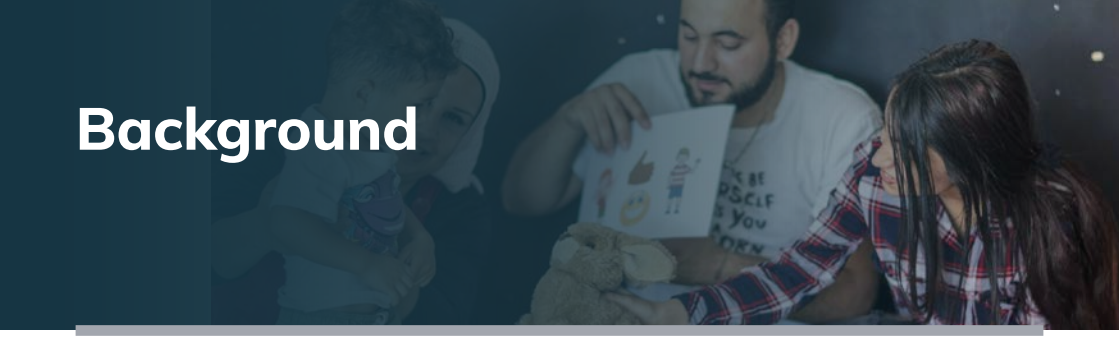
- **Preparedness and risk reduction:** Prioritizing Disaster Risk Reduction (DRR) programming for Early Childhood Care and Education (ECCE) is critical to ensure young children have access to safe and uninterrupted learning during crises. DRR in ECCE can include risk-proofing facilities, doing emergency drills, age-appropriate planning, and enhancing learning continuity measures. It is essential to work with relevant ministries to make sure that they include child-centered DRR in national policy.
- **Supporting the physical and emotional resilience of young children and their caregivers:** Young children's vulnerability to environmental disasters increases their susceptibility to injury and makes them even more dependent on adults for support. Supporting caregivers to offer responsive caregiving is critical. Caring for the caregiver is a vital part of building resilience in ECCE because parents usually stay with young children even when ECCE programs are forced to close or relocate.
- **High-quality, flexible ECCE delivery strategies:** High-quality ECCE programming offers young children a safe and stimulating environment. It can be climate-sensitive even if it does not include climate change content. Many existing ECCE programs incorporate DRR, offer in-person and remote learning opportunities, and support caregivers as children's first teachers. Technology and media can improve programs and make it possible for children to keep learning during disasters or crises.
- **Early education about climate change and the environment:** High-quality ECCE programs can help young children develop critical foundations for becoming agents of change. It can encourage curiosity, inquisitiveness, and understanding of cause and effect. These programs can also build confidence and encourage children to act, especially when the curriculum is developed and delivered by people from their community. This creates localized solutions and actions.
- **Engaging ECCE stakeholders in climate action:** Stakeholders in ECCE may not see themselves as climate activists, but they play a vital role in advocating for young children who are vulnerable to the impacts of climate change. Participating in climate conversations, such as the annual Conference of Parties (COP), can help give young children a voice in addressing climate change.

# Recommendations

To build critical thinking, environmentally conscious, and socially active future generations to address the climate crisis, it is essential to invest in climate-sensitive ECCE.

- National governments can fund actions to increase climate resilience, promote mainstreaming of climate-sensitive strategies in ECCE programming, mandate data collection and reporting, and incorporate child sensitivity in climate policies.
- Donors can prioritize funding for climate-sensitive ECCE in crises and ensure that mechanisms for climate financing target ECCE.
- Implementing organizations can integrate a climate lens in programs that are already being funded, empower local partners, and develop strategies to identify climate hazards and risks to ECCE systems.
- Civil society and local and national NGOs can lead local advocacy campaigns, work with local climate resilience experts, and develop climate-sensitive ECCE programs and supportive systems that align with broader climate mitigation and adaptation goals.

# Background



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Around 85 percent of the world's population has been affected by climate change events (Callaghan, M., et al, 2021). According to the World Health Organization (WHO), between 2030 and 2050, climate change is expected to cause about 250,000 additional deaths per year, from malnutrition, malaria, diarrhea and heat stress. UNICEF estimates that nearly 1 billion children (53 percent of children worldwide) live in contexts that are highly vulnerable to the extreme impacts of climate change (UNICEF, 2021a). Children born today will likely face, on average, 2-7 times more extreme weather and climate events (like heat waves, flooding, droughts, crop failures, and wildfires) than their grandparents (Save the Children, 2021).

In areas affected by crisis, children are even more vulnerable because they already face risks to their development resulting in high rates of malnutrition; limited access to health services; elevated levels of insecurity, violence, and stress; and other potential effects arising from socioeconomic adversity or extreme poverty. Climate change will most likely worsen their already precarious situation. As the climate crisis unfolds, more children will be pushed into crisis and emergency contexts.

Over the last ten years, around 20 million people per year have been internally displaced[2] by extreme weather disasters (Oxfam, 2019). The Internal Displacement Monitoring Centre (IDMC) reports that disasters caused 23.7 million internal displacements (from a total of 38 million movements) in 2021. Over 90 percent were the result of weather-related hazards such as storms and floods (IDMC & NRC, 2022). The number of extreme weather-related emergencies is increasing, and it is estimated that climate change will forcibly displace up to 86 million additional migrants in sub-Saharan Africa, 40 million in South Asia, and 17 million in Latin America by 2050, as agricultural conditions and water availability worsen across these regions (IEP, 2021).

Climate action often focuses on pressuring governments and companies to invest in solutions that reduce greenhouse gas emissions, such as investing in renewable energy and protecting forests and oceans. However, climate action must also address the cumulative effects of decades of industrialization, colonization, and environmental racism[3] on com-

2 The IDMC defines an "internal displacement" as each new forced movement of a person within the borders of their country that is recorded during the year. If a person flees three times in a year, it counts as three internal displacements but adds only one count to the total number of internally displaced persons (IDPs) if that person is still displaced at the end of the year. If the same person and others like them have returned to their homes by the end of the year, their initial displacement adds to the number of internal displacements, but not to the total number of IDPs.

