

WHEN CLIMATE CHANGE DISRUPTS CHILDHOOD: PROTECTING EDUCATION, HEALTH, AND SAFETY TOGETHER

What happens to children's education, health, and safety when climate shocks become part of everyday life? This question represents one of the major concerns facing countries that are at extremely high risk of climate impacts. In many of these regions, children are increasingly exposed to repeated floods, intense heatwaves, prolonged school closures, limited access to clean water, and little assurance of personal safety. As these disruptions continue, the future of the next generation remains uncertain.

Since the Industrial Revolution in the eighteenth century, human activities have relied heavily on fossil fuels. Fossil fuels were used to power steam engines, operate industrial machines, provide sources of light, support chemical production, and drive large-scale development. Alongside this, deforestation emerged as another major contributor to environmental degradation. Over time, this long-term overreliance on fossil fuels and the destruction of natural ecosystems has led directly to the climate crisis the world faces today. According to UNICEF, over one billion children are currently at risk of being affected by climate-related impacts, making this a global emergency rather than a distant concern.

Climate impacts are no longer abstract or limited to specific regions. Across the world, communities are already feeling their effects. According to a recent post by the United Nations on its Instagram page, glaciers around the world are rapidly losing ice through melting and evaporation, contributing to rising sea levels and reduced freshwater availability. Glaciers account for approximately 70 percent of the world's freshwater supply, and their decline signals an urgent need for intervention. This raises a critical question: how will climate change affect children, and how will it shape the future to come?

Climatic and environmental shocks undermine the full spectrum of children's rights, including access to education, health services, and personal safety. Children require more water and food per body weight than adults and have a lower ability to regulate body temperature, which makes them more vulnerable to extreme heat. In regions such as West Africa and many other parts of the African continent, children are expected to experience the most severe impacts of climate change, despite the fact that these regions contribute the least to global greenhouse gas emissions. This imbalance highlights a deep global inequality in both responsibility and consequence.

Climate change results primarily from greenhouse gas emissions, excessive heat generation, deforestation, ozone layer depletion, and global warming. Greenhouse gases are gases present in the Earth's atmosphere that trap heat by absorbing and re-emitting infrared radiation from the sun. These gases include carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), and fluorinated gases. Greenhouse gases act as heat retainers, and when their levels rise unchecked, they disrupt the Earth's natural climate balance, shifting it away from its historical equilibrium.

Excessive heat refers to the abnormal buildup of heat in the Earth's atmosphere beyond natural levels, largely caused by human activities. This occurs when heat is generated through energy production, industrial operations, and transportation, while greenhouse gases prevent that heat from escaping into space. Over time, this creates a heat imbalance that raises global temperatures and intensifies climate-related risks. Deforestation is another major factor, involving the large-scale removal of forests, often to make way for development or industrial expansion. Forests have traditionally acted as natural climate regulators by absorbing carbon dioxide and releasing oxygen. When deforestation occurs, this balance is disrupted, resulting in increased carbon emissions and weakened ecosystems.

Ozone layer depletion also plays a significant role in climate change. The ozone layer, located in the upper atmosphere, traditionally serves as the Earth's protective shield against harmful ultraviolet radiation. When this layer is thinned, largely due to human-made chemicals, more solar radiation reaches the Earth's surface. This increases heating stress on ecosystems and disrupts long-established atmospheric stability. Global warming further amplifies these effects, referring to the long-term rise in the Earth's average temperature driven by the accumulation of greenhouse gases and sustained heat retention. It represents the combined outcome of industrial growth, energy consumption, deforestation, and atmospheric degradation over time.

Despite the existence of climate policies across many nations, structural and operational gaps continue to hinder effective climate action. One of the most pressing issues is the policy implementation gap. Many countries develop strong climate plans and policies, yet these initiatives remain largely unimplemented or weakly enforced. The problem is not a lack of ideas, but a lack of effective execution. As a result, policies often remain on paper rather than producing real-world impact.

Poor coordination among stakeholders further limits progress. Climate action requires collaboration among governments, private and public sectors, communities, and international organizations. When cooperation is weak, efforts become fragmented and less effective. In addition, low public awareness and engagement remain significant challenges. Many people around the world do not fully understand the consequences of climate change or how their daily activities contribute to it. Without widespread public support, climate policies struggle to succeed.

Funding constraints also present a major barrier. Although many nations and organizations have promising climate initiatives, limited financial resources delay or prevent proper execution. Weak monitoring and enforcement systems worsen the situation, especially in countries with large populations. Even when climate laws exist, poor oversight allows harmful practices to continue without consequences. Furthermore, many nations remain heavily dependent on polluting systems, particularly fossil fuels. Transitioning to cleaner alternatives is often slow due to economic interests, resistance to change, high infrastructure costs, and political instability.

Nevertheless, these challenges can be addressed through stronger policy implementation, increased funding, and improved access to resources. Mobilizing both public and private finance, including climate funds and green bonds, is essential. Climate resilience should be integrated into long-term economic and urban planning rather than prioritizing short-term profit. Strengthening data monitoring and accountability through technology-driven tracking systems and early warning mechanisms can also improve transparency and effectiveness.

Education and awareness play a crucial role in closing the climate-action gap. Climate education should be incorporated into school curricula, while conferences and public campaigns should be organized to raise awareness. Aligning global commitments with local action is equally important, ensuring that international pledges translate into real implementation on the ground. Wealthier nations must also provide fair support to developing countries. Encouraging private sector participation, community engagement, and nature-based solutions such as reforestation, wetland restoration, and sustainable agriculture can further strengthen climate resilience.

The climate crisis disproportionately affects children, yet their voices and needs remain underrepresented. Addressing this challenge requires equipping children with knowledge, resilience, and safe learning environments. Collective action, even at a small daily level, can create meaningful change. By working together, vulnerability can be transformed into resilience, ensuring that future generations grow up safe, healthy, and empowered to navigate a changing world while protecting the only habitat of life we have.