



Early Childhood Development and Climate Change:

From Risk to Resilience

A Toolkit for Communication and Advocacy



"Climate change is one of the most pressing challenges facing humanity, and today's children will experience its impacts more directly and severely than adults."

Dr. Sheldon Shaeffer
Chair, Board of Directors, ARNEC



Published by
Asia-Pacific Regional Network for Early
Childhood (ARNEC)
1 Commonwealth Lane #03-27
Singapore 149544

© ARNEC, Limited. 2025

ISBN 978-93-5898-544-3

ISBN 978-93-5898-172-8



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Photo Sources:

All photos used for this resource pack were taken from the program sites or provided by:

- Warrior Moms
- Plan International Cambodia
- Plan International Vietnam
- Rocket Learning, India
- Davath Vouch, ARNEC Youth Advocate, Cambodia
- ECCD Council of the Philippines



This document includes links to various external resources and tools referenced for further study. To access these links, scan the QR code below to view the online version of this toolkit.



Acknowledgement

The development of this ECD and Climate: From Risk to Resilience Communication and Advocacy Toolkit was made possible through the vision, commitment, and collaboration of many individuals, partners, and organisations. This initiative is part of the Asia-Pacific Regional Network for Early Childhood's (ARNEC) ongoing efforts to advance the agenda of early childhood development (ECD) in the context of climate change, ensuring that the youngest and most vulnerable are not left behind.

ARNEC, in partnership with UNICEF East Asia and Pacific Regional Office (EAPRO) and Save the Children, has been advocating for the need to put young children at the centre of climate actions, recognising that climate change poses significant risks to young children's health, nutrition, safety, and early learning.

This resource is meant to support individuals and organisations working at the intersection of ECD and climate change. It aims to increase awareness and understanding on how climate change affects the well-being of young children and advances the need to invest in early childhood as one of the pathways to resilience and sustainable development. It provides case studies, practical actions and solutions that can be adapted to protect young children's rights to survive, thrive, and reach their full potential in an increasingly climate-affected world.

We extend our deep gratitude to our partners whose support made this Toolkit possible:

- The Bainum Foundation
- UNICEF EAPRO
- Early Opportunities
- Bernard van Leer Foundation, now Van Leer Foundation
- Early Childhood Regional Networks (ECRN) Fund

We would like to especially acknowledge the contribution of the following individuals whose expertise significantly shaped the content of this Toolkit:

- Neelima Chopra, ARNEC
- Lynn Tang, Vital Strategies
- Arnaud Conchon, ARNEC Consultant

We are also grateful to the many experts, practitioners, and advocates who provided technical guidance and contributed their time, insights, and feedback in reviewing the earlier drafts of the Toolkit. Our sincere appreciation goes to:

- Sara Dang, Save the Children
- Maria Paula Reinbold, UNICEF Pacific
- Syifa Andina, Plan International Australia
- Mita Gupta, UNICEF ROSA
- Ana Maria Rodriguez, UNICEF EAPRO
- Kristy Bang and Nyi Nyi Thaung, UNESCO Bangkok
- Karma Gayleg, MoESD Bhutan
- Erwin Mahendra Eka Saputra, Climate Youth Advocate, Indonesia
- SriHari Govind, ARNEC Youth Advisor
- Ugyen Lhendup, Care Bhutan
- Baela Jamil, ITA, Pakistan
- Christy Tong, ECCD Council, Malaysia
- Ella Tuttaqwa, HI-ECD Coalition, Indonesia
- Peck Gee Chua, ARNEC Consultant

We wish to extend our appreciation to our partners who generously shared resources including videos, presentations, and social media posts to strengthen the Toolkit's relevance for diverse contexts.

Special thanks are also due to the ARNEC Secretariat: Neelima Chopra, Joel Lasam, Neha Khator, Margaret Seam, and Siva Prasad Behera, for their invaluable support throughout the development of this Toolkit.

Finally, we dedicate this resource to the countless champions who, with commitment and compassion, strive every day for the well-being, development, and protection of young children. We hope this resource not only informs but also inspires, equipping you to design, implement, and strengthen programs and initiatives that build climate resilience, uphold children's rights, and create a brighter, more sustainable future for every child in the Asia-Pacific region and beyond.



Evelyn D. Santiago

Executive Director

Asia-Pacific Regional Network for Early Childhood (ARNEC)

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Acronyms

ARNEC	Asia-Pacific Regional Network for Early Childhood
CCRI.....	Children's Climate and Environment Risk Index
ECD.....	Early Childhood Development
ECCE	Early Childhood Care and Education
ECDAN.....	Early Childhood Development Action Network
HI-ECD.....	National Coalition of Holistic Integrative ECD
INEE	Inter-Agency Network for Education in Emergencies
IPCC.....	Intergovernmental Panel on Climate Change
NCF	Nurturing Care Framework
PM	Particulate Matter
UNDP.....	United Nations Development Program
UNFCC	United Nations Framework Convention on Climate Change
UNHCR.....	United Nations High Commissioner for Refugees
WASH.....	Water, Sanitation, and Hygiene

1. Introduction

Background

Young children, from the prenatal stage through age eight, are most vulnerable to the impacts of climate change and environmental degradation. Children under five years bear nearly 90% of the global health burden related to climate change. In the Asia-Pacific region, these challenges are further exacerbated by geographic vulnerabilities, inequities, and diverse cultural settings.

The Asia-Pacific Regional Network for Early Childhood (ARNEC) highlights these risks through its [Nurturing Care Framework for Action: Young Children and Climate Change](#), specifically adapted to the regional context.

The pioneering [scoping study](#), commissioned by ARNEC in collaboration with Save the Children and UNICEF EAPRO, spotlights the deep interlinkages between Early Childhood Development (ECD), climate change, and environmental degradation. Using the Nurturing Care Framework (NCF), it maps existing evidence, identifies critical gaps, and proposes a child-centered approach to guide policy, advocacy, and programming. It urges the need for climate-resilient ECD systems that are well-funded, prioritized in climate action, and responsive to the immediate and long-term needs of young children.

Policy makers, practitioners, and advocates play key roles in shaping culturally relevant ECD policies and programs. They face complex challenges, especially in the Asia-Pacific region, in advancing ECD and climate agendas. Gaps remain in positioning young children in climate policies, equipping ECD systems to withstand climate shocks, and enabling caregivers and communities to build climate resilience. Advocates also face challenges in translating relevant and developing scientific evidence into compelling narratives that influence climate debates.

About this Toolkit

This toolkit has been developed in response to the urgent needs of ECD advocates and practitioners across the Asia-Pacific region to advance ECD and climate action in young children. It equips diverse stakeholders to better understand, raise awareness about, and take practical action to address the impacts of climate and environmental threats on the health, development, and well-being of young children, from the prenatal stage through the age of eight.

The toolkit builds on [ARNEC's Framework for Action: Young Children and Climate Change](#) and brings together:

- A framework for intervention to reduce inequities and build climate resilience from the earliest stages of life
- Practical guidance for designing, researching, and implementing locally specific resilience strategies
- Adaptable communication tools, including reports, presentations, videos, and infographics

This toolkit serves as a hands-on reference, intended to complement, not replace, existing literature on climate change, environmental health, and child development. Its materials are designed to be adapted to local languages, cultural contexts, and policy environments.

As a living document, the toolkit welcomes feedback and suggestions to keep it relevant, practical, and impactful in strengthening evidence, advocacy, policy, and programs for climate-resilient ECD in Asia-Pacific.

Purpose of the Toolkit

This Toolkit aims to support diverse stakeholders in addressing the impacts of climate change on young children. Specifically, it seeks to:

- **Strengthen advocacy** by organizing facts and evidence on climate change and ECD
- **Generate knowledge** by encouraging researchers to share evidence for action
- **Enhance communication** by offering key tools such as messages, reports, presentations, videos, infographics, and briefs focused on the impacts of climate hazards on young children (with additional resources available on the [ARNEC ECD and Climate Change Knowledge Hub](#))
- **Engage decision-makers** by equipping ECD practitioners to advance climate-resilient ECD programs and services
- **Support families and the community** by enabling ECD practitioners to help them understand climate risks and adopt climate-smart caregiving
- **Shape investment and policy** by providing policymakers and donors with evidence for child-centered climate resilience



In Focus

Turning Insights into Impact

Stakeholders across sectors are encouraged to use this toolkit as a foundation for deepening their understanding of the issues and for informing research, program design, policy development, communication, and advocacy adapted to their local contexts.

How to Use this Toolkit

This Toolkit is designed as a practical guide for immediate use by ECD advocates, practitioners, policymakers, and other stakeholders. The first part focuses on understanding the issues by reviewing evidence on the climate crisis and its impacts on young children in the Asia-Pacific region, as well as examining approaches to building resilience. Each section concludes with implications for stakeholders, prompting a reflection on specific roles.

The second part shifts from analysis to action, presenting strategies, real-world stories, and communication tools that demonstrate how evidence can be applied in practice. These sections include key takeaways to highlight practical lessons and opportunities for uptake and adaptation to local contexts. Figure 1, below, provides a step-by-step pathway to using the toolkit from exploring and examining evidence, to connecting insights and selecting resources, to adapting, advocating, and mobilizing for child-centered climate resilience.



Figure 1

From Evidence to Action: A Pathway to Using the Toolkit



Note: The figure illustrates the seven key steps for applying this toolkit, moving from reviewing evidence to mobilizing communities and caregivers.

Who is the Toolkit Meant for?

The Toolkit is designed for all professionals working at the intersection of ECD and climate change, supporting efforts to protect young children's rights to thrive and reach their full development potential in a world prone to more climate shocks. The stakeholders include, but are not limited to, policymakers, ECD practitioners, advocates, researchers, donors, and NGOs working on young children and climate change.



Figure 2

Intended Audience for the Toolkit



Note: The figure identifies six key constituents for applying this toolkit to protecting children.

2. Key Terms and Definitions

2

The following glossary offers a carefully curated selection of definitions and key terms most relevant to this toolkit. For a more comprehensive set of definitions, please refer to the UNDP Climate Dictionary, available at <https://www.undp.org/publications/climate-dictionary>.

Carbon Footprint: The total amount of greenhouse gas emissions, particularly carbon dioxide and methane, emitted into the atmosphere because of the actions of an individual, organization, product, or activity. A larger carbon footprint indicates a greater release of these gases, and therefore a bigger contribution to the climate crisis ([UNDP](#)).

Climate Change: Climate shifts caused directly or indirectly by human activity, beyond natural variability (UNFCCC Art. 1). The Intergovernmental Panel on Climate Change (IPCC) adds that it involves long-term changes in climate patterns, identifiable through statistical analysis. However, either definition may be used depending on the disaster risk reduction context ([INEE](#)).

- **Adverse Effects of Climate Change:** Changes in the physical environment or biota resulting from climate change that have significant deleterious effects on the composition, resilience, or productivity of natural and managed ecosystems or the operation of socio-economic systems or on human health and welfare ([UNFCCC Art. 1](#)).
- **Climate Change Adaptation:** Measures taken to adjust to the actual or anticipated effects of climate change, such as extreme weather events, rising sea levels, biodiversity loss, and threats to food and water security. It is a proactive process in which individuals, communities, and governments develop and implement strategies, policies, and practices to mitigate risks, enhance resilience, and safeguard human well-being in the face of evolving environmental conditions ([INEE](#), [UNDP](#)).
- **Climate Change Mitigation:** Actions by individuals, communities, businesses, or governments, aimed at reducing greenhouse gas emissions or increasing the natural systems that absorb them, like forests and oceans. It includes everything from adopting clean energy and improving energy efficiency to shifting behaviors and redesigning how we live and move. Mitigation can be as ambitious as transforming national infrastructure or as simple as switching to efficient cookstoves or cycling instead of driving. All these efforts play a role in slowing down global warming and protecting our planet's future ([INEE](#), [UNEP](#)).
- **Climate Change Resilience:** Ability of communities and environments to anticipate, manage, and recover from climate impacts, while adapting and transforming as needed. Building resilience involves strengthening disaster response, improving early warning systems, promoting income diversification, and planning for the long term. A truly climate-resilient society is characterized by low carbon emissions, equity, and prioritization of support for those most vulnerable to climate risks ([UNDP](#)).

Climate Crisis: The climate crisis refers to the serious problems that are being caused, or are likely to be caused, by changes in the planet's climate, including weather extremes and natural disasters, ocean acidification and sea-level rise, loss of biodiversity, food and water insecurity, health risks, economic disruption, displacement, and even violent conflict ([UNDP The Climate Dictionary](#)).

Climate Justice: An approach that places equity and human rights at the center of climate action, recognizing that those most responsible, like wealthy nations and industries, must support the most affected, especially vulnerable communities. It also highlights the need to address internal inequalities and protect the rights of children and youth, who bear the greatest future risks despite contributing the least ([UNDP](#)).

Greenhouse Gases: Gases that absorb and retain heat from the sun within the Earth's atmosphere, helping to maintain the planet's temperature. However, since the start of the industrial era, human activities have significantly increased their concentration, contributing to global warming and driving climate change ([UNDP](#)).

Loss and Damage: The unavoidable and often irreversible effects of climate change that persist despite efforts to reduce emissions or adapt, particularly impacting vulnerable countries. They encompass both economic losses (such as infrastructure damage) and non-economic ones (including the loss of culture or biodiversity). Some communities, especially in low-lying islands, have already reached adaptation limits, facing displacement and irreversible environmental loss ([UNEP](#)).



© Warrior Moms

3. The Climate Crisis: A Child Rights Crisis

3

Unpacking the Climate Crisis

Increases in greenhouse gas emissions, driven primarily by human activities, have raised global temperatures by 1.1°C above preindustrial levels (1850–1900) during the period 2011–2020, unequivocally contributing to global warming and climate change (IPCC, 2023).

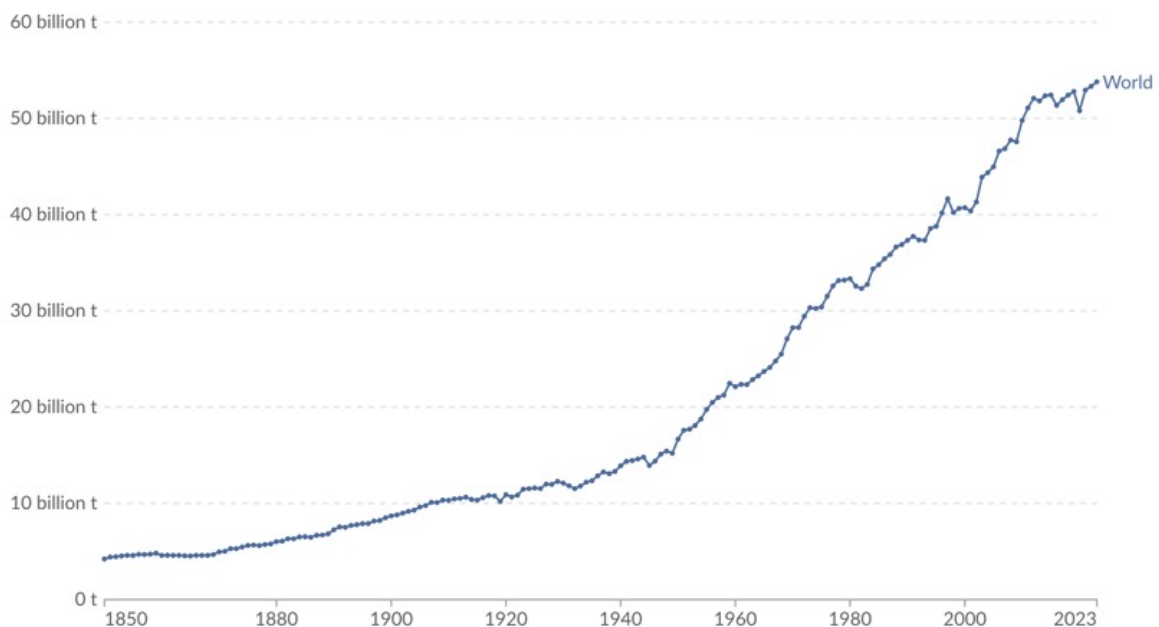
As shown in Figure 3, global emissions are currently at their highest levels in history, exceeding 50 billion tons annually. No significant long-term decline is visible, underscoring the urgent need for rapid, decisive collective global action to mitigate climate change.



Figure 3

Global Greenhouse Gas Emissions (1850–2023)

Greenhouse gas emissions¹ include carbon dioxide, methane and nitrous oxide from all sources, including land-use change. They are measured in tonnes of carbon dioxide-equivalents² over a 100-year timescale.



Data source: Jones et al. (2024)

OurWorldinData.org/co2-and-greenhouse-gas-emissions | CC BY

Note: Land-use change emissions can be negative.

1. Greenhouse gas emissions A greenhouse gas (GHG) is a gas that causes the atmosphere to warm by absorbing and emitting radiant energy. Greenhouse gases absorb radiation that is radiated by Earth, preventing this heat from escaping to space. Carbon dioxide (CO₂) is the most well-known greenhouse gas, but there are others including methane, nitrous oxide, and in fact, water vapor. Human-made emissions of greenhouse gases from fossil fuels, industry, and agriculture are the leading cause of global climate change. Greenhouse gas emissions measure the total amount of all greenhouse gases that are emitted. These are often quantified in carbon dioxide equivalents (CO₂eq) which take account of the amount of warming that each molecule of different gases creates.

