POSITION PAPER ON CLIMATE CHANGE AND CHILD HEALTH IN NEPAL

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POSITION PAPER-III: NEPAL PAEDIATRIC SOCIETY-2025

Nepal Paediatric Society (NEPAS)

Position Paper on Climate Change and Child Health in Nepal. Endorsed by Nepal Paediatric Society (NEPAS)

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Nepal Paediatric Society (NEPAS) Position Paper on Climate Change and Child Health in Nepal

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Executive Summary

Climate change poses a profound and growing threat to child health globally, particularly in low- and middle-income countries such as Nepal. Over the past decades, Nepal has experienced rising temperatures, shrinking glaciers, unpredictable monsoons, and an increase in extreme weather events. These environmental changes pose significant threats to children's health and development, as they are more physiologically and socially vulnerable than adults.

The Nepal Paediatric Society (NEPAS), in alignment with Nepal's National Climate Change Policy (2019), the Health National Adaptation Plan (H-NAP) 2023–2030, National Health Policy-2019, Nepal Health Sector Strategic Plan 2023-2030, Third Nationally Determined Contributions (NDC 3.0) 2025, National Adaptation Plan 2021-2050, and the Sustainable Development Goals (SDGs), recognizes climate change as a pressing paediatric health emergency. NEPAS calls for urgent, multidisciplinary action grounded in evidence, engaging all levels of government and society in accordance with national policy frameworks.

Climate Change in Nepal: Trends and Vulnerabilities

- Climate Change in Nepal: Trends and Vulnerabilities:
  a. Nepal's diverse geography-from the low-lying Terai to the high Himalayas-makes it highly vulnerable to a range of climate-related hazards:
  b. Rising temperatures: Increasing at approximately 0.056°C per year, with mountain regions warming more rapidly.

c. Glacial and snowmelt: Reducing freshwater availability and heightening the risk of glacial lake outburst floods (GLOFs).
d. Erratic monsoons: Causing droughts, floods, and food insecurity.
e. Extreme heat: Contributing to urban heat islands, dehydration risks and causing heat exhaustion and heat stroke
f. Air pollution: Aggravated by wildfires, poor road conditions emitting dusts, industrial emissions, and vehicular emission.

These trends contribute to Nepal's high ranking on global climate vulnerability indices.

Why Are Children at Risk?

a. Lung development: Early damage can have lifelong health consequences.
b. Higher respiratory rate: Leads to greater exposure to pollutants relative to body weight.
c. Behavioral patterns: Increased outdoor activity raises exposure to environmental hazards.
d. Dependence: Children rely on caregivers and community support systems for protection and access to healthcare.
e. Exposure of pregnant women to high temperature and pollution cause low birth weight of children

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Health Impacts of Climate Change on Children in Nepal

1. Respiratory and Allergic Diseases

I. Outdoor Air Pollution:

- Sources: Traffic emissions, industrial activities, brick kilns, and wildfires.
- Health Effects on Children:
  - Higher incidence of asthma, bronchitis, and pneumonia.
  - Exposure to NO_2 is especially harmful-64% of global childhood asthma cases are linked to urban NO_2 pollution.

II. Household Air Pollution

- Key Factor: Around 50% of Nepalese households use biomass fuel (wood, dung, crop waste) for cooking and heating.

III. Consequences of Air Pollution:

a. Emission of PM2.5 and black carbon leads to acute respiratory infections and pneumonia, especially in children under 5 years.
b. Ozone exposure triggers bronchial inflammation.
c. Indoor mold increases the risk of asthma and associated hospitalizations.
d. Combined exposure to PM2.5 and ozone significantly worsens asthma symptoms.

2. Infectious and Vector-Borne Diseases

a. Vector-borne diseases (dengue, malaria, JE, visceral leishmaniasis) are shifting to higher altitudes.
b. Floods and poor sanitation increase diarrheal diseases-a top killer of under-5 children.

3. Nutrition and Food Insecurity

i. Droughts, hailstorms, and flood damage agricultural crop.
ii. Stunting (~32%) and wasting (~12%) remain high in under-5 children, especially in mountain regions.

4. Heat Stress and its effects

- Heat stress in Terai and major urban areas of Terai and Hill cause electrolyte imbalance, dehydration, and heatstroke risk in children.