3 Environmental racism is defined as "any policy, practice or directive that differentially affects or disadvantages (where intended or unintended) individuals, groups or communities based on race," (Bullard, 1993; Bullard 2003). It refers to how marginalized communities and low- and middle-income countries are disproportionately forced to bear the costs of pollution and environmental hazards.

munities worldwide. It must focus on the social and economic systems that enabled a small percentage of the population[4] to carry out the emission-intense activities that have led to the climate crisis. The face of the planet has been changed dramatically for profit, leaving the most vulnerable (and least to blame), including children, to experience the most devastating and destructive effects of these actions.

This brief examines how climate change impacts young children (from conception through age 8) affected by crisis and their caregivers' ability to provide nurturing care. It also explores how early childhood care and education (ECCE) in emergencies can contribute to climate change mitigation and adaptation. Guided by the research-backed Nurturing Care Framework, it underlines the importance of coordination across the five interrelated components of child development: good health, adequate nutrition, safety and security, early learning, and responsive caregiving.

A key message is that high-quality ECCE approaches — those providing safe, nurturing, and playful care and where children's physical, social, emotional, and cognitive development are promoted — are already contributing to climate change mitigation and adaptation, though this may not have been their intention.

For this reason, this brief uses examples and research on ECCE approaches from different settings and purposes.

This brief is written for the education in emergencies sector, but it is relevant to anyone who focuses on children's issues, as climate change affects child development in all contexts. The approaches in this brief can help education systems in non-emergency contexts to be more climate-ready and climate-resilient. Therefore, this brief outlines multisectoral ECCE interventions that can serve as solutions to broader climate change mitigation and adaptation goals. These actions look at long-term solutions that reduce children's exposure to climate change risks. The aim of these long-term solutions is to create new climate-adapted ways of thinking, being, and doing by focusing on care – for each other and for the Earth – and by building climate resilience among children and their supporting care systems.

This brief addresses a gap in climate change and education literature: young children who are affected by crises. Climate mitigation and adaptation efforts often exclude ECCE, especially in crises and emergencies. In this brief, crisis-impacted young children include young children in humanitarian settings for whom increasing climate change can worsen already precarious situations, and young children affected by emergencies, especially climate emergencies (e.g., drought, wildfires, flooding) even in the absence of an official humanitarian response. Across all these contexts, the brief focuses on low-resource (LMIC) countries, especially those affected by crises.

4 The world's top ten greenhouse gas emitters contribute over two-thirds of global emissions (Friedrich et al., 2021), and the top 1% has been responsible for 23% of the total emissions growth (Chancel, 2022).

# Why focus on early childhood in the context of climate change?

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*Supporting healthy development is a pathway to a different future: a pathway to a world that is more sustainable. When we help grow healthier children, we are building their resilience and adaptability to the changes they will inevitably see.* (Joan Lombardi, 2022)

The early years of children's lives are the most important for healthy growth and development. There are at least six overlapping arguments for why early childhood matters in the context of climate change:

- **Economics:** On average, every dollar spent on Early Childhood Education (ECE) produces US$9.25 in benefits. For disadvantaged children, the benefits are higher: an estimated US$17 per dollar invested (UNICEF et al., 2022). Studies also show that high-quality programs for young children and their caregivers produce returns of up to 13 percent per year through better education, health, legal, and economic outcomes. This is true even after subtracting the cost of the program (García, et al., 2016). Improving these social outcomes helps societies adapt better and improve their climate resilience. Educational outcomes, in particular, have been linked with positive climate outcomes (Angrist, 2023).
- **Neuroscience:** Children's brains grow and learn the most during the first few years of life. Their brains form more than one million new neural connections every second. Emergencies compound adverse experiences and put caregiving at risk. Not having consistent, responsive relationships and stimulation during the early years threatens children's healthy brain development and well-being (MMA, 2022). This worsens their vulnerability and lowers their ability to adapt to climate threats.
- **Human rights:** Nations have recognized the importance of the early years and come together to make global agreements to support young children's development and learning (SDG 4.2). The UN Convention on the Rights of the Child (CRC) recognizes and reaffirms the right of children to live in a decent environment. That includes enjoying good health, accessing nutritious food, and living in safety. The Child Rights Committee has also ruled that "a State party can be held responsible for the negative impact of its carbon emissions on the rights of children both within and outside its territory" (OHCHR, 2021). Not addressing the climate crisis and the devastating impact it has on the environment and biodiversity infringes on children's rights.

- **Skills:** Early childhood is when children develop foundational skills in cognitive, language, and social-emotional learning. ECCE can be a powerful equalizer in skill development. Climate change can negatively impact the development of foundational skills like executive functioning, which are key to later educational success (Pazos et al., 2023). Empowering children with skills that enable a green transformation is an important step toward helping them to become agents of change (Kwauk & Casey, 2021). As children start to learn about how the world works, there is an opportunity to reinforce ways of living that help sustain the planet.
- **Care:** Climate change exacerbates inequalities in life and work. ECCE programs can be transformative in the green economy, not only by "greening" childcare center infrastructure but also by looking critically at practices and ensuring they care and nurture for both the human and natural communities that sustain ECCE.
- **Health:** Young children are physically more vulnerable to the effects of climate change as their organs and immune system are still forming and, therefore, much more susceptible to pollution, toxins, and chemicals. Climate change can also lead to a lack of adequate water, nutrition, and care. It can also make them more vulnerable to different diseases (e.g., insect-borne or water-borne diseases), thus increasing children's stress levels, exposure to climate-related illnesses and creating health inequalities that have long-term effects on their brains, organs, and immune systems (Climate Change, Part II, 2019).

Educationalists, economists, neuroscientists, human rights advocates, and caregivers agree that one of the smartest investments societies can make is in the youngest children. However, ECCE as a key dimension of climate action is often not prioritized and rarely coordinated, especially in crisis settings. Investments in these early years are instrumental in constructing the social and physical infrastructure that could help vulnerable populations deal better with climate shocks and damages. Rather than only viewing young children as a vulnerable population that needs help, education and climate sectors should understand that early childhood is the key to building a more resilient world with more equitable and inclusive systems for caring for each other and the Earth.