2. Carbon dioxide equivalents (CO₂eq) Carbon dioxide is the most important greenhouse gas, but not the only one. To capture all greenhouse gas emissions, researchers express them in "carbon dioxide equivalents" (CO₂eq). This takes all greenhouse gases into account, not just CO₂. To express all greenhouse gases in carbon dioxide equivalents (CO₂eq), each one is weighted by its global warming potential (GWP) value. GWP measures the amount of warming a gas creates compared to CO₂. CO₂ is given a GWP value of one. If a gas had a GWP of 10 then one kilogram of that gas would generate ten times the warming effect as one kilogram of CO₂. Carbon dioxide equivalents are calculated for each gas by multiplying the mass of emissions of a specific greenhouse gas by its GWP factor. This warming can be stated over different timescales. To calculate CO₂eq over 100 years, we'd multiply each gas by its GWP over a 100-year timescale (GWP100). Total greenhouse gas emissions – measured in CO₂eq – are then calculated by summing each gas' CO₂eq value.

Note. From Jones et al. (2024) with major processing by Our World in Data. (<https://ourworldindata.org/greenhouse-gas-emissions>)

Human-caused climate change is already affecting every region worldwide, resulting in widespread adverse impacts and related losses and damages to both nature and people (IPCC, 2023). These impacts include prolonged droughts, water shortages, intensified wildfires, rising sea levels, destructive floods, melting ice caps, stronger storms, and rapid biodiversity loss. They threaten lives, livelihoods, and the ecosystems that underpin human well-being. Vulnerable communities that have contributed the least to current climate change are disproportionately affected.

The continued rise in greenhouse gas emissions and the resulting intensification of climate impacts have pushed the planet into a climate crisis. This is an unprecedented situation where the frequency and severity of extreme events, ecological degradation, and threats to human well-being pose systemic risks to societies worldwide (IPCC, 2023).

Asia-Pacific: Children on the Climate Frontlines

The Asia-Pacific region, home to the world's largest population of children, is facing an urgent child rights crisis due to climate change. The significant increase in extreme and unpredictable weather over the past three decades has far-reaching consequences for child survival, development, and well-being. They threaten essential systems that young children rely on, including education, health, nutrition, and protection, thereby placing their futures in jeopardy.

Countries in East Asia and the Pacific now face multiple overlapping hazards, including intense heatwaves, coastal flooding, water scarcity, tropical cyclones, air, soil, and water pollution, as well as a surge in climate-related diseases.

The situation is equally alarming in South Asia, which is a climate hotspot despite contributing only 8% of global carbon emissions. It is home to over 659 million children and the largest cohort of young people in the world. One in four of the world's children lives in South Asia, and every single one has already experienced at least one climate or environmental hazard. In 2023 (the hottest year on record), South Asia recorded the highest percentage of children exposed to extreme heat globally.

Children in Afghanistan, Bangladesh, India, and Pakistan are classified among the most at-risk globally, while the Maldives faces the threat of disappearing under rising seas. According to UNICEF, 30% of children in South Asia are already exposed to 4.5 or more heatwaves per year, a number expected to increase unless urgent climate action is taken. [More here.](#)



In Focus

Rising Climate Risks for Children in the Asia-Pacific Region

The IPCC projects that children aged 10 or younger in 2020 will face nearly four times more extreme events under 1.5°C warming by 2100, and five times more under 3°C warming, an alarming forecast for a region with so many young lives at stake.

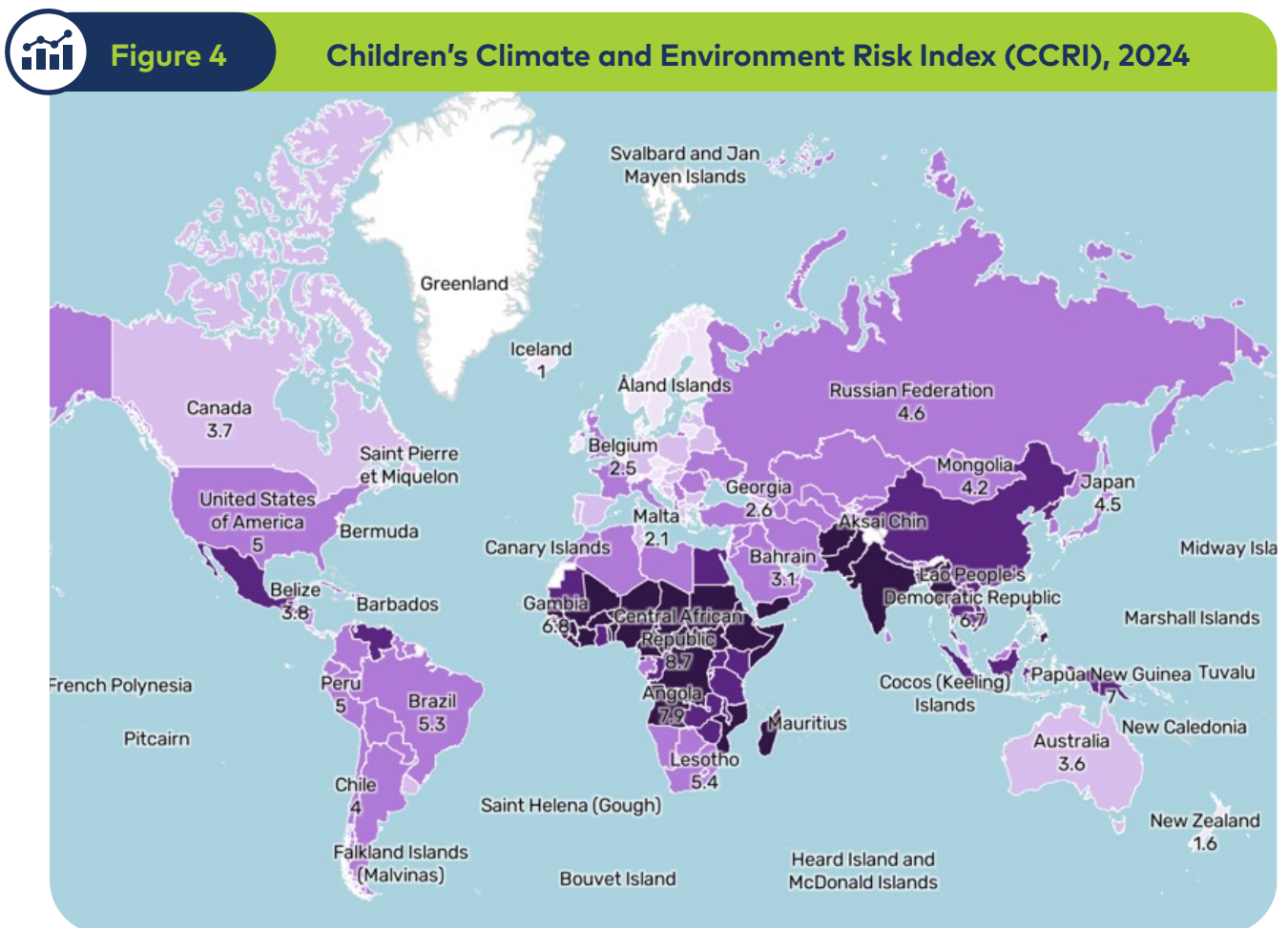
According to the UNDP (2023), Asia-Pacific countries experienced, on average, six natural disasters a year over the past three decades, about twice as many as developing countries of Latin America and the Caribbean and about three times as many as in sub-Saharan Africa.

Mapping the Crisis: Who Faces the Greatest Climate-Risk and Why

Figure 4 presents a global map of the severity of climate and environmental risks to children. It highlights that many countries in the Asia-Pacific region face high to very high-risk levels of these threats. Furthermore, multiple threats overlap in these areas, including extreme heat, floods, cyclones, water scarcity, and pollution. These risks disproportionately affect children, undermining their health, nutrition, education, and protection while compounding social and economic vulnerabilities.

Regional hotspots, such as the low-lying Pacific islands and coastal regions, are highly exposed to **sea-level rise and cyclones**. Mountainous areas in parts of South and East Asia face risks from **glacial melt and landslides**, threatening water supplies and communities downstream.

Many highly vulnerable countries contribute relatively little to global emissions, highlighting the inequity of climate impact. The map also highlights densely populated areas where large numbers of children are at risk, emphasizing both the **scale and intensity** of exposure. These patterns underscore the urgent need for targeted adaptation and resilience strategies to protect children and safeguard their futures (UNICEF, 2024).



Note. From UNICEF Data Portal. <https://knowledge.unicef.org/CEED/resource/childrens-climate-and-environment-risk-index-ccri>



Striking Realities: What Every Decision-Maker Should Know



© A Childhood Under the Burning Sun / Davetra Vecher



Asia drying up: Nearly 40% of the global population living in high or extremely high drought-risk areas is in Asia.



Floods hit hardest: South and Southeast Asia experience 90% of global floods.



Pacific on the frontlines: Nine in ten Pacific Islanders (excluding Papua New Guinea) live along coastlines and are directly exposed to rising sea levels.



Global climate hotspot: The 2025 Global Climate Report ranks China as the most affected country in the region by extreme weather events from 1993 to 2022; however, in 2022, Pakistan was ranked the most affected country.



Over the tipping point: 41% of children in Asia and the Pacific region face five or more overlapping shocks, compared to 14% globally.



Toxic air from birth: Seventeen million babies under one year breathe dangerously polluted air, with 12 million in South Asia alone.



Silent lead threat: Nearly half of the world's children exposed to lead poisoning, which causes lifelong impacts on brain development, live in South Asia.



South Asia overheating: Globally, one in three children face extreme heat, but in South Asia, it is three in four.



In Focus

Unequal Burdens – Climate Risk and Children

Climate risk is deeply unequal, with countries contributing the least to global emissions often being those where children face the most severe threats.

South Asia and Sub-Saharan Africa emerge as global epicenters of climate vulnerability for children, both in terms of exposure and limited coping capacity.

Policy responses and climate finance must urgently target these high-risk zones to prevent the deepening of inequality and long-term developmental setbacks for millions of children.

Why Young Children are especially Vulnerable

Young children are especially vulnerable to climate risks due to their physiological, developmental, and behavioral characteristics. Physiologically, they breathe faster, eat and drink more per kilogram of body weight, and have immature immune and thermoregulation systems, making them more susceptible to air pollution, dehydration, and heat stress. Developmentally speaking, disruptions during early childhood can have long-lasting consequences on brain development, learning, and emotional regulation. Behaviorally, young children are less capable of recognizing danger, protecting themselves, or adapting to changing environments. These factors make it imperative that climate strategies prioritize the needs of young children across health, education, protection, and caregiving systems.

For more insight, read this article written by Sheldon Shaeffer, Chair, Board of Directors, and Evelyn Santiago, Executive Director, ARNEC: <https://world-education-blog.org/2024/01/11/young-children-and-the-polycrisis/>.



Key Reasons Driving Young Children's Vulnerability

- **Prenatal Risks: Harming Children Before Birth**

Exposure to air pollution, extreme heat, and vector-borne diseases during pregnancy increases the risk of preterm birth, low birth weight, and stillbirth. For example, the Zika virus, harmless for most adults, can cause devastating brain defects in unborn babies. Climate-related threats to maternal health begin before children take their first breath.

- **Developing Bodies: Increasing Vulnerability to Environmental Stress**

Young children's organs, immune systems, and brains are still developing, making them more susceptible to heat, toxins, and infection. They breathe faster than adults, absorbing more pollutants relative to body size. Since they cannot regulate temperature well, they are vulnerable to heat and dehydration. Their stress systems are still maturing, and prolonged stress can disrupt brain development, affecting learning, memory, and emotional well-being.

- **Behavioral Exposure: Raising Everyday Risks**

Crawling, mouthing objects, and close contact with soil, dust, or contaminated water increase their exposure to environmental hazards. Being closer to the ground, children inhale more airborne toxins and particles.

- **Brain Development in Early Years: Impacting Lifelong Development**

The early years are a critical window for brain development. Exposure to lead, mercury, and other toxins during this window can reduce IQ and impair cognitive development. Displacement, conflict, or repeated disasters create toxic stress that can rewire a child's stress response systems, with lifelong consequences for emotional regulation, learning, and behavior. Studies have also linked economic strain and climate-related uncertainty to increases in domestic violence and child abuse.

- **Dependence on Caregivers: Increasing Risk Without Protection**

Young children are physically and cognitively unable to flee danger, recognize threats, or self-regulate. Their survival during floods, heatwaves, or storms depends entirely on caregivers and preparedness systems. Infants and toddlers are especially vulnerable to injury, dehydration, and trauma in emergency settings. However, they are often overlooked in disaster preparedness and response planning.

- **Climate Shocks: Disrupting Learning and Development**

Each year, the climate crisis interrupts the education of an estimated 40 million children. [More here](#). Over the past two decades, 75% of major extreme weather events affecting more than 5 million people have resulted in school closures (World Bank, 2024). In 2024 alone, heatwaves forced school shutdowns across India, Bangladesh, and the Philippines, depriving children of learning, routine, nutrition, and social play. When preschools and childcare centers are damaged or closed, it is not just learning that is lost, but a critical part of early brain development, social interaction, and safety.



Case Snapshot 1

Crisis Precipitates Loss of Learning Opportunities

"When the cyclone hit, our school collapsed."

– Lani, age 6, Fiji (Save the Children, Post-Cyclone Child Testimonies Compilation, 2018)

Q Context: Closure of learning and health centers due to cyclones can lead to developmental delays, emotional trauma, and interrupted early learning opportunities for young children.

Tips: Establish safe temporary learning spaces and integrate psychosocial support into emergency education responses to protect children's development and ensure continuity of learning after disasters.

Climate-Related Hazards Putting Young Children at Risk

According to Save the Children, 90% of diseases resulting from the climate crisis are likely to affect children under the age of five. [More here](#). What is also becoming clear is that pregnant women and young children are a particularly vulnerable group when it comes to climate and environmental health hazards. The physical, emotional, and mental health effects experienced by young children due to climate and environmental threats are likely to have long-lasting impacts, hindering their ability to reach their full potential.



Key Reasons Why Young Children Are at Risk of Climate Hazards

Air Pollution: The Invisible Killer



Air pollution is the world's deadliest environmental health threat, claiming millions of lives annually. Young children are the most vulnerable, with air pollution claiming an estimated 600,000 lives under the age of five each year. Toxic smoke penetrates deep into young lungs, impairing brain development and increasing lifelong risks of asthma, pneumonia, and cancer. Further information and protective measures for children from air pollution can be accessed in our [factsheet on air pollution](#). Figure 3 depicts the adverse effects of air pollution on young children.



Figure 5

Effects of Air Pollution on Young Children

Growth: premature birth, low birth weight, birth defects, infant death, stunting

Brain: lower IQ, attention deficit hyperactivity disorder (ADHD), anxiety, delayed brain development, autism

Lungs: asthma, pneumonia, reduced lung growth, lung cancer

Ear Nose Throat (ENT): respiratory infections, coughing and wheezing, conjunctivitis, allergies

Skin: eczema

Heart: heart disease, high blood pressure

Over 90% of children today breathe polluted air daily, and 600,000 lives under five are lost annually to it, making air pollution probably the most extensive environmental health threat to children.

There is strong evidence of multiple health impacts on pregnant women and ECD, including lasting damage to the brain.

Note. From ARNEC (2020), A Call to Action: Air Pollution in Early Childhood. <https://arnec.net/sites/default/files/2024-08/A-call-to-action-Air-pollution-in-early-childhood%20%281%29.pdf>

Air pollution is a mixture of harmful gases and tiny particles released into the air from various sources of pollution, including cooking stoves, vehicle exhaust, wildfires, and waste burning. Among these pollutants, **particulate matter (PM)** is especially dangerous. PM2.5 refers to fine inhalable particles that are 2.5 micrometers or smaller in diameter, about 30 times smaller than the width of a human hair. Due to their small size, they can travel deep into the lungs and even enter the bloodstream, causing serious health problems. Figure 6 highlights that countries in Asia and Africa bear the highest burden of PM2.5 concentrations.



