



UZBEKISTAN AND GLOBAL PERSPECTIVES ON CLIMATE CHANGE, CHILDREN'S ENVIRONMENTAL RIGHTS AND GREEN POLICY.

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Abstract

Climate change poses substantial risks to human health, economic stability, and sustainable development. Children, particularly in regions with water scarcity and environmental degradation, are disproportionately affected. This paper examines the impact of climate change on children's health and rights, the gap between international rhetoric and reality, and Uzbekistan's policy responses within the framework of the 2030 Agenda and the Paris Agreement. Using global and regional data, we demonstrate the disproportionate vulnerability of children to environmental hazards, assess national strategies for green transition, and propose avenues to strengthen child-centered environmental governance.

Keywords: climate change, children's rights, environmental health, Uzbekistan, green economy, Paris Agreement.

Introduction

The COVID-19 pandemic has exerted a profound influence on global capacity to fulfill obligations under the 2030 Agenda for Sustainable Development and the Paris Agreement. Most countries faced financial and operational setbacks, which constrained progress on climate mitigation, adaptation, and environmental protection (UN, 2021). At the same time, scientific evidence shows that regions such as Central Asia are highly vulnerable to climate change, with water scarcity and



prolonged droughts threatening food security and public health. Children are among the most affected groups due to physiological sensitivity and dependence on stable ecosystems. Despite increasing political recognition of children's environmental rights, including through the adoption of General Comment No. 26 by the UN Committee on the Rights of the Child (UNCRC, 2023), millions of children worldwide still face significant environmental risks.

This study analyzes climate-related threats to children, international policy commitments, and national green strategies, with a specific focus on Uzbekistan. It integrates global scientific evidence and regional climate data to inform policy recommendations. *Climate Change and Children: Scientific Evidence. Global Burden of Environmental Disease.* Environmental factors account for approximately 24% of the global disease burden, disproportionately affecting children under five years (WHO, 2021). Air pollution alone is responsible for an estimated 600,000 child deaths annually and adversely influences respiratory and neurodevelopmental health (UNICEF, 2021).

Children's Right to a Healthy Environment. General Comment No. 26 emphatically recognizes the right to a clean, healthy, and sustainable environment as integral to the Convention on the Rights of the Child (UNCRC, 2023). It obliges states to integrate climate-related rights into national policy frameworks and monitoring mechanisms.

Climate Change in Central Asia and Uzbekistan. Central Asia, including Uzbekistan, is experiencing rapid environmental change: rising temperatures, diminishing water resources, and increased frequency of extreme weather events. National climate projections estimate a temperature rise of 1.5–2.5 °C by 2050, intensifying water stress and agricultural challenges. Uzbekistan has adopted



multiple policy instruments to address these risks, including: Green Economy Strategy (2019–2030)

Commitments at UNFCCC COP26. National Strategy for Engaging Children and Youth in Climate Action. These reforms aim to deepen climate adaptation, reduce greenhouse gas emissions, and integrate sustainability into education and community development.

Global and Regional Data: Quantitative Evidence

To contextualize risks, Table 1 presents key global and region-specific indicators related to climate exposure, child health, water scarcity, and agricultural vulnerability.

Estimates based on regional modeling and data interpolations. Policy Responses and Implementation in Uzbekistan Green Economy Strategy (2019–2030)

The strategy provides a national blueprint for sustainable economic transformation. Its key objectives include:

- Rational resource use and climate adaptation
- Green investment attraction
- Renewable energy deployment
- These measures align with science-based targets for emission reduction and resilience.
- International Commitments

At COP26, Uzbekistan committed to reducing greenhouse gas emissions by 35% per GDP unit by 2030 (baseline 2010). It also joined the Global Methane Pledge, targeting a 30% methane reduction by 2030. Children's Environmental Rights and Education. Uzbekistan's policy landscape increasingly reflects



international frameworks on children's rights: Integration of environmental topics into educational curricula. National Strategy for Promoting Sustainable Development Culture among Children and Youth. Cross-sector engagement of ministries in climate education. This approach mirrors research that associates climate literacy with improved adaptive capacity and resiliency among youth.

Discussion

The evidence underscores that climate change constitutes both an environmental and a rights-based crisis for children. Global health data demonstrate disproportionate exposure to air pollution, heat waves, and food insecurity, emphasizing the need for nationally tailored responses.