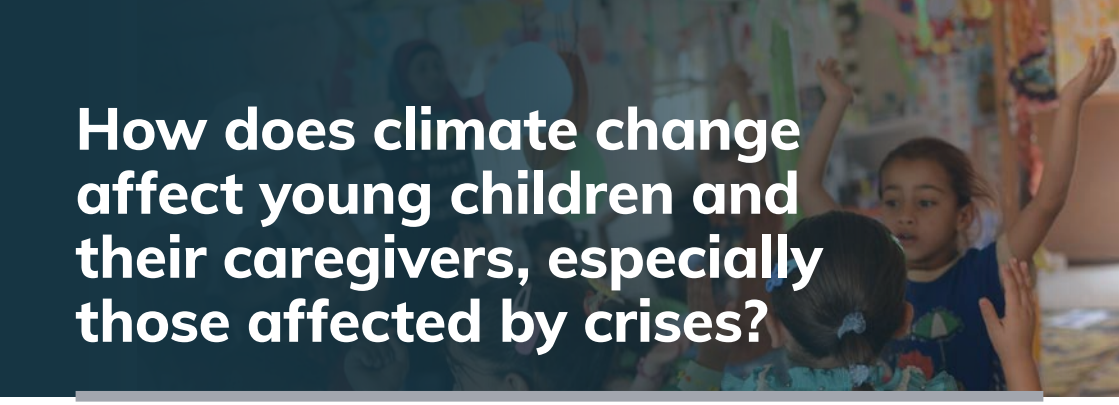
# Context of climate-related emergencies

Climate-related emergencies can be sudden-onset (e.g., typhoons, earthquakes, floods), slow-onset (e.g., drought), or protracted (e.g., when a significant part of the population sees their livelihood disrupted for a long time and is highly vulnerable and dependent on humanitarian assistance).

Slow-onset emergencies and protracted crises may result from a convergence of factors or events, making it difficult to determine their cause. Climate change may trigger conflicts over land, water, or natural resources, worsening existing political unrest or violent conflict in the region. War and conflict can also have a devastating effect on the environment, destroying lands and livestock. All of this can worsen the effects of extreme weather events, because conflict-related environmental destruction may reduce the natural capacity of humans and the environment to absorb climate stressors and shocks.

The overlapping causes of climate-related emergencies make it difficult to fully understand the dimension of climate change effects — and its underlying role — and hinders society's ability to act quickly (INEE, 2022). This lack of understanding and action is especially true when it comes to how climate affects young children because they are often statistically invisible. Frequently, data does not include information on their age, sex, origin, or geographic situation, making it difficult to estimate the number of young children who are uprooted and how climate change contributes to their displacement. Young children are not a uniform homogenous group, even though that is how they are often portrayed. Some children, including girls, children with disabilities, and Indigenous children, experience compounding vulnerabilities, leaving them disproportionately vulnerable to the effects of climate change (UNICEF et al., 2021).

# How does climate change affect young children and their caregivers, especially those affected by crises?



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The following sections use the Nurturing Care Framework to identify some of the effects that climate change can have on young children. These nurturing care components are all linked to each other. Disrupting any one of them (health, nutrition, safety and security, early learning, and responsive caregiving) can be severely detrimental to a young child. This is especially true for young children in crisis and emergency contexts who already face many challenges impacting their cognitive, physical, and socioemotional development. Climate change exacerbates these challenges.

## Good Health

Young children's bodies are more susceptible to climate-sensitive diseases, toxins, and environmental hazards. They are more vulnerable than adults to changes in temperatures and are less able to regulate body temperature in heatwaves. This puts them at much higher risk for heat-related illness and death, especially if they live in low-resource settings without access to running water, electricity, or methods to artificially cool themselves in extreme heat (UNICEF, 2021a). They also need more water (by weight) than adults, which increases their exposure to water-borne pathogens (Ghani et al., 2017). UNICEF estimates that over 700 children under the age of five die every day from diarrhea caused by unsafe water, sanitation, and poor hygiene (UNICEF, 2021b). Children under five bear nearly 90 percent of the global burden of disease associated with climate change (UNICEF, 2021a).

A changing climate contributes to changes in mosquito and other disease-carrying species, and young children are more susceptible to debilitating mosquito-borne diseases like malaria and dengue. Children under the age of five accounted for 67 percent of global malaria deaths in 2019 (UNICEF, 2021a). Young children also have higher breathing and oral inhaling rates, so they breathe more polluted air, which can set off respiratory infections (Anwar et al., 2021). Newborn babies, in particular, need to take in more air to survive, and they breathe more through their mouths, bypassing the nasal filter and permitting the entry of a large number and variety of pollutants in their lower airways (Anwar et al., 2019).

## Adequate Nutrition

Children are more vulnerable to food scarcity than adults because they need more food per unit of body weight (Save the Children, 2021; ARNEC, 2022). Climate change affects children's food consumption because it influences food availability (production, storage), quality (nutritional value and food safety), and access (market policies and prices).

Seasonal food scarcity and climate shocks (such as droughts) create short-term malnutrition (including undernutrition), morbidity, and mortality in vulnerable populations (Ghani et al., 2017).

Malnutrition caused by the effects of weather-related disasters and extreme weather conditions makes it more difficult for children to concentrate and stunts their neurological development, which hinders their learning ability (Sims, 2021). An economic analysis of the costs of malnutrition and its impacts in Pakistan estimated that stunting, anemia, and iodine deficiencies in children translated into deficits in mental and physical development, and this led to lower school performance and lower productivity in adults, costing the country US$3.7 billion annually (WFP, 2017).

## Responsive caregiving

Healthy, responsive relationships with caregivers can shape the architecture of a young child's brain, laying a solid foundation for long-term physical and mental health (The Science of Early Childhood Development, 2007). Research shows that interactions between children and their caregivers have important effects on healthy brain development during the early years, especially the stimulation and interaction that occurs during the first 1000 days of a child's life (ARNEC, 2022).

Climate change puts children at risk of neglect because it affects both the physical care and psychological nurturing that caregivers can provide children. Young children depend completely on their caregivers for their health, nutrition, safety, and stimulation. They also require specific attention to their emotional needs during emergency situations, especially if they cannot express them with words. However, caregiving becomes difficult when caregivers are stressed and worried about survival. This is especially true for people facing the instability that comes with displacement. Caregivers are usually women, and research has shown that women are themselves, along with children, more vulnerable to the effects of crises (Cuartas et al., 2020). Poor caregiver mental health is also associated with adverse childhood outcomes, including low birth weight, prematurity, developmental delays, and a variety of health problems later in life (Zhang et al., 2018; Abimana et al., 2020; Spry et al., 2020, as cited in Moving Minds Alliance, 2022).