Figure 6

Air Pollution and Particulate Matter (PM2.5): A Major Threat to Children’s Health

Average Annual Population-Weighted PM2.5 Concentrations in 2019

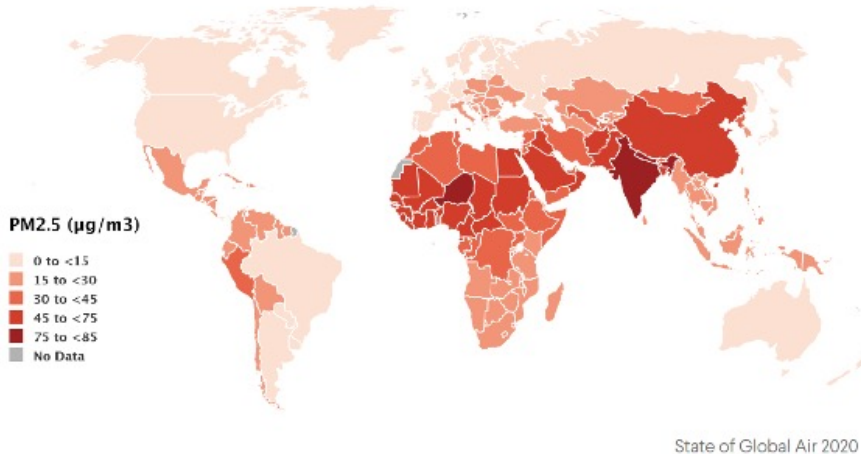


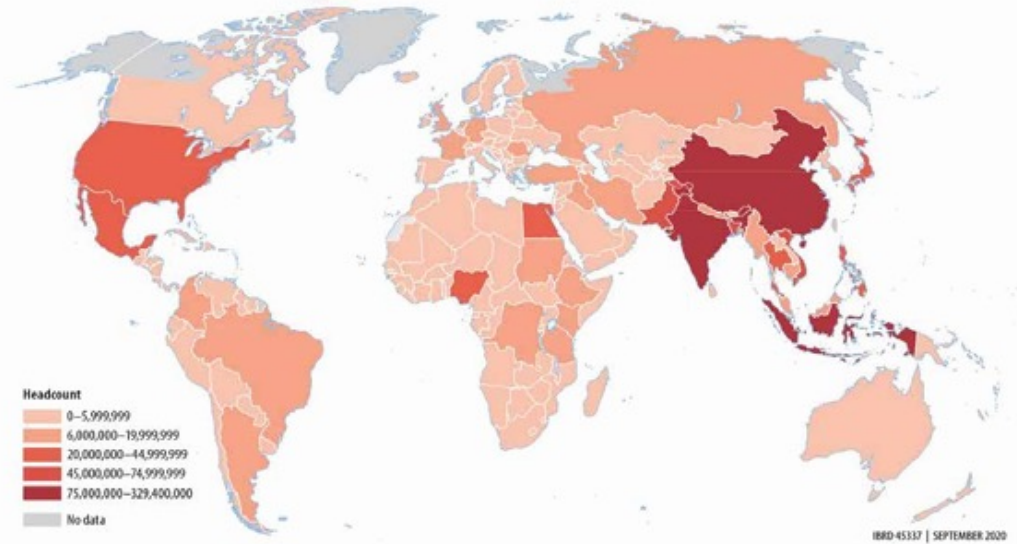
Figure 3: Average annual population weighted PM2.5 (air pollution) concentrations in 2019, showing that countries in Africa and Asia are the most polluted globally. Source: State of global air 2020

Note. From State of Global Air, 2020

Floods: Drowning Futures

Floods are the most frequent and devastating natural disasters, with 70% of the world's flood-exposed population living in South and East Asia. Asia is ground zero (Figure 7), with an 11-fold increase in floods in the East Asia and Pacific region over the past 50 years. Children are often cut off from schools, health services, and safety, and run the risk of disease, injury, or separation from caregivers. Further information and protective measures are available in the [factsheet on flooding](#).

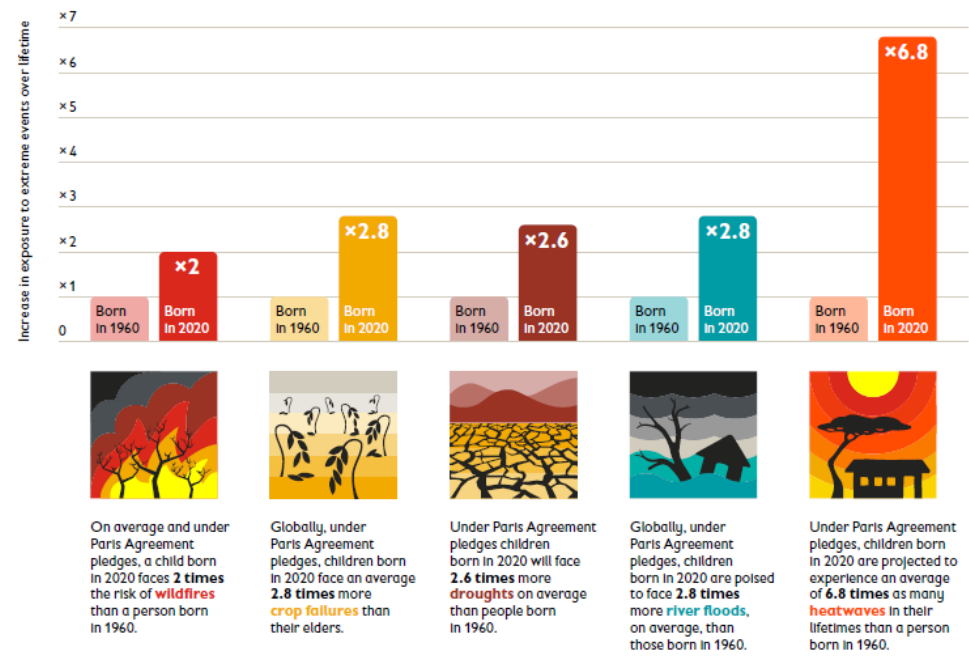
Figure 7 Vulnerability of the Asia-Pacific Region to Flooding



Note. From Rentschler, J., & Salhab, M. (2020). People in harm's way: Flood exposure and poverty in 189 countries (Policy Research Working Paper No. 9447). World Bank. <https://documents1.worldbank.org/curated/en/669141603288540994/pdf/People-in-Harms-Way-Flood-Exposure-and-Poverty-in-189-Countries.pdf>

Heatwaves: Silent, Deadly, and Escalating

Figure 8 Children Born in 2020 Are Likely to Experience 7x More Heat Waves Than Children Born in 1960 Under the Paris Agreement



Note. From [Born into the Climate Crisis: Why We Must Act Now to Secure Children's Rights | Save the Children's Resource Centre](#)

Heatwaves are now among the deadliest climate-related hazards, with average temperatures increasing by as much as 5 degrees Celsius across East and South Asia in 2024, compared to the baseline average for the period 1991–2020. With 2023 the hottest year ever recorded, children faced twice as many heatwave days as in the past decades. Children born in 2020 are likely to experience 7 times more heatwaves than children born in 1960 (Figure 8).

Children, especially infants, are at greatest risk of heatstroke, respiratory distress, and cardiovascular strain as their developing bodies are less capable of regulating their own body temperature. They absorb more heat and are less effective at releasing heat through sweating. This makes them vulnerable to heat stress and prone to dehydration. Discover lifesaving information in our [heatwaves factsheet](#).



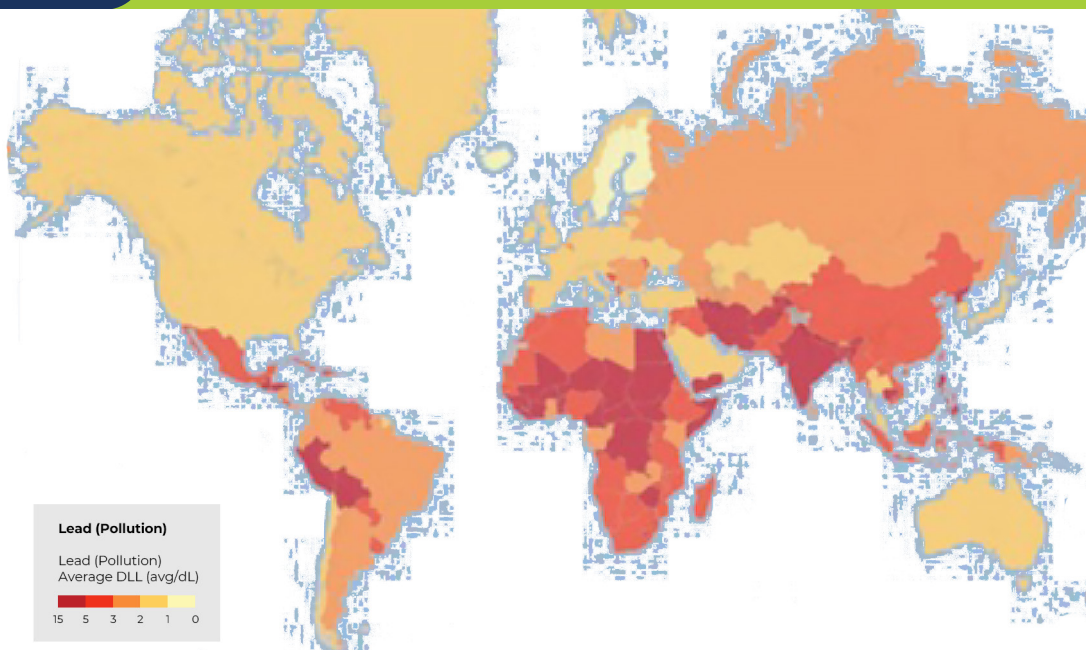
Lead Poisoning: Toxic Legacy

Globally, 1 in 3 children has dangerously elevated levels of lead in their blood. Children under five absorb up to 5 times more lead than adults, making even small exposures devastating. The damage is often irreversible, affecting IQ, behavior, and learning. South Asia is particularly among the worst affected (Figure 9). Figure 10 shows the key sources of Lead exposure. Explore strategies for reducing risks in our [lead poisoning factsheet](#).



Figure 9

Children's Average Blood Lead Levels ($\mu\text{g}/\text{dL}$) by Country



Note. From Institute for Health Metrics and Evaluation (IHME), 2019, Lead exposure and health data. <http://www.leadpollution.org>



Figure 10

Key Sources of Lead Exposure

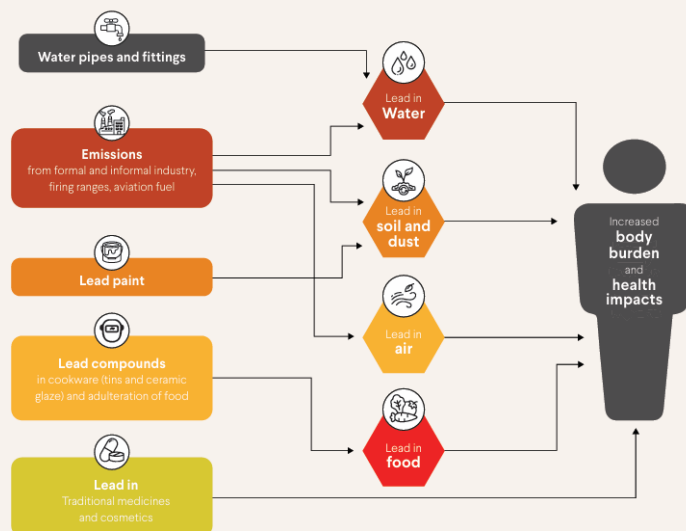


Image Source: Adapted from the WHO guidelines on the clinical management of exposure to lead

Note. From ARNEC and Vital Strategies. A call to action: Lead poisoning and early childhood development. [Hazard Factsheets – ARNEC](#)

Lack of Green Spaces: No Room to Grow

In many parts of Asia, children grow up without access to safe green spaces for play, rest, and learning. This lack not only affects physical and mental health but also increases exposure to urban heat, pollution, and climate-related stress. Green spaces support physical, mental, and social development, immunity building, and community resilience.

Droughts: Slow-Burning Emergencies

Droughts disrupt food systems, drive malnutrition, and push families to migrate in search of water and work. Each year, approximately 55 million people are affected by droughts, with children being the most severely impacted. They lose access to food, healthcare, and early education. In East Asia and the Pacific, droughts have increased in frequency by more than double over the past five decades ([WHO](#)).

Young Children on Climate Frontlines: Drought Driving Disparities, Casting Shadows on Futures



© Alamy

Sea-Level Rise: Sinking Childhoods

The Asia-Pacific is one of the most vulnerable regions to sea-level rise. In the Pacific Islands, approximately 90% of the population lives along the coast, including millions of children. In places like the Mekong Delta, communities are just meters above sea level, leaving homes, schools, and early childhood centers vulnerable to flooding and erosion, which can cause them to be destroyed or disappear.

Tropical Cyclones: Children in the Path of Destruction

Tropical cyclones are striking with greater frequency and intensity, putting nearly 210 million children in East Asia and the Pacific region at high risk. These storms destroy homes, schools, and critical services, bringing with them flooding, landslides, and trauma. Children, often the last to receive aid, are the most affected.

Glacial Lake Outburst Floods (GLOFs): Sudden Catastrophes

As glaciers melt due to global warming, rising glacial lakes can suddenly burst, unleashing flash floods without warning. Pakistan, which has more glaciers than anywhere outside the polar regions, faces serious risks, with over 30 lakes marked as hazardous. These floods can wipe out villages, schools, and clinics, putting young children at high risk of injury, trauma, and forced displacement.

Inequities Driven by Climate Change

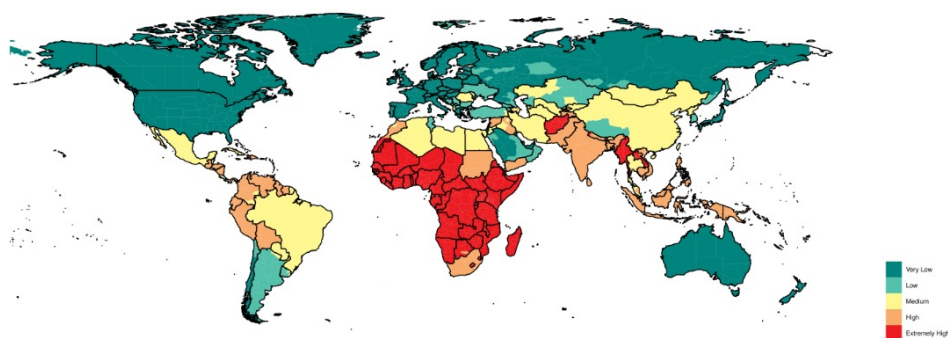
Climate change is not just an environmental crisis, but also a social one, deepening global inequities. It deepens early childhood inequalities by disproportionately affecting vulnerable communities, with young children facing the harshest impacts.

Children who are already struggling with poverty and malnutrition, deprived of clean water, safe housing, healthcare, and education are the most vulnerable to climate shocks, such as floods, heatwaves, and storms, especially in the Asia-Pacific region. These overlapping risks push the children into cycles of deprivation and crisis, which becomes even more stark when viewed alongside deprivation maps (Figure 11). Climate change intensifies multidimensional deprivation, compounding existing inequities, widening gaps between children who can recover and those who fall deeper into cycles of deprivation and risk.



Figure 11

An Overview of Child Deprivation Worldwide



Note. From World Vision [Data Mapping and research to comprehensively measure child vulnerability worldwide](#). Child deprivation takes into account child mortality rates, child poverty, the prevalence of underweight children under 5, and broader forms of food insecurity and water stress that impact children.

Figure 12, produced by UNICEF, illustrates how climate change exacerbates inequality between children from families with high and low resources. Social and economic disparities intensify the risks that climate change poses to children (especially those already living in poverty) and lead to widening inequality over time, resulting in a deepening gap in health, education, and safety outcomes. [More here.](#)



Figure 12

Systemic Inequalities Widened by Climate Change

	Exposure	Vulnerability	Capacity to Cope
<p>Wealthy Child</p>	<p>Lower exposure due to:</p> <ul style="list-style-type: none"> Better infrastructure and safer living environments Tend to live in areas that are flood resistant with rigid infrastructure Access to a variety of sources of water, and means to improve the air quality within homes 	<p>Lower vulnerability due to:</p> <ul style="list-style-type: none"> Better access to healthcare and resources reduces vulnerability to climate-related risks Higher access to education, knowledge and information to reduce risks 	<p>Greater capacity to cope due to:</p> <ul style="list-style-type: none"> Greater financial resources to recover from climate-related impacts Access to loans or insurance to cover a quick restart to safety – access to temporary accommodation, relocation
	Widening Inequality		
<p>Poor Child</p>	<p>Lower exposure for wealthy child, higher exposure for poor child</p> <p>Higher exposure due to:</p> <ul style="list-style-type: none"> Substandard housing and living in hazard-prone areas Children tend to live and attend schools in high-risk areas Less access to water and air filtration, air conditioning, and other measures" 	<p>Poor children are more vulnerable</p> <p>Higher vulnerability due to:</p> <ul style="list-style-type: none"> Impact of extreme events can limit the ability of parents to afford to educate their children or require to work to meet basic needs Lack of ability of parents to provide services care giving from birth A poor child who is already unhealthy or lacks adequate nutrition is more susceptible to air and water pollution, or other climate-related impacts A poor child that cannot access protection has less means to better protect themselves and communities from climate impacts 	<p>Poor children have less capacities to cope and recover</p> <p>Reduced capacity to cope due to:</p> <ul style="list-style-type: none"> Inability to evacuate May not have reliable access to food, water, housing or energy, and insurance may be unavailable or unaffordable Reduced access to financial resources, social protection and insurance mechanisms"

Note. From UNICEF. Over the Tipping Point. <https://www.unicef.org/eap/over-tipping-point>



Key Reasons Why Climate Change is Widening Inequities

Data Disaggregation: Masking Disparities

The lack of **disaggregated sub-national data** (by region, income, gender, disability, etc.) masks disparities and makes it challenging to identify and protect the most at-risk children.

Increased Risk Through Unsafe Environments: Heightening Exposure

Children from low-income homes face a higher risk of exposure due to substandard housing, unsafe environments, and limited access to air filtration, cooling, or clean water, often living and schooling in high-risk areas. Conversely, children from high-income homes are less exposed to climate hazards due to better infrastructure and housing, access to clean air and water, and living in low-risk areas.

Limited Access to Care and Services: Increasing Vulnerability

Children from families with low resources cannot consistently safeguard children's health, education, and provide consistent caregiving, especially in the face of repeated climate shocks. Improved access to healthcare, education, and risk-reduction resources reduces children's vulnerability.



Shrinking Recovery Opportunities: Weakening Coping Capacity

Families with low resources often lack the means to evacuate or recover, which leaves them with unreliable access to essential services, leading to children more vulnerable, longer in crisis, and with fewer opportunities for recovery. Conversely, families with access to financial resources, insurance, and safe relocation have a greater ability to recover.



