

## UNEP FRONTIERS REPORT 2025

**NEWS:** The seventh edition, **Frontiers 2025: The Weight of Time – Facing a New Age of Challenges for People and Ecosystems**, highlights emerging environmental threats and potential solutions.

### WHAT'S IN THE NEWS?

#### **Rising Threat of Heatwaves to Vulnerable Populations**

- **Global Trends:** The frequency and intensity of extreme heat events are rising due to climate change, significantly impacting public health.
- **Older Adults at High Risk:** People aged 65 years and above face the highest vulnerability to heat-related health issues such as heatstroke, dehydration, and chronic disease aggravation.
- **Heat-Related Mortality Surge:** Since the 1990s, heat-related deaths among older persons have increased by **85% globally**, indicating a severe public health concern.
- **Health Impacts Beyond Heat:** Prolonged exposure to extreme temperatures (hot or cold) increases the likelihood of **cardiovascular, cerebrovascular, and respiratory ailments**, particularly in the elderly and people with pre-existing conditions.

#### **Cryosphere Collapse and the Threat of Ancient Pathogens**

- **Melting Glaciers and Permafrost:** The rapid melting of the cryosphere (glaciers, snow, and frozen ground) threatens the water security of **around 670 million people**, especially in high-mountain regions.
- **Risk of 'Zombie Microbes':** As permafrost thaws, long-dormant microbes—potentially carrying **antimicrobial resistance (AMR)**—may re-emerge, posing novel biological risks to humans and ecosystems.
- **Climate–Health Link:** These changes highlight the intersection of climate instability with public health threats, especially in fragile ecological zones.

#### **Aging and Unsafe Dams**

- **Structural Risks:** Many dams worldwide are outdated and may no longer meet modern safety or environmental standards, increasing the likelihood of **catastrophic failures** during extreme weather events.
- **Ecosystem Damage:** Obsolete dams disrupt river ecosystems, degrade aquatic biodiversity, and threaten downstream communities.
- **Recommended Action:** Strategic **dam removals** can restore natural river flows, improve biodiversity, and enhance the climate resilience of local ecosystems.

#### **India-Specific Climate Impact on the Elderly**

- **Increased Exposure:** Between the periods **1986–2005** and **2013–2022**, older adults in India experienced **2.1 to 4 additional heatwave days per year** on average.

- **Health Consequences:** This rise in heat exposure correlates with increased **illnesses and mortality** among India's elderly population, particularly in urban centres with limited green infrastructure.
- **Urban Vulnerability:** Overcrowding, poor housing, and lack of cooling infrastructure exacerbate these risks in many Indian cities.

## **Key Policy Recommendations for Resilience and Adaptation**

### **A. Transform Cities into Age-Friendly Resilient Spaces**

- Promote development of **pollution-free, accessible, and green urban areas** that are inclusive of the needs of elderly populations.
- Increase **vegetative cover**, urban forests, and water bodies to reduce urban heat island effects.
- Ensure public infrastructure (benches, shaded pathways, health kiosks) caters to older adults and those with mobility challenges.

### **B. Strengthen Early Warning and Climate Adaptation Systems**

- Invest in **dense weather station networks** for real-time heat forecasting and alerts at the neighbourhood level.
- Build **community-based disaster risk management systems** that include the elderly in planning, drills, and emergency response.
- Facilitate **timely and targeted communication** to vulnerable groups, ensuring they receive alerts, assistance, and access to cooling shelters.

### **C. Adopt the '15-Minute City' Urban Planning Model**

- Design compact urban zones where **essential services (healthcare, groceries, parks, etc.) are within a 15-minute walk or cycle** from residences.
- This approach supports **independent living** for older adults, reduces dependence on motor vehicles, and encourages physical activity.
- Enhances **air quality, social inclusion, and mobility safety**, contributing to healthier ageing in cities.