Climate change causes more frequent extreme weather events, which increases the risk of trauma for caregivers and children and the disruption of responsive caregiving. Trauma affects how children and caregivers relate to, interpret, and respond to the world around them (Moore et al., 2007, as cited in ARNEC, 2022). Sustained trauma over time, such as unstable home environments or frequent experiences of violence, can result in childhood toxic stress. Toxic stress can impair school readiness, academic achievement, and physical and mental health throughout the lifespan (ARNEC, 2022). Climate change is a major source of trauma and toxic stress. This includes the destruction that sudden-onset events like super typhoons cause, and the disruptions that come with slow-onset events like famine-inducing drought.

## Opportunities for early learning

While data on the effect that climate has on early learning are scarce, it is estimated that the education of around 38 million children is disrupted each year by the climate crisis (Save the Children, n.d.). Extreme weather events can shut down schools and other learning spaces for weeks, months, or even permanently if there is severe damage.

For instance, in Zimbabwe, drought-affected households delayed the start of school for children by 3.7 months on average, so children completed 0.4 fewer grades. In Côte d'Ivoire, droughts caused school enrollment rates to decline by 20%. Similar effects have been seen across the African continent, as well as in Asia and Latin America (Hallegatte et al., 2015). In Bangladesh in 2021, over 500 schools and other learning places in ten districts were flooded, leading to long-time school closures. Thousands of families that lived in rural areas moved to informal settlements in Dhaka. This puts young children at risk of becoming child laborers and not returning to school (Hossain, 2022).

The immediate effects of climate change and the long-term hazards both affect early learning opportunities. Increased exposure to air pollution can affect children's cognitive performance and lead to illness-related absenteeism, fatigue, and attention problems (Miller and Vela, 2014; Wang et al., 2009). Climate change can affect early learning opportunities by restricting access to clean, green, protective play spaces. This prevents children from exercising and limits the development of social relationships with other children and caregivers through active play (ARNEC, 2022).

## Safety and security

Climate change puts children at greater safety and security risks. Caregivers who are stressed from hunger, food access, and financial strain are at risk of increased aggression and physical violence. Food insecurity can also worsen conflict in the region and place children at risk of child marriage, child labor, or other types of exploitation and abuse. Water scarcity also makes children vulnerable to violence because it exposes them to unsafe environments while they search for water with or for their families.

Disasters can separate children from their parents or primary caregivers. This makes children vulnerable to exploitation, abuse, and neglect. Populations can be displaced when a community or region is exposed to severe or repeated extreme weather events. Children and families who migrate are at risk of abduction and trafficking. They are often just as exposed to hazards and extreme weather events in new locations, but with fewer resources and support structures to manage the effects (Save the Children, 2021).

Adverse Childhood Experiences (ACEs) can affect a child's physical health, mental health, cognitive development, and socioemotional skills. ACEs also impact the risks children face in adolescence and adulthood, including the risk of injury, substance use, violence, behavioral challenges, and maternal health problems (including teen pregnancy, pregnancy complications, and fetal death) (Felitti et al., 1998; CDC, 2021).

In summary, climate change has an excessive impact on young children, especially those already affected by conflict, crisis, or other forms of adversity. There is overwhelming evidence that early childhood is a critical period of growth, and that investing in young children has numerous benefits, but young children in emergencies remain excluded from mainstream conversations on climate change. In the next section, we identify five opportunities where young children and their families can be prioritized in the contexts of crisis and climate change.

# Opportunities for climate-sensitive ECCE in emergencies

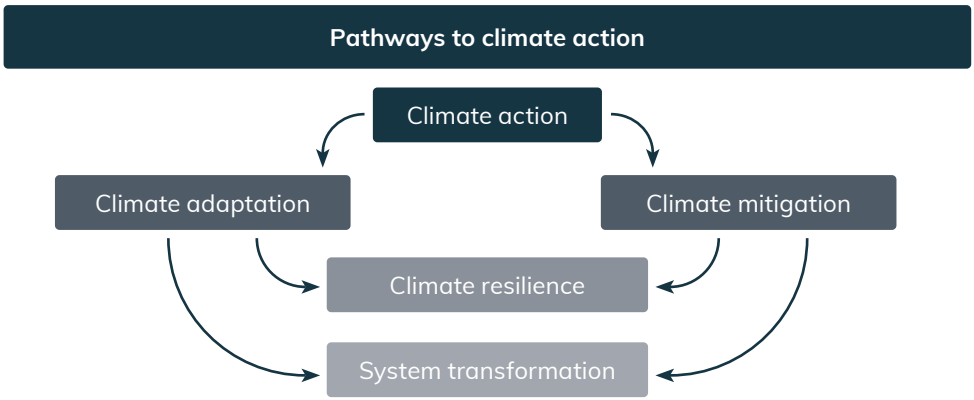


Young children affected by crises are among the most vulnerable people in the climate crisis. But they are resilient if they get the support they need. There is an opportunity to shift the focus on young children from "most vulnerable to most valuable" (ARNEC, 2022) through climate-sensitive ECCE programming[5] in emergencies. Approaches to integrating climate change actions and ECCE in emergencies include:

- Offering climate-informed and climate-resilient ECCE programming and systems
- Offering ECCE services in climate-related emergencies
- Teaching young children and their caregivers about climate change and the natural environment in ways that are age-appropriate and empowering

Building on the education for climate action literature (Anderson, 2012; Kwauk & Casey, 2021), this section connects each ECCE approach with a type of climate action. Using climate change terminology that has been adapted to the ECCE field can help create awareness between both sectors to highlight promising approaches and point out gaps in programming.

There are two interrelated climate action pathways through which ECCE can engage: climate mitigation and climate adaptation. For each, there are activities at the individual and system levels (adapted from Anderson, 2012):




5 Climate-sensitive ECCE programming: ECCE programming that considers climate-related risks and opportunities for design and delivery.