Intersecting Inequalities: Compounding Risks

Climate change can intensify existing inequalities across economic, political, gender, racial, and cultural/community dimensions, as well as for persons with disabilities. It can reduce livelihoods, limit access to essential services, and concentrate resources among those with greater influence. Women, girls, persons with disabilities, indigenous groups, smallholder farmers, and coastal communities may face heightened risks of exclusion, displacement, disrupted education, and threats to health, safety, and cultural survival.

Table 1 details how climate change exacerbates inequalities and pre-existing injustices, thereby deepening marginalization for the most at-risk groups, including young children.



Table 1

How Climate Change Exacerbates Inequalities

Categories of Inequality	How Climate Change Exacerbates Inequalities
Economic	<ul style="list-style-type: none"> Increased income disparities due to loss of livelihoods and assets; Limited access to recovery resources and opportunities; Forced child labour to support affected families in response to economic strains; Reduced access to early childhood development services, education, and resources due to damages in school infrastructures; Resource depletion resulting in reduced standard of living.
Political	<ul style="list-style-type: none"> Growing political influence among the more fortunate erodes trust in the ability of governments to address the needs of the majority, leading to destabilized political systems Unequal distribution of climate adaptation resources and funding Limited influence of children and other marginalized populations in governance and climate-related decision-making.
Gender	<ul style="list-style-type: none"> Disproportionate burden on women for caregiving, food, and water provision in emergencies. For example, as climate change reduces the availability of safe water sources, they often have to walk longer distances in search of water, increasing their exposure to climate hazards Women and children are 14x more likely than men to die as a result of climate-induced disasters" Women tend to be disproportionately susceptible to food insecurity aggravated by climate change. For example, they are often the first ones to reduce food consumption in the event of lowered crop yields and crop failure, or in cases of food shortage after a hazard event Increased risk of gender-based violence during disasters and displacement Gender biases in access to resources and decision-making power Early marriage and increased risk of sexual exploitation for girls Unequal access to education for girls due to climate-related disruptions Increased risk of trafficking

Racial	<ul style="list-style-type: none"> ● Systemic racism in resource allocation and disaster response ● Exclusion from decision-making processes and climate activism
People with Disabilities	<ul style="list-style-type: none"> ● Disabilities not well-recognized or accounted for in disaster response ● Exclusion from employment and adaptation funds disrupting health, rehabilitation, and other support services
Indigenous Groups, Smallholder Farmers, and Coastal Communities	<ul style="list-style-type: none"> ● Displacement and loss of traditional lands due to climate change impacts ● Undermining of cultural connections and knowledge within Indigenous groups that their traditional livelihoods depend on ● Threats to livelihood and cultural heritage as natural and marine resources that are attuned to traditional climatic conditions are affected when they change rapidly ● Risk of displacement of identity and cultures as a result of deteriorated habitats ● Potential to incur greater losses in face of hazard events, while having fewer resources to recover ● Exclusion from decision-making processes and climate change negotiations

Note. From UNICEF. Over the Tipping Point <https://www.unicef.org/eap/over-tipping-point>

Implications for Stakeholders

Children are particularly vulnerable to the impacts of climate change and environmental degradation due to their developing brains and bodies. Furthermore, the Asia-Pacific region's geography and systemic inequities, deepened by the climate crisis, leave the children even more vulnerable. Thus, the climate crisis is a child rights crisis that requires urgent, coordinated action from all stakeholders to safeguard children's futures.

- **Caregivers and Communities:** Act urgently to safeguard children's rights by recognizing heightened risks and building resilience at the household and community levels, ensuring safe and nurturing environments, and adopting adaptive practices to shield children from climate-related shocks.
- **Practitioners and Service Providers:** Safeguard continuity of education, health, nutrition, and protection services, while integrating climate-smart practices into ECCE, teacher training, and caregiver support to build awareness and action at the ground level.
- **Advocates:** Utilize evidence of disproportionate impacts on children to mobilize support, raise awareness, and inform policy change and resource allocation prioritizing children's safety, development, and rights in the face of the climate crisis. Push for increased investment in safety nets, climate-ready education, and community-based protection systems.
- **Policymakers:** Actively lead coordinated action to prioritize equity-driven climate mitigation and adaptation policies in child-focused systems and ensure equitable resourcing. Ensure universal access to healthcare, education, insurance, and social protection to reduce the gap between children who can recover from climate shocks and those who fall deeper into disadvantage.

4. Climate-Related Impacts through the Lens of the Nurturing Care Framework

4

Framing the Challenge

What the Data Shows: Climate Threats to Early Childhood

Evidence shows rising incidences of malnutrition, health issues, education disruptions, and displacement, which climate change is already taking on young children. Malnutrition is on the rise in climate-affected regions due to disruptions in food systems and a decline in agricultural productivity. Health systems are increasingly overwhelmed by rising cases of heat-related conditions, breathing difficulties due to polluted air, and the spread of waterborne illnesses in the aftermath of floods. Education disruptions, caused by damaged infrastructure, school closures, or migration, interrupt the foundations of learning and social development, thereby widening long-term inequalities. Displacement caused by climate events not only separates families but also cuts off children's access to early learning, health care, and psychosocial support.

Groundbreaking Scoping Study: The Climate–ECD Intersection

ARNEC, in collaboration with Save the Children and UNICEF EAPRO, commissioned a pioneering [scoping study](#) led by the University of Wollongong, Early Start Australia. The study was designed to inform advocacy efforts aimed at ensuring a clean, safe, and sustainable environment for young children across the Asia-Pacific region.

This evidence-based report synthesizes regional data and expert insights from around the world, revealing the deep interconnections between ECD, climate change, and environmental degradation. It advocates for ECD systems and services to be made more climate-resilient, adequately funded, and prioritized in both policy and climate action.

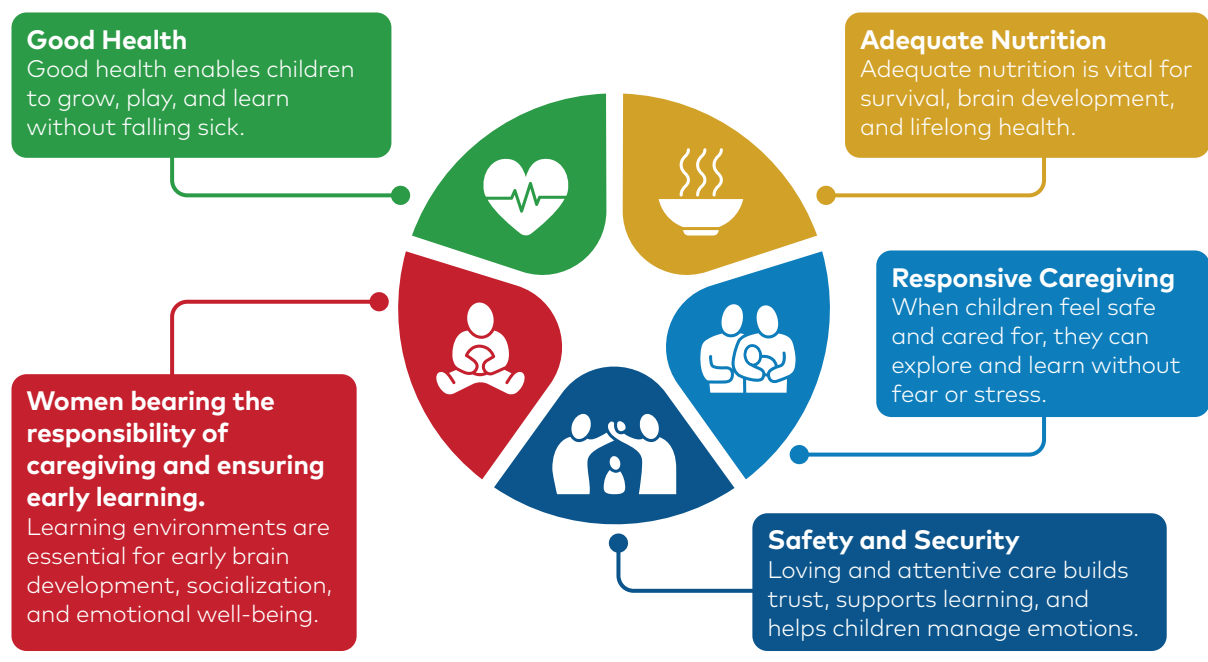
The study identifies a critical gap: current climate and environmental strategies fail to address the immediate and long-term needs of young children adequately. Since the impacts of climate change on young children are not isolated but cut across every domain of development, care, and survival, it calls for applying the Nurturing Care Framework to guide governments, development partners, and decision-makers in integrating the rights and needs of young children into climate adaptation, mitigation, and policy responses.

Nurturing Care Framework: A Lens for Early Childhood Risks

Applying the Nurturing Care Framework offers a powerful lens for assessing and communicating the effects of climate and environmental threats on young children's health, learning, safety, and well-being. To provide a comprehensive overview of these interconnected risks, the following section draws on the five components of the [Nurturing Care Framework \(NCF\)](#): good health, adequate nutrition, responsive caregiving, security and safety, and opportunities for early learning. This approach will help clarify how each area is affected and how support can be tailored accordingly.

The **Nurturing Care Framework (2018)**, developed by WHO, UNICEF, and the World Bank, provides an evidence-based roadmap to support early childhood development by promoting nurturing care for young children (Figure 13). It guides governments, caregivers, and partners across sectors to create enabling environments so that all children can survive, thrive, and reach their full potential.

Figure 13 Key Components of the Nurturing Care Framework



Note. Adapted from Nurturing Care Framework for Early Childhood Development, by WHO, UNICEF, and World Bank, 2018. <https://nurturing-care.org/what-is-nurturing-care/>

Climate-Related Impacts through the Domains of NCF

Climate-Related Impacts on Early Learning Opportunities

Learning environments are essential for early brain development, socialization, and emotional well-being. However, these critical spaces are increasingly disrupted by climate hazards. As climate events damage physical infrastructure and displace families, millions of young children are denied access to safe, nurturing spaces to play and learn, further compounding the risks aforementioned.

Fragile Infrastructure: Disrupting Learning

Extreme weather events such as cyclones or floods often damage or destroy childcare centers, schools, and playgrounds. These disruptions interrupt learning and impact cognitive and emotional development. UNICEF notes that climate-related disruptions lead to significant learning losses and increased psychosocial stress for young children and their caregivers. Following such disruptions, parents may be hesitant to send their children back to school, which can impact their long-term education (UNICEF press release, 2024).



Case Snapshot 2

Typhoon/Cyclone Impact on Infrastructure

"The cyclone took my house, and my school too."

— Child, Fiji (UNICEF Pacific, 2016)

Q Context: In the Philippines and Fiji, typhoons and cyclones frequently destroy preschools, hospitals, and playgrounds, disrupting education, healthcare, and safe spaces for young children.

💡 Tips: Support climate-resilient early childhood centers, safe learning environments, and rapid post-disaster reconstruction to ensure continuity of care and learning.

Climate Migration: Delaying Learning and Development

Climate-induced displacement uproots families and often leaves children without access to early education, especially in camps or informal settlements. Although many low-income families intend to migrate temporarily during climate shocks, they are often prolonged, increasing hardship and instability. These disruptions delay learning and social development and increase children's vulnerability to exploitation, neglect, and long-term economic exclusion.



Case Snapshot 3

Migration and Loss of Responsive Caregiving

"My parents migrated and left me [after cyclone Yaas] to look after my elderly grandparents and younger sibling. I had no one to guide me and felt lost and confused."

— Sudeshna, a 15-year-old from North 24 Parganas, West Bengal, India (India Development Review, Climate, Children, and the Crisis at Hand, 2025)

Q Context: In coastal, climate-affected regions, relentless disasters force parents to migrate for work, leaving behind children with almost no guidance or protection. This thrusts children, especially girls, into overwhelming responsibilities and vulnerabilities that impact their learning and well-being.

💡 Tips: Strengthen community-based childcare and psychosocial support systems, and ensure continued schooling for children left behind.

Climate-Related Impacts on Children's Adequate Nutrition

Climate change is threatening children's survival, development, and well-being by **undermining their access to safe, sufficient, and nutritious food and water**. This is especially critical during the first 1,000 days of life, when nutrition is vital for survival, brain development, and lifelong health.

Disrupted Food Production Systems: Driving Malnutrition


Climate change is disrupting food production in the Asia-Pacific region through rising temperatures, erratic rainfall, and extreme weather events, which are impacting agriculture and contributing to increased stunting and undernutrition. Infants and toddlers are most at risk, as nutrition deficits in the first two years have irreversible effects on physical and cognitive development. FAO identifies agricultural disruption due to climate change as a key driver of rising undernutrition in the Asia-Pacific (FAO, 2022). WHO projects nearly 95,000 additional child deaths annually due to undernutrition by 2030.


Case Snapshot 4

Food Insecurity

"This year, our harvest failed. We only ate porridge every day."

— Placida, a farmer, rural Philippines (We Effect, 2020)

 **Context:** Placida's experience in the Philippines illustrates a challenge that is also affecting communities across Southeast Asia, including Cambodia and Lao PDR, where climate variability threatens rice harvests and children's nutrition.

 **Tips:** Support climate-resilient agricultural programs, nutrition support for families, and early childhood feeding initiatives in affected regions.

Water Insecurity: Undermining Children's Well-Being

Droughts and shifting rainfall patterns reduce access to safe drinking water, hygiene, and irrigation, weakening both nutrition and caregiving systems. Girls often miss school to fetch water, leading to a decline in the quality of their diets. In some cases, families are forced to migrate, increasing the risk of displacement, food insecurity, and conflict. The World Bank highlights that water scarcity reduces girls' school attendance and exacerbates household vulnerability.

Case Snapshot 5



Water Scarcity

"I would walk 20 km every day for water instead of going to school."

— Farzana, age 12, Pakistan (UNICEF, 2024)

Q Context: In drought-prone areas of India, Bangladesh, and Pakistan, children—especially girls—spend hours fetching scarce water, which disrupts education, play, and early learning opportunities.

💡 Tips: Promote water security programs, safe water access near communities, and integrate child-focused strategies into climate adaptation plans.

Climate-Related Impacts on Children's Good Health

Climate change is directly threatening children's health and survival, increasing exposure to disease, pollution, and unsafe environments during the most fragile years of life. These risks are particularly acute in low-income and climate-vulnerable communities.

Damaged WASH Services: Increasing Disease Burden

Floods, droughts, and extreme weather often destroy or contaminate water, sanitation, and hygiene (WASH) systems, leading to deadly spikes in diarrhea, cholera, and hepatitis A—diseases hazardous for young children. WHO notes, "Waterborne diseases like cholera and diarrhea account for a significant share of child mortality in disaster-affected regions" (WHO, 2021). [More here.](#)

Warmer Climate: Expanding Vector-borne Diseases

Warmer climates expand the range of mosquitoes and rodents, thereby increasing the transmission of malaria, dengue, and encephalitis. These diseases are particularly harmful to children, as repeated infections cause anaemia, malnutrition, neurological damage, and missed schooling, leading to lasting effects on child development. WHO projects a significant increase in dengue and malaria cases in Southeast Asia due to climate-driven changes in vector distribution (WHO, 2021).

Shifting Seasons: Spreading Allergens and Pathogens

Longer blooming seasons and shifting vegetation patterns result in increased pollen and airborne allergen levels. Young children with developing immune systems are more likely to suffer from asthma, allergic rhinitis, which may require hospitalizations. According to the IPCC Sixth Assessment Report (2022), climate change is already increasing the production and spread of airborne allergens.

Rising Air Pollution: Hurting Children

Air pollution from wildfires, vehicle emissions, and industrial activities further contributes to the worsening of respiratory illnesses and cognitive development. These sources of climate emissions release air pollutants that damage young children's lungs and brains. As droughts and wildfires become more frequent and intense, air quality deteriorates, exacerbating respiratory illnesses and reducing school attendance.

Case Snapshot 6



Mental Health Impact

"I almost drowned during the flood. Now, whenever I hear thunder or see heavy rain, I get scared and can't sleep."

— Dipika, Nepal (UNICEF, 2024)

Q Context: The 2020 floods in Nepal caused significant trauma for young children, leaving many with post-traumatic stress disorder and other profound mental health children from climate-induced disasters.

💡 Tips: Support child-focused psychosocial support, trauma-informed care, and disaster preparedness that considers children's mental health in climate-responsive planning.

Climate-Related Impacts on Responsive Caregiving

Responsive caregiving, characterized by emotional presence, nurturing, and attentive care to a child's needs, is essential for early brain development. However, climate change is disrupting the conditions that allow caregivers to care. From displacement to chronic stress, caregivers across Asia and the Pacific face mounting obstacles that compromise their ability to respond to young children.

Parental Stress: Limiting Care

Livelihood loss, food insecurity, and disaster-related trauma lead to chronic stress, depression, and anxiety in caregivers, reducing their capacity to engage emotionally with their children. In drought-affected regions, caregivers often spend hours fetching water, leaving little energy for interaction or stimulation.

Disrupted Family Routines: Weakening Bonds

Climate-induced migration separates children from caregivers or forces families into unstable shelters. Parents and children separated due to migration (e.g., fathers seeking work, mothers managing crisis settings), broken routines, and physical distance weaken bonds, reduce emotional safety, and disrupt attachment-building.