5. Mental Health

- Disasters, displacement, and interruptions in education contribute to trauma, anxiety, and depression among children and adolescents

6. Injuries and Deaths from Climate Disasters

- Children are disproportionately affected in flood events like the 2021 Melamchi flood, Flood of Kathmandu valley in 2024, GLOF in Kagbeni 2024, which caused fatalities and caused damage to schools and health posts.

Policy Landscape and Government Alignment

Nepal has introduced several climate and health policy frameworks:

a. **National Climate Change Policy (2019)**: Focuses on vulnerable groups.
b. **National Adaptation Plan (2021–2050)**: Promotes resilient development.
c. **Health National Adaptation Plan (2023-2030): Promotes climate resilient health system**
d. **Nationally Determined Contributions (NDCs)**: Stress health sector resilience.
e. **Local Adaptation Plans of Action (LAPA)**: Enable grassroots interventions.

However, stronger implementation, along with child-focused indicators and dedicated budgets, is essential to address children's specific needs within these frameworks.

Recommendations from Nepal Paediatric Society (NEPAS)

A. Policy and Institutional Reforms

a. Specialized Child Health and Climate Desks should be instituted within the MoHP and Provincial Ministries.
b. Advocate for child-focused climate policies by ensuring the inclusion of paediatricians in the formulation of climate and health response strategies.
c. Mainstream Child Health into Climate Planning Frameworks including LAPAs, NDCs, H-NAP and National Adaptation Plans.

B. Health System Strengthening

a. Promote climate transformative leadership and governance focusing to child health
b. Build climate-resilient healthcare facilities in disaster-prone areas.
c. Strengthen cold chain systems for vaccines and essential medicines.
d. Maintain stockpiles of ORS, inhalers, clean drinking water, and other essential supplies during emergencies.

C. Education, Research, and Surveillance

a. Develop a national Pediatric registry for asthma, ARI, and other climate-sensitive diseases.

b. Provide training for paediatricians in climate-informed primary care, including counselling on climate-related health risks.
c. Incorporate climate change and its health impacts into medical school curricula.
d. Integrate air quality indicators such as PM2.5 and ozone levels into child health research and surveillance.

D. Community-Based Interventions

a. Mobilise elders, teachers, mothers' groups, community organizations, and FCHVs to disseminate child-focused climate resilience messages.
b. Raise awareness of indoor air pollution, nutrition during crises, and child safety protocols in disaster settings.

E. Air Quality Management

a. Scale up the use of clean cooking technologies and promote LPG or electric alternatives.
b. Enforce ambient air quality standards and limit vehicular traffic near schools.
c. Establish designated green zones in proximity to schools and throughout residential areas.
d. Strengthen air pollution early warning systems and issue timely public health advisories.

F. Multi-Sectoral Coordination

a. Foster collaboration among the Health, Education, Environment, and Agriculture ministries.
b. Integrate climate action into child health programs through partnerships with child-focused organizations, community groups, and health systems.
c. Promote public private partnership to address children environmental health risks

Conclusion

In a country vulnerable to climate change and its effects, Nepalese children are at high risk of adverse health consequences. Knowledge and evidence regarding the effects of climate change is limited amongst paediatricians and the general population. This policy brief outlines the role of NEPAS as an advocate and mediator to foster collaboration amongst stakeholders with recommendations. Implementation of the recommendations is likely to ensure better health of our future generations.

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CLIMATE CHANGE IN NEPAL; RECENT TRENDS

- Rising temperatures
- Retreating glaciers and snowmelt
- Unpredictable monsoons
- Increase in extreme weather events

HEALTH IMPACTS ON CHILDREN

Nutrition and Food Insecurity

Crop losses lead to stunting and wasting

Heat Stress and Dehydration

Higher sussectbliity to heat stress

Infectious and Vector-Borne Disaases

- Dengue
- Malaria
- Diarrheal diseases

Injuries and Mental Health

Disasters cause injuries, trauma, anxiety

Respiratory and Allergic Diseases

- Air pollution · asthma
- Respiratory infections

NEPAS RECOMMENDATIONS

- Strengthen child-focused climate policies
- Promote research. surveillance, and education
- Engage communities in adaptation measures