- ECCE for **climate adaptation** focuses on reducing the effects that climate change has on young children by improving children's, caregivers', and education stakeholders' understanding of the consequences of climate change, taking action to build resilience to the effects of climate change, and learning how to adapt in response to climate change events. By extension, it is also about ensuring ECCE systems take action to build resilience and adapt to climate change.
- ECCE for **climate mitigation** focuses on teaching young children to appreciate and be aware of the natural environment so they can understand how their actions affect the natural world. This sets the foundation to empower them to become agents of change for climate action as they grow older. Climate mitigation is also about ensuring ECCE systems engage in activities that promote biodiversity and natural ecosystems and do not contribute to further emissions.

Both of pathways can also help to achieve climate resilience and systems transformation. ECCE for climate mitigation and adaptation can help to **create climate resilience** by strengthening the ability of learners and their communities to withstand and bounce back from climate-related shocks and disruptions. ECCE that achieves **systems transformation** is driven by its attention to climate justice and focuses on addressing underlying root causes of climate vulnerability. These causes include: gender inequality that make female caregivers more vulnerable to climate-related shocks, and structural inequities which can limit how young children and their families access natural resources (by destroying nearby natural resources or heightening their exposure to environmental pollutants, etc.).

Many climate-sensitive approaches to ECCE were not designed as such, but rather simply as high-quality, adaptable ECCE. This is especially true for programming developed in response to the COVID-19 pandemic, which adapted when in-person ECCE programming was impossible. In a review of literature and interviews with key stakeholders, we identified five main categories of climate-sensitive ECCE approaches to meet the needs of young children who are affected by crises. Within these categories, there are promising examples from crisis contexts and other low-resource settings. In some cases, the examples were not designed for young children or climate emergencies, but could be adapted.

# Approach #1: Preparedness and risk reduction

> *Disasters can deprive children of their right to an education, lower educational outcomes, undermine children's mental health and well-being and reduce their lifelong learning potential.*
> (UNICEF DRR in Action, 2019, p. 19)

The first approach concerns the safety and security of young children, caregivers, and ECCE program staff and infrastructure. Ensuring young children are safe, prepared, and able to access ECCE in times of crisis is critical for them, their families, and society (UNICEF, 2019a). Disaster Risk Reduction (DRR) programming for ECCE is underprioritized. It can include:

- Risk-proofing learning facilities
- Doing emergency drills
- Planning age-appropriate activities and interventions
- Risk mapping and localizing disaster curricula
- Enhancing learning continuity measures, including through technology
- Organizing learning recovery after ECCE programs have been disrupted

It is essential to work with ministries of education and other ministries serving young children to ensure child-centered DRR is ensconced in policy and that the youngest children are included.

**Examples:**

**Preschool as an entry point for DRR (climate adaptation and resilience)**

On the rural island of Sumba, Indonesia, ChildFund International and Sumba Integrated Development designed and implemented a DRR-ECD intervention to provide preschool children and teachers with information and resources to help them mitigate and respond appropriately to disasters that occur on the island (earthquakes, floods, and landslides). The intervention included:

- First-aid kits
- One-time renovations to improve the safety of preschool buildings and provide first-aid kits
- A series of DRR training workshops for preschool teachers focusing on disaster mitigation, preparedness, and response
- Community awareness activities to help preschool children, parents, and teachers identify disaster risks and evacuation routes

Preschool teachers were taught how to integrate DRR-related themes and topics into the daily preschool lesson plans through stories about play areas that were at risk of landslides and flooding (like under trees, close to rivers), emergency drills,

and nature and art activities that focused on DRR, such as creating of seasonal calendars to identify the months of the year where storms are most likely to occur.

The DRR-ECD intervention had a positive impact on the overall quality of the preschool environment, and adult-child interactions were significantly improved in the DRR-ECD preschools than in the comparison preschools. The intervention also showed strong effects on improving children's communication (speaking and oral math) and socioemotional skills (Proulx & Aboud, 2019).

### DRR in national education strategies (climate adaptation)

In Albania, UNICEF provided technical advice on DRR and climate resilience to inform national school curricula and the National Strategy of Education 2021-2026. In 2020, they provided teachers and school personnel who had child-centered DRR and climate training to ten schools, including how to set up DRR commissions in schools and develop school emergency plans during the COVID-19 response. UNICEF trained 600 school psychologists and social workers to work with children affected by disaster-induced trauma. UNICEF also provided educational support to nearly 403,000 children and young people in 2,100 schools using awareness materials and safety kits.

In Vietnam, the Ministry of Education and Training, in partnership with UNESCO, has produced an Assessment and Preparedness Toolkit to provide a framework for schools and communities to reduce vulnerabilities and risks by improving their ability to develop short- and long-term responses to natural hazards and climate change. The toolkit includes:

- Guidelines for developing school assessment tools and school preparedness plans
- Guidance to develop, test, and disseminate hazard-specific school protocols (for example, typhoons, floods, tsunamis, landslides, lightning safety, and more)
- Activities for students to promote family disaster preparedness at home with their families and neighbors
- Activities for teachers that can be expanded or adjusted to the grade level and conditions of their class to help develop and reinforce knowledge, skills, and attitudes in students in relation to hazards or emergency situations (UNESCO & MOET, 2016)

### Non-formal climate change education (climate adaptation and resilience)

In Bangladesh, low-lying areas near riverbanks are prone to flooding during the monsoon season. In response, the government offers swimming lessons to childcare facilities in Dhaka and rural areas to reduce child drownings. Although this may not be climate change education or education for sustainable development in the traditional sense, it is an example of using education to teach lifesaving skills in response to local climate conditions.

# Approach #2: Supporting the physical and emotional resilience of young children and their caregivers

*Caregiver and child mental health and well-being are inextricably linked, especially in the early years when the child grows most rapidly.*
(Moving Minds Alliance and MPHSS Collaborative, 2022, p. 2)

Because young children are susceptible to injury and dependent on adults for lifesaving, livelihood, decision-making, and emotional support, they are more vulnerable to environmental disasters. Supporting caregivers to provide responsive caregiving for young children is critical in any context. When young children and their families face crisis or disaster, it is even more important that parents and caregivers provide a stable, secure environment for children's development. However, it becomes more challenging to create this environment when caregivers have experienced adversity themselves. Caring for the caregiver is an important way to build resilience in ECCE, as parents typically stay with young children even when ECCE programs have to close or relocate.