Caregiving Burdens: Straining Women and Girls

Women and older girls often bear the brunt of climate-induced household stress, as they collect water, ration food, and manage overcrowded shelters, leaving them with little time for child-focused interactions. Infants and toddlers suffer most when caregivers are overwhelmed or unavailable.

Children's Emotional Distress: Heightening Vulnerability

After storms, floods, or displacement, young children may show trauma symptoms like withdrawal, sleep disturbances, or aggression. Without support systems, caregivers may struggle to respond appropriately, reinforcing the cycle of emotional stress and neglect.

Support Network Breakdown: Increasing Caregiving Stress

Climate disasters often scatter family support systems, cutting off grandparents or neighbors who typically help buffer caregiving stress. In overcrowded shelters, privacy and emotional safety are often compromised, undermining the quality of caregiving when it is most needed.

Figure 14

Women bearing the responsibility of caregiving and ensuring early learning



© Plan International Cambodia



Case Snapshot 7

Women Bearing the Brunt of Caregiving

"When floods destroyed Nurun Nahar's house in a remote part of the Jamalpur District of Bangladesh in 2019, she had to move her family to a shelter."

– UN Women (How gender inequality and climate change are interconnected, 2025)

Q Context: In many regions, women bear a disproportionate responsibility for securing food, water, and fuel for their families. When these resources become scarce due to climate change, women must work harder and travel farther to access them. This also puts added pressure on girls, who sometimes have to leave school to help their mothers manage the increased burden.

Lightbulb Tips: Support women caregivers with access to nutrition, food security, and early childhood services during climate crises.

Climate-Related Impacts on the Safety and Protection of Young Children

Climate-related disasters expose young children to increased risk of neglect, abuse, exploitation, and loss of protection. In fragile environments, especially during or immediately after a climate hazard, safety nets often collapse, leaving the youngest with no defense.

Unsafe Shelters: Heightening Risk of Neglect, Abuse, and Trafficking

In emergency shelters and informal settlements, children are often unsupervised or separated from their families, increasing their vulnerability to exploitation, trafficking, and violence.

Gender-based Violence and Insecurity

Girls and adolescent children face increased risk of sexual violence, particularly in temporary shelters that lack lighting, security, or safe WASH facilities. The absence of protective infrastructure puts their safety at daily risk.



Case Snapshot 8

Unsafe Shelter Environments

"The shelter is not safe for small girls. I do not let my five-year-old out of my sight."

— A young mother from India (Protection Cluster Briefing on Post-Disaster Risk in Emergency Shelters, 2022)

Q Context: In flood-affected shelters in eastern India, the lack of privacy and poor lighting make caregivers fear for their daughters' safety.

💡 Tips: Promote safer, child-friendly emergency shelters with privacy, lighting, and security measures to protect young children, especially girls.

Child Marriage of Girls in Early Adolescence

In flood-affected and drought-impacted regions, families may resort to child marriage as a means to reduce economic hardship or perceived risk. Girls as young as 11 or 12 are at risk of child marriage under the misconception of protection.



Case Snapshot 9

Child Marriage as a Coping Strategy

"We could not afford school or food after the floods. My niece was just 12 when they married her off."

— A caregiver from Bangladesh (UNICEF, Child Marriage and Climate Crisis Report, 2023)

Q Context: In Bangladesh, families displaced by rising waters sometimes turn to child marriage to reduce hardship, even when daughters are still very young.

💡 Tips: Advocate for social protection programs, alternative livelihoods, and community awareness to prevent child marriage during climate crises.

Loss of Identity Documents

Fires, floods, and displacement frequently result in destroying birth certificates and legal documents, leaving children unregistered and unable to access healthcare, education, and protection systems.



Case Snapshot 10

Loss of Identity Documents

"We lost all our papers in the storm. Now we cannot even register my 6-year-old for school."

– A father from the Philippines (UNHCR, Emergency Registration and Legal Identity Brief, 2022)

Q Context: In the Philippines, young children without birth certificates lost in climate disasters may be denied access to school, health care, or protection services. In cyclone-hit regions of Myanmar, the collapse of local protection services leaves young children especially vulnerable.

💡 Tips: Support emergency registration systems and policies to protect children's legal identity and ensure access to services after disasters.

Collapse of Child Protection System

Climate shocks disrupt the operation of schools, health centers, and community support services, essential for identifying and addressing child protection risks. Children become invisible to the systems established to safeguard them.



Case Snapshot 11

Climate Change and the Cost of Education

"This year, it is hotter, and the rainfall is less. This affects animals (pigs are sick, and chickens die). Furthermore, I do not have enough money to support my daughter's education, and rice and water for daily consumption."

– Sothany's mother from Cambodia, (Plan International, Climate Change and Girls' Education Synthesis Report, 2023).






Q Context: In Cambodia and across Southeast Asia, climate shocks such as droughts and heat waves reduce household income by damaging crops and livestock. Families are forced to cut spending on education, with girls at greatest risk of school dropout, child labor, or early marriage. This undermines children's health, nutrition, safety, caregiving, and learning, disrupting all aspects of nurturing care.

💡 Tips: Provide financial assistance, school meal programs, and safe learning spaces to support children's continued education during climate-related crises.

Climate-Related Impacts Mapped to the Domains of NCF

Table 2, below, maps climate-related impacts and responses onto the **Nurturing Care Framework**, illustrating how climate change disrupts each domain and highlights opportunities for targeted action.

Table 2 Climate-Related Impacts on Young Children Mapped to the Nurturing Care Framework

 GOOD HEALTH	 ADEQUATE NUTRITION	 RESPONSIVE CAREGIVING	 SAFETY & PROTECTION	 EARLY LEARNING
<ul style="list-style-type: none"> ● Damage to WASH services ● Increased vector-borne diseases ● Spread of allergens & pathogens ● Air pollution 	<ul style="list-style-type: none"> ● Damage to food production systems ● Impact on water security 	<ul style="list-style-type: none"> ● Parental stress & anxiety ● Disruption of family routines ● Increased caregiving burden on women & girls ● Children's emotional distress ● Breakdown of family/community networks 	<ul style="list-style-type: none"> ● Risk of neglect, abuse, trafficking ● Unsafe shelters ● Child marriage of girls ● Loss of identity documents ● Collapse of child protection system ● Gender-based violence & insecurity 	<ul style="list-style-type: none"> ● Impact on infrastructure ● Impact of migration

Implications for Stakeholders

Policymakers, practitioners, advocates, caregivers, and communities all play complementary roles in protecting young children from climate risks.

Caregivers and communities can support resilience at the household and local level, applying strategies to safeguard children's health, learning, and well-being.

Practitioners can use the Framework to design integrated programs that support children across multiple domains. Involving caregivers and communities in planning and decision-making ensures that programs are both locally relevant and sustainable.

Advocates can analyze the intersections between climate and early childhood through the Framework to build public and political support for prioritizing children's rights in climate and development agendas.

Policymakers can mainstream the Nurturing Care Framework into climate, disaster risk reduction, and development policies. They can align adaptation and resilience funding with early childhood investments to maximize impact and prioritize the youngest children in climate hotspots.

5. From Risk to Adaptation and Resilience: Supporting ECD in a Changing Climate

Pillars of Climate Response: Adaptation and Resilience

Climate change is a profound challenge to human development and well-being worldwide, undermining development and well-being, with consequences that extend across generations. The pace and scale of these disruptions underscore the need not only to reduce emissions but also to prepare countries and communities in the short and long term for current and future climate impacts.

Recognizing these risks, the global community advanced adaptation and resilience as central strategies for confronting climate change. **Adaptation** refers to changes in processes, practices, and structures to moderate potential damages or to benefit from opportunities associated with climate change. Since climate change is dynamic and compounding, adaptation requires continuous learning, innovation, and adjustment across stakeholders, including households, communities, institutions, and nations.

Resilience refers to the capacity of systems to anticipate, absorb, accommodate, and recover from climate shocks while preserving or improving essential functions (IPCC, 2014; UNFCCC, 2023). Resilience is not a single action but a systemic property that determines whether adaptation measures are effective and sustainable.

Whereas adaptation is about **specific adjustments**, resilience reflects the **enduring strength of systems** and their ability to reorganize, learn, and sustain developmental outcomes despite repeated or unforeseen disruptions (Folke et al., 2010; Masten, 2014). For example, constructing a cyclone shelter is an adaptation but a community's ability to safeguard children's learning, nutrition, and safety after a cyclone, and to reorganize without long-term loss, reflects resilience.

Early Childhood Development: A Critical Arena for Adaptation and Resilience

Young children are often overlooked in emergency response plans to climate-fueled disasters. In 2020–2021 alone, 213.5 million people were displaced in the Asia-Pacific due to climate events. [More here.](#)

Adaptation and resilience emerge as essential pillars in safeguarding young children since all domains of ECD are impacted by climate risks as seen through the lens of the NCF.

Adaptation strategies like climate-resilient nutrition programs or disaster-prepared ECD centers can prevent immediate harm. Meanwhile, strengthening caregiving networks and community support can foster resilience and help communities recover from repeated disruptions. Therefore, integrating adaptation and resilience into ECD systems is crucial for protecting children's developmental outcomes amid climate uncertainty.

What the Data Says: ECD Systems in Climate-Impacted Areas

ARNEC has conducted [micro-research studies](#) in high-risk contexts across the Asia-Pacific to better understand how climate change affects ECD on the ground. These studies, conducted in collaboration with national partners, provide insights from the experiences of young children, caregivers, and frontline service providers in the context of climate-related crises.

In Pakistan, record-breaking floods in 2022 submerged a third of the country, impacting 33 million people, with half of them being children. Over 1,700 lives were lost, and nearly 13,000 people were injured. ARNEC documented the specific hardships young children faced, including physical displacement, separation, exploitation, and interruptions to care, learning, and emotional well-being.

In Indonesia, micro-research highlighted the urgent need to strengthen local capacity among ECD stakeholders. The findings emphasized the importance of equipping parents' groups, ECD workers, and community-based organizations with knowledge on the intersections between child development and environmental resilience.

In the Philippines, ARNEC's study underlined the need for emergency preparedness among local actors responsible for delivering ECCD services. It called for better support systems, tools, and coordination mechanisms to maintain continuity of care and learning during disasters.

ARNEC's microstudies highlight the urgent need to strengthen local capacity among ECD stakeholders. They call for equipping local actors responsible for delivering ECCD services, like parents' groups, ECD workers, and community-based organizations.

Early Childhood Development Systems

Early Childhood Development (ECD) relies on a dual system that supports children to survive, thrive, and reach their full potential. This includes:

- **Caregivers:** These are parents, grandparents, and primary caregivers who form the immediate caregiving environment. They provide daily care, emotional support, safety, and responsive interactions.
- **ECD Centers:** These include formal and semi-formal early learning settings like preschools, daycare centers, community-based programs, and other ECD centers. They focus on structured learning, socialization, nutrition, and health services.

Together, these components constitute the nurturing ecosystem of the Nurturing Care Framework, which is critical for lifelong development and well-being.

Caregivers: The Frontline of Nurturing Care

Parents, grandparents, and caregivers are the immediate and primary providers of nurturing care. In the context of the Asia-Pacific region, where the climate risks are intensifying, they are the first and often only line of defense for young children. They prepare, protect, and rebuild children's lives before, during, and after climate-related emergencies. During climate disasters, it is often mothers or grandparents who carry children through floodwaters, protect them from heat, and find ways to keep routines intact despite destroyed homes or schools.

Who they are

Caregivers emerge as the frontline protectors of young children, translating strategies into everyday action, through their multiple roles as:

- **First responders** at home, before formal systems can reach families during emergencies
- **Providers of daily care**—feeding, bathing, comforting, educating—even when systems collapse
- **Protectors in crisis**, shielding children from danger and stress
- **Restorers of emotional safety**, maintaining rituals and routines that help children recover from stress and shock



Case Snapshot 12



Caregivers on the Frontlines

"When the cyclone came, we lost everything. But I still had to find clean water for my baby and keep him calm through the night."

— Rani, mother of a 2-year-old, Odisha, India

-  **Context:** Caregivers from remote villages in the Solomon Islands to crowded urban settlements in Dhaka carry the weight of resilience, often unsupported, unseen, and at great personal cost.
-  **Tips:** Create safe, child-friendly spaces to protect and comfort young children during climate shocks. Equip caregivers with information and tools to build household resilience during climate crises.

Their Unique Vulnerabilities

Caregivers are increasingly **exposed, unsupported, and under pressure**. Without stable livelihoods, shelter, food, and mental health support, their ability to care for young children weakens, jeopardizing not just daily care but also children's development. Key challenges include:

- **Food insecurity and rising costs** are limiting nutrition for both children and caregivers
- **Destroyed homes, loss of documents, and infrastructure gaps**, making caregiving more difficult and dangerous
- **Mental health risks**, including anxiety, trauma, and depression, are common in displacement, post-disaster, or high-stress environments
- **Lack of access to services, cash, or clean water** deepens the caregiving burden, especially for women and single parents

Figure 15**Equipping Caregivers with information and tools to build resilience in a parenting session in Lau Chau Province, Vietnam**

ECD Centers: Bridging Gaps in ECD

ECD centers play a critical bridging role in the Asia-Pacific region, linking households, communities, and formal systems to ensure that young children receive continuous care and learning opportunities. Beyond providing structured early education and socialization, these centers often serve as hubs for nutrition, health, and protection services, reaching children who might otherwise be left behind due to poverty, displacement, or environmental shocks. By integrating learning, caregiving, and community support, ECD centers help close gaps in access, quality, and resilience, ensuring that children can thrive even when households face disruptions from climate change, economic stress, or social inequalities.

What they are

In the Asia-Pacific region, ECD centers encompass a diverse range of formal and informal institutions. These can be preschools, kindergartens, daycare centers, or community programs that support families in caring for young children. ECD centers offer early learning, play, nutrition, and basic health services. Many also provide parenting support and reach out to families in remote or marginalized areas. Some countries have integrated models, such as Indonesia's Pos PAUD and the Philippines' Day Care Centers, which combine education, health, and social protection in one location. ECD centers also help communities adapt to climate challenges by preparing for disasters, building resilient facilities, and ensuring that children continue to learn and receive care during extreme weather conditions.

Their Unique Vulnerabilities

ARNEC's microstudies have highlighted several vulnerabilities faced by ECD centers in the Asia-Pacific region, particularly in the context of climate change and environmental challenges. These studies underscore the critical need for adaptive strategies to ensure the resilience and continuity of ECD services. Key vulnerabilities include:

- **Infrastructure Weaknesses:** The physical location of many ECD centers in areas vulnerable to natural disasters, including floods, earthquakes, and cyclones, leads to damage or destruction of facilities and disruption of services after a crisis.
- **Limited Resources and Capacity:** The scarcity of trained personnel and educational materials in ECD centers, particularly in rural and remote areas, restricts the quality of caregiving and early education.
- **Access to Services:** Climate-induced displacements often increase existential barriers in accessing ECD by children in marginalized communities, including those from low-income families, indigenous groups, and remote locations.
- **Health and Safety Risks:** ECD centers often lack adequate health and sanitation facilities to mitigate climate risks that cause respiratory infections or waterborne diseases in climate-affected areas.
- **Psychosocial Stress:** ECD centers frequently lack the necessary support systems to address the psychosocial needs of children and their families emerging from stress and trauma after a climate crisis.

Strategy for Adaptation in ECD

ECD as a Site of Adaptation and Resilience

- **At the household level,** adaptation includes caregiver support, training, and access to tools for ensuring continuity of care during crises, while resilience reflects the ability of families to reorganize and sustain nurturing care through repeated disruptions.
- **At the community level,** adaptation may involve climate-proofing childcare and preschool infrastructure; resilience entails social solidarity, resource-sharing, and mechanisms for safeguarding children's learning and safety during emergencies.

Adapting ECD Systems and Processes to a Changing Climate

Adaptation actions focus on reducing vulnerability to climate change by making long-term adjustments in systems, behaviours, and environments to build resilience. This requires action at multiple levels, including households, communities, services, and institutions, where adaptive behaviours and practices strengthen capacity to cope with climate risks.

In the context of ECD, adaptation extends beyond service delivery to encompass how parents and caregivers foster resilience at home, how communities create supportive environments, and how learning spaces and services evolve through eco-literacy, green infrastructure, and climate-smart design.

Stakeholder-centric Actions for Adaptation

The measures below focus exclusively on adaptation, adjusting behaviors, practices, and systems to reduce emissions, minimize environmental harm, and future-proof ECD programs.



At the Families and Caregivers Level

Strategy: Promote climate-smart caregiving and household practices.

- **Strengthen household preparedness** with safe indoor spaces, improved ventilation, shaded indoor play areas, and water-saving hygiene routines.
- **Build home-based safety nets**, such as rainwater harvesting and climate-adaptive food sources, solar power, composting, and plastic reduction, to foster resilience and model eco-responsibility.
- **Support responsive caregiving** and emotional support for children during crises.
- **Prepare children and families** for climate-related risks through simple home-based disaster preparedness plans, including evacuation readiness, and child-centered emergency kits.



At the Community and Local Government Level

Strategy: Build equitable, climate-resilient ECD systems in communities.

- **Promote climate-resilient nutrition** by incorporating locally available, drought- and flood-resistant foods into school meals and caregiver guidance, thereby ensuring support for young children's nutrition during climate stress.
- **Ensure equitable access to ECD services** for children living in climate-vulnerable settings, such as coastal zones, informal settlements, and drought-affected regions



At the ECD Programs and Services Level

Strategy: Embed climate resilience in ECD environments, pedagogy, and care.