Uzbekistan's policies signal progress by institutionalizing climate action and integrating child-centered considerations. However, implementation challenges remain, especially in scaling climate education and monitoring rights-based outcomes. Comparative evidence suggests that:

Policies with explicit child-focused indicators enhance resilience. Multi-stakeholder frameworks improve community adaptation. Integration of climate literacy reduces vulnerability and increases proactive engagement. Thus, continuous evaluation and alignment of national strategies with UN General Comment No. 26 are necessary to close the gap between policy and lived experience.

Conclusion

Climate change presents a complex, intergenerational threat—particularly to children's health, development, and environmental rights. Scientific evidence reveals that children face significantly higher climate-related risks than previous generations and that environmental degradation undermines core human rights.



Uzbekistan's ambitious green policies and strategic commitments provide a strong foundation, yet systematic integration of environmental rights and evidence-based monitoring is crucial. Strengthening climate education, expanding cross-sector collaboration, and embedding children's environmental rights into governance will contribute to sustainable, resilient futures.

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CLIMATE CHANGE, ENVIRONMENTAL RISKS, AND CHILDREN’S HEALTH: EVIDENCE FROM UZBEKISTAN

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Abstract

Climate change and environmental degradation disproportionately affect children, with impacts on health, nutrition, and development. This paper synthesizes global and regional evidence on the health consequences of air pollution, extreme weather, and water scarcity for children, with a focus on Uzbekistan. Quantitative data highlight the severity of these risks and underscore the need for child-centered



environmental policies and climate adaptation strategies. Keywords: climate change, children's health, air pollution, water scarcity, Uzbekistan, environmental risk.

Introduction

Children are among the most vulnerable populations to climate change and environmental hazards. Physiological sensitivity, dependence on caregivers, and developing organs make children particularly susceptible to extreme heat, air pollution, water scarcity, and toxic chemicals (WHO, 2021; UNICEF, 2021). In Central Asia, including Uzbekistan, rising temperatures, decreasing water availability, and increased drought frequency pose significant threats to child health and nutrition.

Air pollution, exposure to heavy metals, and malnutrition exacerbate these risks. Global initiatives, including the UN Convention on the Rights of the Child, recognize the right of every child to a clean, healthy, and sustainable environment (UNCRC, 2023).

Climate Change and Children's Health. Air pollution remains a leading environmental health risk for children. According to UNICEF (2021):

90% of children worldwide breathe air exceeding WHO guideline limits.

~600,000 children die annually from air pollution-related diseases.

Exposure to fine particulate matter (PM_{2.5}) and toxic substances such as lead and mercury negatively affects lung development, cognitive function, and overall growth. Extreme Weather Events. Children are disproportionately affected by heat waves, droughts, and wildfires. Thiery et al. (2021) found that children born after 2020 are projected to experience: 1. 7× more heat waves 2. 3× more droughts 3. 2× more wildfires



compared to individuals born in the 1960s. Such exposures increase risks of dehydration, heatstroke, malnutrition, and mental health disorders.

Water Scarcity and Nutrition

Water scarcity directly threatens child health by reducing safe drinking water and agricultural productivity. FAO (2020) estimates that climate change could reduce crop yields in arid and semi-arid regions by 20–30% by 2050, heightening the risk of malnutrition. Globally, climate-related food insecurity could result in 7.5 million additional stunted children by 2030.

Regional Context: Uzbekistan and Central Asia

Central Asia experiences pronounced water stress and extreme temperatures, which exacerbate risks to child health. National climate models predict temperature increases of 1.5–2.5°C by 2050, coupled with higher frequency of droughts and heatwaves.

Discussion

Scientific evidence shows that children face disproportionate health risks from climate change and environmental degradation, including: Respiratory and cardiovascular diseases due to air pollution, heat-related illnesses, dehydration, and malnutrition from extreme weather, cognitive and developmental deficits from exposure to toxic substances, mental health challenges linked to climate-related stress and disasters.

In Uzbekistan, children in rural areas are particularly vulnerable due to water scarcity, agricultural dependence, and limited access to health services.



Conclusion

Climate change and environmental hazards constitute a pressing threat to children's health globally and in Central Asia. Air pollution, extreme weather, water scarcity, and malnutrition compromise physical and cognitive development and threaten the realization of children's rights. Evidence underscores the urgency of child-focused environmental policies, climate adaptation, and sustainable development strategies to protect present and future generations.