**Examples:**

### Kenya "smart village" prioritizes teen mothers (climate resilience)

In the Masai community in Olebelbel, Kenya, the community lost 96% of its cattle and endured five seasons with no harvest because of drought. Kenyan gender and education expert Joyce Kinyanjui, who has been working with the community for decades, wanted to help. She started by listening to a group of 17 pregnant teenage girls about their needs and dreams for the future. Through grassroots advocacy and income-generating activities with the community, they have secured donations of land and office space from the local government. They are working with teen mothers to build a "smart village" using renewable energy and sustainable income generation. Through the Enkakenya Sidai ("New Dawn'' in Maasai) initiative, mothers and fathers affected by climate change learn responsive caregiving, health, nutrition, and income-generating activities.

### Baytna trauma-sensitive early care and development (climate resilience)

Baytna means "our home" in Arabic. It is the flagship program of Amna. It provides emotional support and trauma-sensitive early childhood care and development to families with children ages 0-6. Baytna centers are refugee-led and use play-based learning to mitigate the impact of trauma on young children and their caregivers. Children participating in Baytna show improvements in reaching developmental milestones, social-emotional development, and have stronger relationships with their caregivers. The success of Baytna programs led Amna to develop "Baytna hubs" to fund, train, and support local organizations to deliver the model at a larger scale. Baytna provides safe spaces, psychological support, a sense of community, space for respite, and support for caregivers and young children, which are important in a climate emergency.

# Approach #3: High-quality, flexible ECCE delivery strategies

High-quality ECCE programming, where young children experience a safe and stimulating environment and positive relationships with teachers and other children, can be a climate-sensitive strategy regardless of whether climate change content is introduced. Many existing ECCE programs can be considered climate-sensitive due to their flexibility in offering in-person and remote learning opportunities, incorporation of DRR, and support to caregivers as children's first teachers. Technology and media can improve ECCE programs and create continuity when a disaster or crisis disrupts services.

**Examples:**

### Using alternative education modalities (climate adaptation)

Every year during the rainy season in Bangladesh, hundreds of rivers swell and overflow onto neighboring lands, forcing schools to close. Shidhulai Swanirvar Sangstha allows primary school children in flood-prone regions to continue their education, especially young girls who may not be allowed to travel long distances to attend school. They use solar-powered school boats as school buses that collect the children from riverside stops before docking and beginning class. The curriculum includes river-based environmental education that teaches children how to protect the environment and conserve water (Shidhulai Swanirvar Sangstha, n.d.). This type of programming provides an adaptable model for ECCE.

### Harnessing technology and mass media (climate adaptation)

The Play to Learn and Ahlan Simsim projects, implemented by Sesame Workshop, BRAC, IRC, the LEGO Foundation, and others, aim to make comprehensive early childhood development services a part of every humanitarian response. Given the challenges of in-person service delivery in crisis contexts, even before the COVID-19 pandemic, these initiatives found innovative ways to reach children and families affected by crises in Bangladesh, Jordan, Lebanon, Uganda, Colombia, and Kenya. The programming includes:

- Mass educational media content with engaging characters broadcast on YouTube and local television channels
- Interactive voice response (IVR) calls to caregivers
- Remote/in-person hybrid models
- Constant updates and improvements

These approaches make it possible for learning and socioemotional support to continue even when there are disruptions, including ones related to climate change. This is a climate adaptation strategy for facilitating early learning and responsive caregiving.

# Approach #4: Early education about climate change and the environment

High-quality ECCE programs where young children learn to view the world with curiosity and inquisitiveness can help build the foundations to becoming agents of change. They can provide opportunities for young children to understand cause and effect and build their confidence and willingness to act. When the curriculum is developed and delivered by people from the community, this learning can help create solutions and actions that are highly localized.

**Examples:**

### Fostering a passion for conserving nature from an early age (climate mitigation and adaptation)

The Sabine Plattner African Charities (SPAC)'s *Early Childhood Development* program integrates conservation education through hands-on and age-appropriate activities that encourage children to be mindful of the environment. This develops a sense of environmental responsibility from an early age. It supports conservation around the Odzala-Kokoua National Park by teaching children to appreciate the wildlife that shares their forests. It also teaches fundamental literacy and numeracy skills through play and song. The program operates in five satellite community centers established in remote villages bordering Odzala-Kokoua National Park, and in two mobile classrooms to reach Indigenous communities.

SPAC's *EduConservation* is a pan-African educational project that focuses on including Africa-centric conservation resources to enrich and supplement the curricula of the formal education systems. It develops educational content that is relevant, country-specific, supportive, and that fits the existing curriculum. Beginning in early childhood, it takes a lifespan approach by continuing with children during their development, nurturing positive attitudes toward conservation into adulthood.

### Green ECCE spaces in Addis Ababa (climate mitigation and adaptation)

*The Children: The Future Hope of Addis Ababa Early Childhood Development Initiative* in Ethiopia is investing in revitalizing existing urban spaces to create green areas that are safe for children to play and spend time in. Planting trees and seedlings to offer shade and contact with nature for toddlers walking with their caregivers helps reduce the impact that climate change has on local communities (Abay, 2021).

# Approach #5: Engaging ECCE stakeholders in climate action

Stakeholders working in ECCE often do not see themselves as climate activists, but they can be. Climate change affects young children, who cannot advocate for themselves, so adults must be engaged in climate conversations on their behalf. The EiE/ECDiE community's participation at the COP 28 education day in November 2023, for example, can help give young children a voice in the climate conversation.

**Example:**

**Practical strategies to make education more climate-resilient (climate mitigation, adaptation, and resilience)**

Save the Children's Climate Resilient Programming in Education (CRPE) tool provides people working at all levels in formal and non-formal education a practical way to make their education programming more climate-resilient through the integration of climate mitigation and climate adaptation considerations. The tool entails the application of four different but interconnected layers of analysis (Education Action Areas, Climate Resilience Pathways, Climate Justice Scale, and Programming Stages) to evaluate and design climate-resilient education programming. The goal is to promote education programming that is more comprehensive, holistic, and collaborative to identify, prepare for, and adapt to climate threats and recover from climate impacts.