- **Integrate eco-literacy into play-based learning** through stories, games, and hands-on activities to teach children about nature, environmental care, and simple climate concepts. <https://cope-disaster-champions.com/disaster-book-series/>
- **Strengthen ECD environments** by investing in ECD systems and spaces such as safe, shaded, and well-ventilated spaces that can withstand climate shock.
- **Adjust daily routines to local climate** conditions, for example, starting sessions earlier during heatwaves or switching to indoor activities during high air pollution.
- **Train ECD staff in climate-adaptive caregiving and pedagogy** to proactively integrate age-appropriate climate education into early childhood training so children and educators can adapt to, and recover from, climate shocks.

At the Government, Policy Makers, and Donors Level

Strategy: Integrate early childhood into national climate adaptation and financing.

- **Ensure alignment with the Nurturing Care Framework's indicators** for all national adaptation plans (NAPs), sectoral frameworks, and climate resilience investments, ensuring the inclusion of young children.
- **Prioritize ECD infrastructure and services** in climate financing.
- **Ensure ECD centers** are included in national and regional school safety frameworks and covered by climate disaster planning and emergency response systems. See the [Comprehensive School Safety Framework 2022-2030](#).
- **Use child-specific data** to monitor and plan for climate-resilient ECD interventions.

At NGOs, Civil Society, and ECD Networks Level

Strategy: Drive accountability for child-centered climate adaptation through advocacy and networks.

- **Share clear and actionable evidence** on how climate change impacts young children to support effective advocacy and enhance public understanding, motivating stakeholders to prioritize child-focused adaptation measures.
- **Foster cross-sector coalitions by connecting** child rights, climate, health, education, and social protection groups. Facilitate collaborative campaigns and policy initiatives to embed child-centered climate adaptation in diverse settings and policy agendas.
- **Advance advocacy** that educates and empowers young children and caregivers to understand climate risks and promote adaptation from an early age.

Building Resilience for a Changing Climate

Resilience actions focus on addressing the effects of climate change, helping young children, families, and early childhood systems cope with, withstand, and recover from climate-related shocks such as floods, heatwaves, displacement, or food insecurity. These actions strengthen existing services, ensure they remain safe, stable, and functional during and after crises.

In ECD, building resilience means creating more secure environments, supporting caregivers during emergencies, and safeguarding children's development even in the most disrupted settings. It is about ensuring that nurturing care continues, no matter the climate challenge.

Protecting young children from climate risks demands **bold, coordinated, and child-centered action**. The early years are both a window of vulnerability and a powerful entry point for building **lifelong resilience**. Integrating ECD into national climate strategies and financing mechanisms is essential to achieving resilient families, communities, and systems. Learn more from: [ECDAN Partner Statement on Climate Change \(2024\)](#).

Stakeholder-level Framework for Strategies and Actions to Build Resilience

The stakeholder-level strategies and actions are presented below to help build resilience, enabling ECD systems, communities, and families to withstand climate shocks while protecting the well-being of young children.



At the Families and Caregivers Level

Strategy: Strengthen caregiving capacity and community support to withstand climate shocks.

- **Foster community-support networks** by encouraging collaboration among families and neighborhood groups and informal support systems to pool resources and respond collectively during disasters.
- **Strengthen caregiving capacity** by training parents and caregivers in climate-resilient practices, emotional support for children, and maintaining routines during and after climate events.
- **Ensure access to mental health services**, social support, and family-friendly resources for caregivers, especially women, during emergencies to reduce stress.



At the Community and Local Government Level

Strategy: Build child-safe, climate-resilient community infrastructure and preparedness.

- **Install age-sensitive early warning systems** and alerts in preschools and community centers to help families and ECD providers prepare for heatwaves, floods, storms, or poor air quality events.
- **Retrofit and build climate-resilient ECD infrastructure**, such as preschools, daycare centers, and child-safe spaces that withstand climate hazards and ensure child safety and uninterrupted services during emergencies.
- **Create nature-based, shaded play areas** as climate-buffering spaces that shield children from extreme heat and nurture well-being.



At the ECD Programs and Services Level

Strategy: Ensure continuity and quality of early learning and support children's recovery after crises while bridging gaps between formal and informal systems.

- **Climate-proof infrastructure** by creating resilient buildings, safe play areas, and sanitation facilities to withstand floods, storms, or heatwaves.
- **Create backup plans** for disrupted sessions, remote learning options, or temporary relocation of services.
- **Incorporate healing play and creative expression** (storytelling, drawing, singing, and imaginative play) to guide children in processing fear, loss, and change and facilitate their recovery from climate-related trauma.
- **Capacitate teachers and ECD workers** in emergency response, psychosocial first aid for children, and adaptive pedagogical practices.
- **Coordinate with local authorities**, disaster management agencies, and NGOs to ensure rapid response, resource mobilization, and sustained service delivery.

At the Central or National Government, Policy Makers, and Donors Level

Strategy: Embed young children into resilience policies, finance, and evidence systems.

- **Prioritize and embed early childhood into national and global climate policies**, including Nationally Determined Contributions (NDCs), National Adaptation Plans (NAPs), and disaster risk reduction (DRR) strategies.
- **Utilize disaggregated child-focused data**, differentiating between young children, youth, and adolescents in climate frameworks, to inform policy design, budgeting, monitoring, and implementation.
- **Secure child-focused climate funding** to designate budgets for vulnerable children, especially in high-risk communities, using mechanisms such as the Green Climate Fund, Adaptation Fund, and national climate budgets to advance ECD interventions.
- **Enhance the evidence base** for designing climate-smart investments and policies by conducting targeted child-focused research and collecting locally relevant data.

At the NGOs, Civil Society, and ECD Networks Level

Strategy: Amplify child-centered resilience through advocacy and partnerships.

- **Mobilize civil society and amplify children's voices** in climate action and policy, ensuring their perspectives (expressed through caregivers and communities) influence early learning and environmental advocacy efforts.
- **Foster cross-sector collaboration and advocacy** across health, education, DRR, environment, social protection, and urban planning sectors.
- **Document and disseminate good practices**, capturing local and successful programs and innovations to inspire replication across regions.

Stories of Impact: Protecting Young Children in a Changing Climate

Children are among the most vulnerable to the effects of climate change, yet they often have the least voice in shaping their world. This section features real-life stories of the impact that organizations have made in addressing strategies for resilience in the face of the climate crisis. The stories reflect the strategies for different stakeholders, including households, communities, ECD centers, policymakers, and advocates. They range from research studies to community campaigns and educational programs, each example demonstrating how the elements of the Nurturing Care Framework can be applied to protect the well-being of young children. Together, they offer practical lessons and can be used to inspire immediate application for turning the vulnerabilities of young children into resilience.

Story 1



ARNEC and HI-ECD Coalition Raised Awareness by ECO-RISE Campaign in Indonesia

Focus: Advocacy and Awareness

Q Context: In 2023, ARNEC and the HI-ECD Coalition launched the ECO-RISE (Early Childhood for Resilient Environment) Advocacy Campaign in Indonesia to highlight the severe impact of climate change on young children in a country highly vulnerable to climate risks. The campaign aimed to raise awareness among parents, educators, communities, and policymakers, encouraging them to adopt climate-smart ECD practices and support relevant policies for a stronger commitment.

★ Why it Matters: The film, in the local language, shows how visual storytelling can make children's vulnerabilities related to the climate crisis visible and universal, motivating urgent action among diverse audiences.



▶ [Watch the campaign video online](#)

Story 2



ICLEI South Asia Conducted a Study on the Impact of Climate Change on Young Children in India

Focus: Research and Policy Evidence

Q Context: This is the first study of its kind to explore the specific vulnerabilities of young children and their caregivers to climate change in India. The study focuses on the four northern cities of Delhi, Gandhinagar, Kharagpur, and Roorkee. It combines a baseline assessment of climate impacts, primary data collection on air pollution and temperature, and offers targeted recommendations, including a master checklist for local policymakers.

★ Why it Matters: The findings provide pioneering evidence to inform child-centric climate policies and interventions to safeguard the well-being of young children amid environmental challenges.



▶ [Study on Young Children and Climate Change in India](#)

Timor-Leste Ministry of Education Launched Green School Program

Story 3



Focus: Integrating Environmental Education into Schools

Q Context: The Green School Program, launched in 2016 by the Ministry of Education and partners in Timor-Leste, promotes environmental education, waste management, and sustainable practices in schools. By 2019, over 100 schools had participated, implementing activities such as composting, tree planting, and water conservation.

★ Why it Matters: The initiative demonstrates how education systems can promote early stewardship and contribute to disaster risk reduction.



PEMSEA in 2019: the Green School Program in Timor-Leste

ARNEC and Care Bhutan Conducted a Perception Survey of Climate Change among ECD Actors in Bhutan

Story 4



Focus: Micro Research Report on Awareness and Perceptions

Q Context: Although Bhutan is a carbon-negative country, the study found that there was limited awareness of climate change and its impacts on children. The micro research examines the awareness and perceptions of climate change among children aged 3–6, their parents, and early childhood educators in two districts of Bhutan. Only 2% of children were aware of climate-related events. Most adults (65%) identified climate change as a concern, but often lacked clarity about its causes. While educators understood the issue better, their knowledge of how to address it varied.

★ Why it Matters: Though carbon-negative, Bhutan still faces significant climate risks, such as glacial lake outburst floods. The study found that when children and families are not aware of these dangers, they are less prepared to deal with them. Helping parents and teachers learn more is important, and supports UNICEF's goal of protecting children and Bhutan's environment from climate threats.



Micro Research. November 2023. Bhutan

Earth Warriors Global Empowers Young Children with Climate Change and Sustainability Education

Story 5



Focus: Climate and Sustainability Curriculum

Q Context: Earth Warriors Global is a social enterprise dedicated to empowering children aged 3 to 11 years with climate change and sustainability education. Their curriculum is designed to be positive, solutions-focused, and developmentally appropriate, aiming to instill environmental stewardship from an early age.

★ Why it Matters: By integrating climate education into early childhood learning, Earth Warriors Global demonstrates how a generation of environmentally conscious individuals equipped to address climate challenges can be nurtured.



earthwarriorsglobal.com

ARNEC and ITA Pakistan Undertook a Study on the Impact of Climate Change and Environmental Degradation on ECD in Pakistan

Story 6



Focus: Micro Research Report on Awareness and Perceptions

Q Context: Utilizing a mixed-methods approach, the study assessed caregivers' perceptions and the challenges faced by young children and their families in flood-affected communities of Shikarpur, Sindh, Pakistan. Findings reveal limited awareness of climate change among caregivers, with 57% having heard the term, but with a significant lack of understanding regarding its human-induced causes. The study also highlights that limited caregiver awareness and increased stress in flood-affected communities reduce nurturing care, putting children at higher risk of malnutrition, stunting, and behavioral challenges. Caregivers reported difficulties in providing nurturing care due to increased workloads and stress, further exacerbating developmental challenges for children.

★ Why it Matters: The study highlights the importance of targeted support and climate-informed interventions to safeguard young children.



[Pakistan: Climate Change for Young Children. Micro Research](#)

Save the Children Nepal Conducted Research on the Impact of Early Childhood Interventions on Children's Development in Post-Earthquake Nepal

Story 7



Focus: Disaster response and ECD

Q Context: The research evaluates two ECD interventions implemented by Save the Children in Nepal's Sindhupalchok district following the 2015 earthquake. Findings indicate that while the caregiver-focused intervention showed no significant impact on developmental outcomes, the center-based intervention had a positive influence on early learning, particularly in pre-academic skills.

★ Why it Matters: The study highlights the importance of structured, center-based ECD programs in supporting recovery after disasters.



Effects of Two Early Childhood Interventions on the Developmental Outcomes of Children in Post- Earthquake Nepal

Young children are particularly vulnerable to the effects of climate change, but their well-being can be safeguarded when the different actors of ECD collaborate. The table below maps each of the stories of impact to resilience strategies across different stakeholder groups. It illustrates how each of these real-world stories demonstrates these strategies in action, providing practical examples of how resilience can be built for the youngest and most vulnerable individuals.



Table 3

Stories of Impact Mapped to Resilience Strategies

Stories of Impact	Resilience Strategies Addressed	Stakeholders Involved
ECO-RISE Campaign, Indonesia ARNEC and HI-ECD Coalition	<ul style="list-style-type: none"> Build awareness and advocate for child-centered climate resilience 	<ul style="list-style-type: none"> NGOs, Civil Society, and ECD Networks Community Leaders Government, Donors, and Policymakers
Study on Young Children and Climate Change, India ICLEI, South Asia	<ul style="list-style-type: none"> Embed young children into resilience policies, finance, and evidence systems 	<ul style="list-style-type: none"> Government, Policymakers, and Donors Families and Caregivers
Green School Program, Timor-Leste Timor-Leste Ministry of Education	<ul style="list-style-type: none"> Build child-safe, climate-resilient infrastructure Ensure continuity of early learning 	<ul style="list-style-type: none"> ECD Centers Community NGOs, Civil Society, ECD Networks
Perception Survey, Bhutan ARNEC and CARE Bhutan	<ul style="list-style-type: none"> Embed young children into resilience policies; Raise awareness among caregivers and educators 	<ul style="list-style-type: none"> Government, Policymakers, and Donors Families and Caregivers

Climate and Sustainability Curriculum Earth Warriors Global	<ul style="list-style-type: none"> ● Ensure continuity of early learning ● Integrate climate resilience into pedagogy 	<ul style="list-style-type: none"> ● ECD Centers ● NGOs, Civil Society, and ECD Networks
Climate Change Impact in Shikarpur, Pakistan ARNEC	<ul style="list-style-type: none"> ● Strengthen caregiving capacity and community support 	<ul style="list-style-type: none"> ● Families and Caregivers ● ECD Centers
Early Childhood Interventions Post-Earthquake, Nepal Save the Children	<ul style="list-style-type: none"> ● Ensure continuity of early learning ● Strengthen caregiving support 	<ul style="list-style-type: none"> ● ECD Centers ● Families and Caregivers

Key Takeaways: From Evidence to Action

Young children, particularly in the Asia-Pacific region, are among the most vulnerable to the impacts of climate change. Crucial to reducing their vulnerability and increasing their resilience is the role played by systems. These include both the caregivers who provide daily nurturing care and the ECD programs that ensure continuity of learning, health, and protection. Adaptation provides the immediate adjustments needed to safeguard children’s health, learning, and safety in the short term. At the same time, resilience ensures that these gains are sustained in the face of repeated shocks.

Experiences from real-world stories across the Asia-Pacific highlight that neither families nor systems can succeed in isolation. The stories demonstrate that ECD centers, when climate-resilient, can safeguard continuity, promote psychosocial recovery, and ensure safety. Additionally, curriculum changes underscore the power of advocacy and eco-literacy in preparing both caregivers and children to adapt and thrive.

Taken together, these experiences show that none of the stakeholders can work in silos. What emerges is a shared responsibility. Caregivers, while providing the frontline of protection, need supportive communities and climate-ready ECD services to equip them with the tools and support. Centers must be safe and adaptable; communities must mobilize; and governments and policymakers must create enabling policies and frameworks that include child-focused climate resilience in adaptation plans, finance, and data systems. NGOs and networks bring innovation and advocacy to scale. By connecting these lessons to action, countries can move from fragmented efforts to coordinated resilience, ensuring that young children are not left behind in the climate crisis.

6. Communicating Climate and ECD

6

This chapter equips you with practical tools, messages, and real-world campaign examples to amplify your voice and deepen stakeholder engagement. In this section, you will find ready-to-use social media visuals and narratives tailored for digital outreach, downloadable PowerPoint slides with talking points sourced from ARNEC, templates and translated materials adapted to local contexts, case studies, advocacy briefs, a library of key messages with linked evidence and examples of launch materials.

Tips for Advocacy and Impact

Guides for Policy Influence

Clear, focused communication is crucial for raising awareness, influencing decision-making, and driving investment in ECD as part of climate adaptation. However, policymakers need simple, strategic messages, not a long list of demands.

Core Message: Protecting the youngest children from climate risks is urgent and foundational to long-term resilience.

First Step: Integrate ECD into national climate policies and budgets, prioritizing support for the most vulnerable families and caregivers. This creates the policy entry point upon which further advocacy can build.

Six Tips for Policy Influence

- **Engage your audience:** Understand your target—policymakers, partners, parents—and frame messages around what matters most to them.
- **State the problem:** Clearly show how climate change threatens young children’s survival, health, learning, and rights.
- **Offer practical solutions:** Present actionable, child-responsive ideas such as green ECD centers, caregiver training, or social protection.
- **Make a strong call to action:** Be explicit: should your audience fund, legislate, implement, or prioritize?
- **Organize effective campaigns:** Use storytelling, visuals, and coordinated messaging to mobilize attention and support.
- **Build strategic alliances:** Partner across education, health, disaster risk reduction, environment, and civil society sectors. Align timelines, strategies, and messages to amplify collective impact.

Key Messages and Evidence on Climate and ECD

This section presents evidence-based messages and links to resources that provide clear points for advocacy campaigns, presentations, or capacity-building sessions. They highlight why young children are especially vulnerable to climate change and underscore the urgency of framing the crisis as a critical child rights issue. They also show how **early childhood systems can** enhance resilience, promote well-being, and support healthy development in the face of the climate crisis.