# Addressing the Gaps:
## Why aren't climate-sensitive approaches to ECCE more widely used?

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> *"A lot of times, I think people are like, well, that's not climate change, it's a drought, or that's not climate change, it's a conflict [or] it's a flood, etc. And so, they can't see the big picture. But that's the thing about climate change--it's not one thing, so you don't have one approach."*
> (Key informant, January 2023)

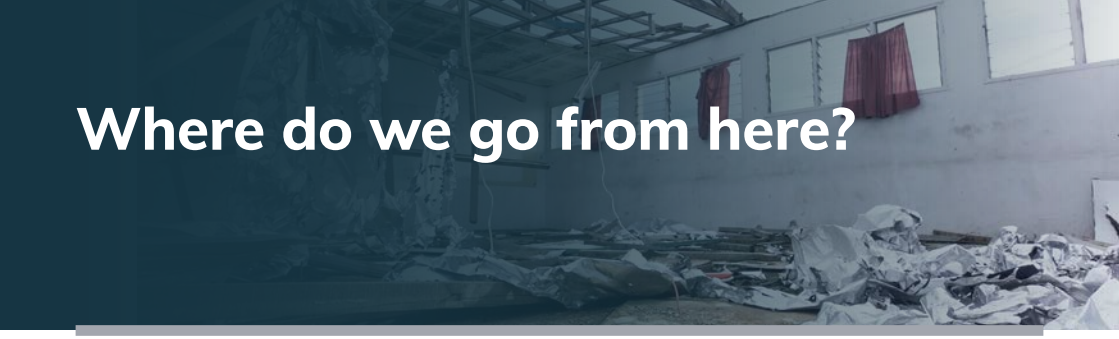
ECCE providers and researchers can play a critical role in collecting evidence about how changes in the environment affect young children. This would support proper planning and adaptation of quality ECCE interventions, enhancing stakeholders' capacity to understand the needs of young children and their caregivers, and to allocate adequate funding needed to meet those needs (Lombardi et al, 2022).

It is critical to have data to monitor the global progress of climate-sensitive approaches to ECCE. Yet, as previously mentioned, the multicausality of the climate crisis, the lack of disaggregated data regarding young children, and the labeling of children as a homogenous group undermine the ability to quantify the needs and design appropriate programming.

In addition, while many Education Sector Development Plans and National Education Policies mention climate change, they often do not offer strategies or resources for implementation nor include specific objectives or targets that can be measured. The references are often superficial and only focus on climate awareness raising. They do not consider the education sector's urgent climate adaptation needs (Fitzpatrick & West, 2022). UNESCO analyzed country progress on climate change education, training, and public awareness, and found that 95% of the 194 reporting countries have included some climate change education content in one or more of their recent country submissions to the United National Framework Convention on Climate Change (UNFCCC) Secretariat. However, only 30% of country submissions (112 documents of 368) included any numerical (quantitative) data related to climate change education (UNESCO, 2019). Of these 112 documents, 22% included quantitative data on different approaches to climate change education (nearly half focused on 'public awareness'). Only 2% of country submissions (6 out of 368) included quantitative data on types of climate change responses.

Even countries that have integrated environmental or climate topics in their education systems often have climate-related policies that are not linked to education (Kwauk, 2022). This can be because Ministries of Environment may lack evidence about the vulnerabilities of the education sector with respect to climate change and evidence about the education sector's potential contributions to climate solutions (UNICEF, 2019a; GCA, 2022).

# Where do we go from here?



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> *"The scope of children who are going to be displaced by climate and going to have adverse effects is going to grow by orders of magnitude in our lifetime."*
> (Key informant, January 2023)

As the climate crisis unfolds, more children will be pushed into crisis and emergency contexts. They will grow up to be tomorrow's population of adults who may not reach their full potential because of this generation's overreliance on investments in short-term technical solutions. Focusing on long-term investments in young children in crisis and emergency contexts is, therefore, an investment in the climate-resilience and climate-adapted human capital of future generations to deal with the climate crisis. If we want a generation of critical thinkers who are environmentally conscious, socially active, and able to address the climate crisis, we need to start investing in children being born today.

Climate-sensitive ECCE requires a multifaceted approach complemented by formal, non-formal, and informal educational pathways. These pathways must integrate mitigation and adaptation strategies to build climate resilience and change systems in transformative ways. Based on the opportunities and gaps identified in this brief, there is a need for governments, donors, implementing organizations, civil society and local and national NGOs, and advocacy and communications teams to orient their approaches toward climate-sensitive ECCE. The recommendations below are starting points for action, realizing that a larger effort to build consensus and collective action will help the field move forward faster.

**National governments can:**

- Fund actions to increase the climate resilience of ECCE and related sectors (health, energy, water, etc.), including but not limited to setting up early warning systems, climate-proofing existing ECCE-related systems and infrastructure, and preparing alternative delivery methods.
- Encourage the mainstreaming of climate-sensitive strategies in ECCE programming, especially in emergency and emergency-prone settings. This could include reviewing existing ECCE standards and guidelines for climate sensitivity, incorporating climate-sensitive indicators in quality assurance systems, or updating teacher professional development to include climate-sensitive education and training.

- Mandate the collection of and reporting on age-, gender-, ability- and geographic-disaggregated data to track climate change risks, especially at the subnational level and especially in crisis settings, and to monitor the effects of climate change on ECCE systems.
- Incorporate child sensitivity in climate policies. In an analysis of countries' Nationally Determined Contributions (NDCs), UNICEF found that only 34% of 103 countries have strategies that are child-sensitive (UNICEF, 2021c). Child-sensitive approaches should be integrated in both national and sub-national climate and environment policies and plans, including National Adaptation Plans (NAPs); disaster risk reduction (DRR) policies; climate-resilient water, sanitation and hygiene (WASH) guidelines; air pollution protocols; climate finance proposals; and country-specific strategies on children, adolescents, youth, gender, disability, education, health, nutrition, and sustainable energy.