Diverse stakeholders can use these messages as powerful tools to strengthen their work in advocacy, policy, or practice. By drawing on these messages, they can align their efforts, communicate more impactfully, and ensure that climate action prioritizes the needs and rights of young children.



Table 4

Strategy to Framing Messages and Anchoring the Issue for Sharing with Stakeholders

ADVANCING THE CASE FOR CLIMATE-RESILIENT ECD

Vulnerability and Inequality	Reframing the Issue	Pathway for Action
<ul style="list-style-type: none"> • Young children are especially vulnerable to climate shocks • Unsafe environments are a risk to children’s health and safety • Today’s children are more at risk than past generations • Climate risks are unequally distributed 	<ul style="list-style-type: none"> • Climate change is a child rights issue • ECD systems are vital to address the climate crisis 	<ul style="list-style-type: none"> • Empowering ECD professionals is critical for climate resilience • Strengthen evidence to guide climate action for young people

1. Young Children are Especially Vulnerable to Climate Shocks

Young children are particularly vulnerable to climate and environmental hazards due to their developing bodies and abilities to cope with environmental changes. Early protection and support ensure healthy development and strengthen lifelong resilience. [More here](#)

Key Facts

- 80% of brain development occurs rapidly before the age of six years
- Early experiences shape lifelong health, learning, and development
- Climate shocks disrupt survival, development, and early learning
- Young children cannot regulate body temperature well, making them vulnerable to heat stress
- Young children are prone to dehydration
- Exposure to unsafe environments magnifies health inequities

2. Unsafe Environments are a Risk to Children's Health and Safety

Every year, 1.7 million children under the age of five die from causes linked to unsafe environments. Air pollution alone causes over 6 million pre-term births (WHO, 2023) and more than 600,000 child deaths under age five (UNICEF, 2016). Ensuring children's right to safe and healthy environments is critical to protecting their survival and well-being. [More here](#)

Key Facts

- Susceptible to waterborne and vector-borne diseases
- Vulnerable to respiratory infections from indoor and outdoor air pollution
- Affected by poor access to clean water, sanitation, and hygiene
- Harmed by exposure to toxic substances (e.g., lead, pesticides)
- At risk of injuries and trauma from unsafe environments

3. Today's Children are More at Risk than Past Generations

Children born in 2020 will face 2–7 times more climate-related disasters than those born in 1960, threatening their food security, health, and learning throughout their lives. Immediate action is necessary to strengthen early childhood systems and family resilience, safeguarding children from the increasing climate risks they will face throughout their lives. [More here](#)

Key Facts

- Over one billion children live in extremely high climate risk areas
- Seven times more exposure to heatwaves
- Higher exposure to unsafe water, pollution, and related diseases
- Greater inequities amplified by global warming
- Greater exposure to floods, droughts, and cyclones
- Long-term cascading risks to nutrition, education, and health
- Exposure to climate impacts throughout their entire lives

4. Climate Risks are Not Equally Distributed

Vulnerability to climate change differs across the globe, with developing countries that have low adaptive capacity experiencing the most severe effects. Vulnerable groups, including young children, women, indigenous peoples, and low-income communities, face the greatest risks as their essential needs are disproportionately affected. Therefore, equity must be a central focus in climate policy and funding. [More here](#), [and here](#)

Key Facts

- Young children have limited physical and social protection
- Women and girls carry greater caregiving responsibilities
- Indigenous communities face loss of land and identity
- Low-income families with fewer safety nets are more vulnerable
- Children in low- and middle-income countries are at more risk
- Low-income families have limited adaptation measures, like heating or cooling
- Children in low-lying coastal areas face increased exposure to flooding

5. Climate Change is a Child Rights Issue

Children under five bear 90% of the global disease burden caused by climate change, leading to a violation of their rights to survive, thrive, and learn. The interconnected and interrelated nature of rights often leads to the violation of one, undermining the others. Protect children's rights by ensuring climate action aligns with international child rights frameworks. [More here](#)

Key Facts

- Children's rights to survive, grow, and learn are at risk
- Children contribute the least to the crisis but suffer the most
- Young children lack legal, political, and economic power
- Governments are obliged under the UNCRC and General Comment No. 26 to protect children's rights from climate harms
- Child rights frameworks are violated by climate inaction

6. ECD Systems are Vital to Address the Climate Crisis

ECD systems are cost-effective and comprehensive tools that build climate resilience, strengthen family adaptation, and contribute to advancing the Sustainable Development Goals (SDGs). Investing in ECD today means equipping children and families to be climate resilient, adapt, and thrive in a changing climate. [More here](#)

Key Facts

- Build household, community, and systemic climate resilience
- Catalyze intersectoral integration linking health, nutrition, protection, and education to address the climate crisis
- Build foundational early skills for lifelong adaptation
- Offer inclusive, low-cost climate action grounded in nurturing care
- Advance child-focused SDG targets through holistic action

7. Strengthen Evidence to Guide Climate Action for Young Children

ARNEC's micro-research in Bhutan, Indonesia, the Philippines, and India highlights the importance of context-specific studies for understanding the unique challenges faced by children under five years and ECD systems. Conducting more localized studies will help inform evidence-based policy and tailored interventions. [More here](#)

Key Facts

- Localized data drives more effective policy responses
- Few studies focus on under-fives or ECD systems
- More research is needed on caregiver stress and system resilience
- Data gaps constrain funding and visibility for young children

8. Empowering ECD Professionals is Critical for Climate Resilience

Children are physically and socially more vulnerable to shocks, and ECD professionals are trusted frontline workers who connect children, families, and communities. Their empowerment ensures children are not left behind in climate action. [More here](#)

Key Facts

- Provide immediate protection and care during a crisis
- Embed resilience and preparedness into daily routines
- Safeguard children's emotional, physical, and cognitive growth
- Support caregivers, reducing the intergenerational impact of climate stress
- Strengthen child services to be climate-ready
- Bridge gaps to connect global climate frameworks with local realities
- Translate and disseminate technical climate knowledge in local contexts for community awareness

Communication Strategy for ECD and Climate Materials

To effectively advocate for ECD in the context of climate change, this toolkit brings together a range of communication materials. This includes ready-to-use digital and social media materials, factsheets, social media content, reports, and participatory videos. Each type serves a distinct purpose, targets a specific audience, and uses an appropriate format to maximize impact. You can select and deploy the right materials strategically, ensuring messages reach the intended audience and drive meaningful action. Table 5 presents the list of advocacy resources presented further.


Table 5
Child-Centred Climate and ECD Advocacy Resources

Category	Resource Description	How it can be used
Social Media Flooding Campaign	Posts by ARNEC and Vital Strategies highlighting the impacts of Flooding on all five NCF components	Adapt ready-to-use visuals and messages for social media
Downloadable Presentation Slides	Slides with talking points by ARNEC <ul style="list-style-type: none"> • ARNEC Presentation by Sheldon Shaeffer on Polycrisis and Young Children • ARNEC presentation by Neelima Chopra on the Critical Window of ECD and Climate Impacts 	Adapt ready-to-use content for workshops and advocacy sessions
Templates for Adapting Factsheets / Messages	Factsheets and Vital Strategies by ARNEC on Air Pollution, Flooding, Heatwaves, and Lead Poisoning, linking climate risks to the five components of NCF	Adapt factsheets to local contexts to provide relevant, actionable information.

Country Cases & Materials

Indonesia: Digital Tools for Climate Advocacy

Advocacy resources, including social media cards, curriculum integration guides, policy articles, and child health briefs

Adapt ready-to-use advocacy resources for building campaigns or use as models to develop new advocacy materials.

Vietnam: Children's Climate Cards by Plan International

Fun and interactive activities to engage children on the climate change agenda and inspire a call for climate action

Adapt for fun activities that can be built into ECD programs to nurture early environmental stewardship and strengthen resilience

Vietnam: Video on Climate Change and DRR by Plan International

Children's experiences with Typhoon Ketsana, transforming lived trauma into action

Use as a powerful model involving participatory storytelling approach to amplify children's voices in advocacy

Bhutan: Perception Survey on Climate Change and Young Children by ARNEC

Micro research on perceptions of children, parents, and educators, emphasizing multi-level action

Use as a model for local perception studies, integrate findings into advocacy, and adapt insights for ECD and community education programs.

Advocacy Briefs

A series of Advocacy briefs by Care Bhutan highlighting children's vulnerability to environmental issues, including Water Pollution, Air Pollution, Climate Change, Waste Management, and Extreme Weather Events

Use to draw evidence-based messaging, adapt to local contexts, and advocate for stronger child-centered policies and community action.

Tips for using: Align your choice of material with the audience and intended impact. For example, advocacy briefs are ideal for influencing policy, while participatory videos engage communities emotionally and visually.



Ready-to-use Visuals and Narrative for Social Media

Factsheet Campaign

Q Context: The Flooding Factsheet Launch Campaign aimed to raise awareness of the disproportionate impact of floods on young children and the disruption to the five components of the Nurturing Care Framework. It includes ready-to-use talking points, as well as visuals and social media messages.

💡 Tips for using: They can be adapted to local languages and contexts, used to raise awareness, engage communities or decision-makers, or serve as templates to create impactful, new advocacy materials.

📌 Instagram Series on Flooding

[Flooding and Early Childhood: Protecting the Most Vulnerable](#)

[Did you know?](#)

[Flooding Impacts all Five Nurturing Care Framework Components](#)

[Compromised Safety and Security](#)

[Impact on Nutrition](#)


[Impacts on Responsive Caregiving](#)


[Impacts on Good Health](#)


[Reduced Opportunities for Early Learning](#)

Downloadable PowerPoint Slides with Talking Points Sourced from ARNEC


The Polycrisis and Young Children


 **Context:** This presentation was delivered by Dr. Sheldon Shaeffer, Chair, Board of Directors, ARNEC, at the Climate 101 Workshops in Bhutan. It examines how overlapping crises, including the pandemic, climate change, and environmental degradation, converge to create significant and mutually reinforcing challenges for the development of young children. It highlights the urgent need to strengthen ECD systems as a critical pathway to resilience.

 **Tips for using:** The slides may be used as master slides and can be adapted and contextualized for advocacy in your own setting.

 [Presentation by Sheldon Shaeffer, Chair, Board of Directors, ARNEC ECD-Climate 101 Training and Consultation Workshop, Bhutan, August 2024.](#)

The Critical Window of Early Childhood Development and The Impact of Climate Change on Young Children

 **Context:** This presentation was delivered by Dr. Neelima Chopra, Program and Partnership Specialist, ARNEC, at the ECD and Climate Workshop with youth advocates in Nepal. It highlights the critical importance of the early years for brain development and lifelong well-being. It examines how climate change affects the core components of the Nurturing Care Framework (NCF) and increases children's vulnerability. The slides also share key facts, resources, and factsheets to support youth advocates in raising awareness and driving action for ECD in the context of climate change.

 **Tips for using:** The slides may be used as master slides and can be adapted and contextualized for advocacy in local contexts.

 [Presentation by ARNEC at ECD and Climate Change Workshop, Nepal, April 2025.](#)

Templates for Adapting Factsheets and Messages to Local Contexts

Q Context: These adaptable factsheets, developed by ARNEC & Vital Strategies, link climate risks to the five components of the Nurturing Care Framework. The factsheets highlight the specific risks that the climate crisis and environmental degradation pose to young children and a list of actions that we can take to reduce these risks.

💡 Tips for using: They can be tailored to local contexts to develop and share actionable information.

- [📄 Factsheet on Air Pollution](#)
- [📄 Factsheet on Flooding](#)
- [📄 Factsheet on Heatwaves](#)
- [📄 Factsheet on Lead Poisoning](#)

Country Cases and Materials

This section brings together country experiences and practical materials that demonstrate how climate action can be integrated into early childhood systems. They provide evidence, tools, and approaches that support advocacy, strengthen capacity, and inspire action at multiple levels.

Country Case Study 1. Indonesia: Digital Tools for Climate Advocacy

Q Context: Indonesia Digital Tools, used as part of the ECORISE campaign, provide ready-to-use advocacy resources, such as social media cards, curriculum guides, policy articles, and child health briefs that amplify messages and engage audiences across various platforms.

💡 Tips for using: They can be tailored to local contexts and shared in campaigns or as models to create new advocacy materials.

- [📄 Indonesia SM cards](#)
- [Integrasi Climate Change dengan Kurikulum](#)
- [Artikel: Kerangka Kerja Advokasi](#)
- [Polusi Udara dan Anak Usia Dini part 1 1 1](#)

Country Case Study 2. Vietnam: Children's Climate Cards


Q Context: The Children's Climate Cards by Plan International provide a series of fun, interactive activities to engage children on the climate change agenda and inspire a global children's call for climate action now.


💡 Tips for using: These can be adapted to local contexts and used in community programs or ECD education to nurture early environmental stewardship and build resilience in children.

- [📄 https://plan-international.org/vietnam-en/publications/childrens-climate-cards/](https://plan-international.org/vietnam-en/publications/childrens-climate-cards/)

Country Cases and Materials


Country Case Study 3. Vietnam: Video on Climate Change and DRR

 **Context:** This video on Climate Change and DRR was developed by children in Vietnam, who recount their trauma of Typhoon Ketsana. Trained by Plan, they share how the disaster impacted their daily lives and how they plan to protect their communities from future disasters. Their voices transform lived trauma into action, hope, and resilience.


 **Tips for using:** The participatory storytelling approach can be adapted to local contexts, used for advocacy, and included in community or ECD programs to nurture early environmental stewardship and strengthen resilience.

 <https://global.comminit.com/content/vietnam-climate-change-drr>


Country Case Study 4. Bhutan: A Perception Survey on Climate Change and Young Children


 **Context:** This micro research study in Bhutan by ARNEC showed complementary perspectives on climate change. Educators stressed awareness and emission reduction, parents focused on waste management and conservation, and children suggested planting trees and reducing waste. Together, these views underscore the need for multi-level action where institutions, families, and children all contribute to climate resilience.

 **Tips for using:** This can be used as a model for local perception studies, integrating findings into advocacy and adapting insights for ECD and community education programs.

 ["Climate Change and Young Children: A Perception Survey of Children, Parents, and Early Childhood Educators in Bhutan". \(Karma Gayleg, ECCD Specialist, Ministry of Education, Bhutan, 2023\).](#)

Advocacy Briefs – Bhutan

 **Context:** Advocacy briefs are concise, evidence-based documents designed to inform and influence decision-makers. A series of five advocacy briefs was developed, focusing on Water Pollution, Air Pollution, Climate Change, Waste Management, and Extreme Weather events in Bhutan. These briefs highlight the urgent need to protect young children from the adverse impacts of environmental degradation with a specific focus on Bhutan.

 **Tips for using:** They can be used to draw evidence-based messaging, adapt to local contexts, and advocate for stronger child-centered policies and community action.

 **Water Pollution and Impact on Young Children in Bhutan**

Emphasizes the vulnerability of children to unsafe water sources and poor sanitation.

[Brief on Water Pollution and Impact on Young Children in Bhutan.](#)

Advocacy Briefs – Bhutan

- 
Air Pollution and Impact on Young Children in Bhutan
 Outlines the health risks of polluted air for children’s development.
[Brief on Air Pollution and Impact on Young Children in Bhutan.](#)
- 
Climate Change and Its Impact on Young Children in Bhutan
 Examines the effects of climate change on child well-being and resilience.
[Brief on Climate Change and Its Impact on Young Children in Bhutan.](#)
- 
Waste Management and Its Impact on Children in Bhutan
 Highlights waste management and the well-being of children in Bhutan
[Brief on Waste Management and Its Impact on Children in Bhutan.](#)
- 
Extreme Weather Events and Their Impact on Young Children in Bhutan
 Highlights the risks posed by increasing weather extremes to children’s safety and survival
[Brief on Extreme Weather Events and Their Impact on Young Children in Bhutan.](#)

Key Takeaways

The real-world stories in this chapter demonstrate how earlier Implications for Action successfully translate evidence into practical steps. They demonstrate that building resilience from vulnerability necessitates thoughtful reflection, informed decision-making, and inclusive action centered on children's needs within the context of climate change. These stories highlight how stakeholders can assess risks to children, identify solutions, invest in climate-resilient infrastructure, ensure care, provide climate education, foster community participation, build resilience, and empower children's voices. The messages in this chapter help stakeholders translate evidence into real-life action and shape the public discourse around protecting young children in the face of the climate crisis.

7. Climate Financing for Young Children: A Call to Action for Equitable Climate Investment

7

Investing in young children's climate resilience is not only essential, but **urgent and cost-effective**. Despite being among the most vulnerable to climate change, children under five are **largely invisible** in global climate finance flows. If we fail to address this **climate finance gap**, we risk compounding inequality, reversing development gains, and leaving an entire generation unprotected.

This is a call for governments, donors, multilateral organizations, and implementing agencies to act now, to **mainstream early childhood into climate finance policies**, unlock local access to funding, and ensure that **children are no longer forgotten in the fight against climate change**. [More here](#)

Where we are: The Climate Finance Gap for Children

Young children are among the **most vulnerable to the impacts of climate change**, yet they remain **largely invisible** in climate finance policies, funding flows, and global climate discourse.

Despite the clear and growing risks to child survival, development, and well-being, **less than 3% of climate finance explicitly targets children**, and even less is tailored to those under age five. As climate hazards intensify, this gap threatens to **amplify inequality, undermine development progress, and leave an entire generation behind**.

Without deliberate and **child-responsive investment, the promise** of climate adaptation and resilience **will fail to protect the very children it claims to serve**.