**Child-sensitive policies:**

- Explicitly **reference** children and young people;
- Are **rights-based**. They consider children and young people as rights holders;
- Are **holistic and multisectoral**. They address the specific risks and vulnerabilities of children and young people. This includes child-sensitive commitments in multiple sectors, such as education, health, water, sanitation, food security and nutrition, energy, social protection, disaster risk reduction (DRR) and information systems; and
- Are **inclusive**. They identify children and young people as important stakeholders and ensure inclusiveness.

Source: (UNICEF, 2019b)

**Donors in all sectors related to young children and families can:**

- Prioritize and fund ECCE in crisis contexts, particularly climate-sensitive ECCE in climate-related crises. Globally, early childhood education funding accounts for just over 3% of all development assistance going to crisis-affected countries and only 2% of humanitarian assistance.[6] Of these funds, 95% goes to health and nutrition interventions leaving education, child protection, and WASH severely underfunded (Seek Development, 2020).
- Fund ethically-conducted research to better understand the relationship between quality ECCE and improved outcomes in climate resilience and adaptive capacity.
- Ensure climate financing mechanisms, including the Global Environment Facility, the Green Climate Fund, and the Adaptation Fund, target ECCE as an essential climate adaptation strategy that needs resources so climate resilience can be improved, especially for households with young children living in emergency settings.

6 Humanitarian assistance is short-term aid designed to save lives and alleviate suffering during and immediately after emergencies. Development assistance is longer-term aid that responds to ongoing structural issues, particularly systemic poverty, that may hinder economic, institutional, and social development in any given society, and assists in building capacity to ensure resilient communities and sustainable livelihoods (Humanitarian Coalition, n.d.).

**Implementing organizations can:**

- Build connections between ECCE and education in emergencies, creating space for knowledge and practices sharing across diverse geographic contexts that can be applied to or adapted for climate-affected and climate-vulnerable contexts.
- Integrate a climate lens in programs that are already being funded that serve young children, especially the better-funded health and nutrition programs. Build out protection interventions, responsive caregiving support, and early learning opportunities to increase coverage for young children and caregivers, especially in emergency settings (MMA, 2020).
- Listen to and empower local partners and build on existing local systems when designing climate-sensitive ECCE programming. Community organizations and local NGOs already have ties to the community, including a range of resources and expertise. They are the first to respond to emergencies, and they continue their work after international attention shifts and focuses on a new crisis.
- Develop strategies for identifying climate hazards and risks to ECCE systems, and develop tools for collaborating with local partners, including local NGOs and civil society, to identify locally-relevant climate mitigation and adaptation solutions that build climate resilience and transformative systems change, especially for young children and their caregivers in emergency settings.
- Lead by example and disclose their carbon emissions.

**Civil society and local and national NGOs can:**

- Lead local advocacy campaigns to ensure young children and their caregivers affected by crises are included in climate preparedness/action plans.
- Work with local climate resilience experts, identify local climate hazards and climate risks and design climate-sensitive ECCE programs and supportive systems that align with broader climate mitigation and adaptation goals. Programs may include developing teaching and learning materials, pamphlets, or public service announcements that build climate awareness, knowledge, and skills in caregivers and ECCE providers, especially in emergencies.
- Consider all the spheres that support the child's development as an integral approach to incorporating climate considerations in ECCE in crisis settings. These include children's natural environment, family, caregivers and support networks, and specific cognitive, physical, and socioemotional needs.

**Researchers can:**

- Conduct more longitudinal research and integrated systems analysis to better understand the relationship between quality ECCE and improved outcomes in climate resilience and adaptive capacity, both at the individual and national levels. Key research questions may include:

- **How does climate affect the youngest children's learning and development?** The 0 to 3 age group is under-addressed and underfunded; their needs are different from those of children of pre-primary age. More data is needed, including a greater understanding of the home environment.
- **What works in DRRE for young children?** In a literature review on Disaster Risk Reduction Education (DRRE), Amri et al. (2018) found that less than one percent of the research on DRRE focused on children under six years old.
- **What are the overall economic costs of climate change on ECCE?** A systemic framework needs to be developed to quantify and assess the overall economic costs of climate change on ECCE. Post-disaster needs assessments focus on the direct effects of climate change, like physical losses of infrastructure and learning materials. An analytical approach is needed to assess the potential additional losses in education and learning that incur indirectly through the effects of climate change and related environmental changes, such as on food security and nutrition, water, livelihoods, air pollution, stress, health, and energy.

- Develop indicators of climate-relevant outcomes in ECCE.

**ECCE advocacy and communications teams can:**

- Develop common messages about the links between ECCE, climate change, and conflict settings that extend beyond caring for young children because they are particularly vulnerable. They can also focus on young children's future contributions to making human society more climate-resilient and adaptive and to tackling long-term solutions to the climate crisis.
- Ensure young children are included creatively and in age-appropriate ways in conversations about climate solutions and climate action planning.
- Highlight "bright spots" (good examples) in ECCE in climate-related emergency contexts to help build broader awareness of the relevance of ECCE and climate change, as well as the positive contributions that ECCE actions can make to strengthen the climate resilience of young children and their caregivers.
- Urge governments and climate leaders to include the needs, experiences, and voices of pregnant mothers, children from birth to age 8, and their caregivers, especially in crisis settings, in climate decision-making, climate negotiations, and climate policy, as well as in climate-relevant sectors like water and energy.
- Pressure the UN Framework Convention on Climate Change (UNFCCC) to shift the perception of young children from "most vulnerable to most valuable" (ARNEC, 2022) and consider young children a key part of the climate solution. This means extending attention to pregnant mothers and very young children as vulnerable populations and identifying them as important stakeholders and agents of change.

# Conclusion


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The climate crisis will push more children into crisis and emergency situations. This means that future generations' potential will be affected by our overreliance on short-term technical solutions. Long-term investments in young children in crisis and emergency contexts are investments in the climate-resilience and climate-adapted human capital of future generations. Climate-sensitive ECCE requires a multifaceted approach with formal, non-formal, and informal educational pathways integrating mitigation and adaptation strategies to build climate resilience and transformative systems change. Governments, donors, implementing organizations, civil society, local and national NGOs, and advocacy and communications teams need to orient their approaches toward climate-sensitive ECCE to address the climate crisis and protect the lives and potential of future generations.

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