Key Barriers

- **Limited Allocation:** Only a small fraction of climate finance is allocated to initiatives targeting the early years, leaving critical interventions unfunded.
- **Neglect of Child-Critical Services:** Sectors vital to children's survival and development, including early education, maternal and child health, nutrition, WASH, and child protection, are often excluded from climate adaptation plans.
- **Inaccessible Funding Mechanisms:** Major funds, such as the Green Climate Fund (GCF), the Loss and Damage Fund, and the Fund for Responding to Loss and Damage (FRLD), are rarely accessible to local or child-focused organizations. Barriers include technical jargon, complex application processes, and a lack of localized or culturally relevant delivery systems.
- **Missed Opportunities for Community-Led Action:** Grassroots organizations, Indigenous actors, and caregivers working directly with children often have no clear pathway to access or influence funding decisions.

The Solution – Eight Actions to Close the Gap

A Call to Action: Putting Young Children at the Centre of Climate Finance

- **Rethink** how climate finance is designed, delivered, and distributed. **This is a call to action** for governments, donors, multilateral agencies, and funders to put children at the center of climate finance strategies.
- **Make young children visible** in climate finance discussions and decisions. To ensure climate action protects and empowers the youngest generation, funding must be targeted, inclusive, and accessible. The following recommendations outline practical steps to embed early childhood priorities into climate finance policies, mechanisms, and investments. [More here](#).

High Priority Actions

- **Prioritize Child-Responsive Interventions:** Ensure that children, especially those under five, are explicitly included in climate funding frameworks. Fund ECD programs that address environmental shocks and build community-level resilience.
- **Strengthen Child-Critical Social Services:** Make core services, such as early learning, healthcare, nutrition, water, and child protection, climate-smart and shock-responsive.
- **Ensure Local Accessibility:** Design funding mechanisms that directly reach families and frontline providers, utilizing local languages, trusted intermediaries, and community-based delivery channels.
- **Focus on the Most Vulnerable:** Prioritize funding for girls, children with disabilities, Indigenous children, displaced children, and others who face disproportionate exposure and limited protection.
- **Support Child-Focused and Local Organizations:** Build the capacity of local NGOs, Indigenous groups, and caregiver networks to access, manage, and report on climate funds, using simplified, equitable processes.
- **Align Finance with Child Rights:** Ensure all funding mechanisms reflect children's right to a clean, safe, and sustainable environment, as affirmed in the UNCRC and General Comment No. 26. More [here](#), and [here](#) (example from Latin America and the Caribbean).
- **Advocate for Inclusion in Climate Finance Mechanisms:** Encourage the explicit integration of ECD and child-responsive priorities into the GCF, Adaptation Fund, national budgets, and climate investment plans.
- **Highlight the Economic Case for Early Investment:** Promote the long-term returns of early investment in children's resilience, including better health, higher productivity, reduced disaster losses, and stronger communities.

Key Takeaways

Climate finance will only be just and effective if it protects those most at risk. **Now is the time to fund the future.** Let us ensure young children are not left out of the climate solutions they desperately need.

8. Conclusion: Call to Action

8

Climate change is no longer a distant threat; it is already shaping the lives of the youngest and most vulnerable members of our societies. From the prenatal stage through age eight, children are bearing disproportionate impacts that will affect their health, development, and future well-being. The evidence is clear, and the urgency is undeniable: investing in climate-resilient ECD is a practical pathway to building stronger, more sustainable communities. The youngest children are most vulnerable and are bearing the heaviest burden of climate and environmental risks. Yet they remain underrepresented in climate action and policy. This toolkit is your opportunity to change that.

Go on, use this toolkit. Use it to brief decision-makers, to start conversations in your community, to design climate-smart ECD programs, and to mobilize others around you. Adapt its messages, briefs, and visuals to your local context and language. Share the facts and stories with colleagues, caregivers, and leaders to ensure young children are visible in every climate discussion. Whether in a policy dialogue, a training session, or a community meeting, let this toolkit be your guide and amplifier.

Figure 16

Your Actions Matter, Your Voice Counts in Safeguarding Young Children



This resource is not meant to sit on a shelf. It is meant to travel, to be presented, adapted, and shared widely. Every time it is used, it strengthens the call for climate-resilient ECD systems and ensures that the youngest voices are not forgotten in climate action.

We encourage you to experiment, innovate, and share your feedback with us. Tell us how you've used the toolkit, what worked, and what can be improved. This way, it will remain a living, evolving resource.

Explore more tools, research, and updates at the [ARNEC ECD and Climate Change Knowledge Hub](#). Together, let us act now, so that every child grows, learns, and thrives in a world that is safe, resilient, and sustainable.

Annex 1: Additional Resources and Further Reading

Adaptation Knowledge Platform. (2011). Assessment of capacity gaps and needs of Southeast Asia countries in addressing impacts, vulnerability and adaptation to climate variability and climate change. Stockholm Environment Institute. [Study on Assessment of Capacity Gaps and Needs of South East Asia Countries.pdf](#)

Asian Development Bank. (2010). Climate change in Southeast Asia: Focused actions on the frontlines of climate change. Asian Development Bank. [Climate Change in Southeast Asia: Focused Actions on the Frontlines of Climate Change](#)

Asia-Pacific Regional Network for Early Childhood, UNICEF, Save the Children, Bernard Van Leer Foundation. (2022). Most vulnerable to most valuable. [ARNEC-scoping study-web 2022-12-29.pdf](#) ARNEC.

Asia-Pacific Regional Network for Early Childhood. (2023a). ARNEC mapping: ECD and climate change. ARNEC.

Asia-Pacific Regional Network for Early Childhood. (2023b). Climate change and young children: A perception survey of children, parents, and early childhood educators in Bhutan micro research report. (ECD-Climate micro research report). ARNEC.

Asia-Pacific Regional Network for Early Childhood. (2023c). Climate change and young children: Impact of climate change and environmental degradation on early childhood development (ECD) in flood-affected communities of Shikarpur, Sindh, Pakistan. ARNEC.

Asia-Pacific Regional Network for Early Childhood. (2024). Guidance note: Integrating ECD into climate policies. ARNEC.

Asia-Pacific Regional Network for Early Childhood & Vital Strategies. (2024). A call for action: Flooding and early childhood development. <https://www.vitalstrategies.org/wp-content/uploads/Flooding-and-early-childhood-development.pdf> (Vital Strategies)

Asia-Pacific Regional Network for Early Childhood & Vital Strategies. (2025). Lead poisoning and early childhood development.

Association of Southeast Asian Nations. (2021). ASEAN state of climate change report. https://asean.org/wp-content/uploads/2021/10/ASCCR-e-publication-Correction_8-June.pdf

Blue Pacific. (2022). 2050 strategy for the Blue Pacific continent. Blue Pacific

Climate Action Network South Asia. (2022). Gender and child inclusion in policies on climate change in South Asia: A study from Nepal, Sri Lanka and Bangladesh. CANSA.

Chan C. et al. (2020). Guardians of the planet: Asia Pacific Children and Youth Voices on Climate Crisis and Disaster Risk Reduction. World Vision International. <https://reliefweb.int/report/world/guardians-planet-asia-pacific-children-and-youth-voices-climate-crisis-and-disaster>

Climate Change 2022. Impacts, adaptation, and vulnerability. Working Group II Contribution to the IPCC Sixth Assessment Report. <https://www.ipcc.ch/report/ar6/wg2/about/how-to-cite-this-report/>

Folke, C., Carpenter, S., Walker, B., Scheffer, M., & Rockström, J. (2010). Resilience thinking: Integrating resilience, adaptability and transformability. *Ecology and Society*, 15(4), Article 20. <https://doi.org/10.5751/ES-03610-150420>

Food and Agriculture Organization of the United Nations. (2022a). Climate change and undernutrition.

Food and Agriculture Organization of the United Nations. (2022b). FAO strategy on climate change 2022–2031. https://knowledge4policy.ec.europa.eu/publication/fao-strategy-climate-change-2022-2031_en

Huang, Y.S., Park, J., Noguchi, F., Vaughter, P., UNESCO, & United Nations University–Institute for the Advanced Study of Sustainability. (2023). Asia-Pacific regional synthesis: Climate change, displacement and the right to education. UNESCO

Internal Displacement Monitoring Centre. (2022). Climate displacement and child risks.

International Federation of Red Cross and Red Crescent Societies. (2020). We need to do better: Enhancing law and regulations to protect children in disasters. Case study from the Philippines. IFRC. <https://www.ifrc.org/sites/default/files/2021-10/We-Need-To-Do-Better-Philippines-Case-Study.pdf>

International Federation of Red Cross and Red Crescent Societies. (2021). Climate change impact on health and livelihoods: Mongolia Assessment. https://www.climatecentre.org/wp-content/uploads/Climate-change-impacts-on-health-and-livelihoods-MONGOLIA-assessment_April-2021.pdf

International Federation of Red Cross and Red Crescent Societies. (2022). We need to do better: Climate-related disasters and child protection in Eastern and Southern Africa. IFRC. https://www.ifrc.org/sites/default/files/2022-05/We_Need_To_Do_Better_ESARO.pdf

International Institute for Environment and Development. (2015). Climate change risks and resilience in urban children in Asia: Synthesis report for secondary cities: Da Nang, Khulna, and Malolos. (Asian Cities Climate Resilience Working Paper Series 21:2015). IIED <https://resourcecentre.savethechildren.net/document/climate-change-risks-and-resilience-urban-children-asia-synthesis-report-secondary-cities-da>

Intergovernmental Panel on Climate Change. (2014). Climate change 2014: Synthesis report. Contribution of Working Groups I, II, and III to the fifth assessment report of the Intergovernmental Panel on Climate Change. https://www.ipcc.ch/site/assets/uploads/2018/05/SYR_AR5_FINAL_full_wcover.pdf

Masten, A. S. (2014). Global perspectives on resilience in children and youth. *Child Development*, 85(1), 6–20. <https://doi.org/10.1111/cdev.12205>

Mbah, M. F., Shingruf, A., & Molthan-Hill, P. (2022). Policies and practices of climate change education in South Asia: Towards a support framework for an impactful climate change adaptation. *Climate Action*, 1(28), 1–14. <https://doi.org/10.1007/s44168-022-00028-4>

Mitchell, A., Murray, K., Morris, T., McKinlay, E., & others. (2024). Mental health impacts from repeated climate disasters: An Australian longitudinal analysis. *The Lancet Regional Health – Western Pacific*, 47, 101087. [https://www.thelancet.com/journals/lanwpc/article/PIIS2666-6065\(24\)00081-6/fulltext](https://www.thelancet.com/journals/lanwpc/article/PIIS2666-6065(24)00081-6/fulltext)

Pham, A. (2023). A Southeast Asian perspective on trade and climate change mitigation and adaptation. Forum on Trade, Environment, & the SDGs (TESS) and CUTS International. <https://tessforum.org/latest/a-southeast-asian-perspective-on-trade-and-climate-change-mitigation-and-adaptation>

Plan International & Save the Children. (2015). Child-centred climate resistance: Case studies from the Philippines and Vietnam. <https://resourcecentre.savethechildren.net/document/child-centered-climate-resistance-case-studies-philippines-and-vietnam>

Plan International. (2024a). Climate change education for a more sustainable, just, and gender equal world. <https://plan-international.org/publications/climate-change-education-capacity-statement/> (Plan International)

Plan International. (2024b). Nepal country strategy: 2023-2028. https://plan-international.org/uploads/sites/79/2024/12/11Dec_CS-Booklet_2024_17-MB.pdf

Republic of the Marshall Islands. (2025). The Marshall Islands' third nationally determined contribution report.

Save the Children & Centre for Budget and Governance Accountability (2022). Cost of universalizing early childhood education in India. <https://www.cbgaindia.org/wp-content/uploads/2022/09/Report-on-Cost-of-Universalising-ECE-in-India.pdf>

Seiden, J., Kunz, V., Dang, S., Sharma, M., & Gyawali, S. (2021). Effects of Two Early Childhood Interventions on the Developmental Outcomes of Children in Post-Earthquake Nepal. *Journal on Education in Emergencies*. 7. 14.

Thomson, M. C., & Stanberry, L. R. (2022). Climate change and vector-borne diseases. *The New England Journal of Medicine*, 387(21), 1969–1978. <https://doi.org/10.1056/NEJMra2200092>

United Nations Development Programme. (2023a). The climate dictionary. <https://www.undp.org/sites/g/files/zskgke326/files/2023-10/undp-the-climate-dictionary-v3.pdf>

United Nations Development Programme. (2023b). Making our future: New directions for human development in Asia and the Pacific. <https://www.undp.org/asia-pacific/publications/making-our-future-new-directions-human-development-asia-and-pacific>

United Nations Children's Fund. (2019). Air pollution: A threat to children's rights. <https://www.unicef.org/stories/air-pollution-threat-childrens-rights>

United Nations Children's Fund, United Nations Environment Programme, & Office of the High Commissioner for Human Rights. (2021). Principles and Policy Guidance on Children's Rights to a Safe, Clean, Healthy and Sustainable Environment in the ASEAN Region. UNICEF. <https://www.unicef.org/eap/reports/childrens-rights-safe-clean-healthy-and-sustainable-environment-asean-region>

United Nations Children's Fund. (2021). Climate landscape analysis for children in Vietnam. UNICEF. <https://www.unicef.org/vietnam/media/7441/file/Climate%20landscape%20analysis%20for%20children%20in%20Viet%20Nam.pdf>

United Nations Children's Fund. (2023a). ECD and climate change. UNICEF. <https://www.unicef.org/eap/media/12801/file/UNICEF%20EAPRO%20ECD%20and%20Climate%20Change%20Advocacy%20Brief%20doc.pdf>

United Nations Children's Fund. (2023b). Over the tipping point. UNICEF. <https://www.unicef.org/indonesia/media/17211/file/Over%20The%20Tipping%20Point%20Report.pdf>

UNICEF & Plan International. (2011). The benefits of a child-centred approach to climate change adaptation. https://www.unicef.org.uk/wp-content/uploads/2011/05/ClimateChange_child_centred2011.pdf

Venegas Marin, S., Schwarz, L., Sabarwal, S. (2024). The Impact of Climate Change on Education and What to Do about It. World Bank. <http://hdl.handle.net/10986/41483>

Vigil, S., Steiner, C., Kim, D., Flores, D., & Davis, M. (2024). Climate change, vulnerability and migration: Impacts on children and youth in Southeast Asia. World Vision International & Stockholm Environment Institute. <https://www.wvi.org/publications/research/world-vision-east-asia/full-report-climate-change-vulnerability-and-migration>

World Bank. (2020). Water scarcity, girls' education.

World Bank. (2023). Indonesia country climate and development report. World Bank. <https://www.worldbank.org/en/country/indonesia/publication/indonesia-country-climate-and-development-report>

World Vision International. (2024a). Advocates of change: Asia-Pacific children and youth's voices and perspectives on climate action and disaster risk reduction. WVI. <https://www.wvi.org/publications/report/advocates-change-asia-pacific-children-and-youths-voices-perspectives-climate>

World Vision International. (2024b). APCSS children and youth call for action. <https://www.wvi.org/publications/policy-paper/world-vision-east-asia/apcss-children-youth-call-action-2024>

Additional Learning

- a. Children's Environmental Health Collaborative. Healthy environments foster healthy children. <https://ceh.unicef.org/>
- b. United Nations. Climate Fast Facts. <https://www.un.org/en/climatechange/climate-fast-facts>
- c. Centers for Disease Control and Prevention. Effects of climate change on health. [Effects of Climate Change on Health | Climate and Health | CDC](https://www.cdc.gov/climateandhealth/)
- d. ClimaHealth. Knowledge for action on climate change and health. <https://climahealth.info/>
- e. World Health Organization. Toolkit on Climate Change and Health. <https://www.who.int/teams/environment-climate-change-and-health/climate-change-and-health/capacity-building/toolkit-on-climate-change-and-health>
- f. Climate Change Development Action Network. Climate change and ECD. <https://ecdan.org/themes-climate-change/>
- g. UNICEF Data: <https://data.unicef.org/topic/climate-change/overview/>
- h. Capita. Climate change. <https://www.capita.org/climatechange>
- i. Reach and Match: <https://www.reachandmatch.com/humanitarian-philippines/>
- j. World Bank. Designing and building environmentally sustainable, play-based early learning spaces: Operational Guidance Note <https://documents.worldbank.org/en/publication/documents-reports/documentdetail/099739404112538587>
- k. UNICEF. (2021). The global climate crisis is a child crisis. UNICEF. <https://www.unicef.org/media/150356/file/The%20Global%20Climate%20Crisis%20is%20a%20Child%20Crisis.pdf>
- l. Lancaster University. Flood Snakes & Ladders: Exploring flood experiences from a child's perspective. Lancaster University. <https://wp.lancs.ac.uk/floodsnakesandladders/background/>
- m. Early Childhood Development Action Network. (2023, June 14). Parenting in a changing climate: How parents can support their children and themselves in a warming world [Webinar]. YouTube. <https://www.youtube.com/watch?v=ijZvYpMfOao>
- n. Save the Children. Protecting children's futures in the climate crisis. Save the Children. <https://www.savethechildren.net/stories/protecting-childrens-futures-climate-crisis>



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ARNEC is a network established to build strong partnerships across sectors and different disciplines, organisations, agencies and institutions in the Asia-Pacific region to advance the agenda on and investment in Early Childhood.

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