

Heat, Health and Young People in Karnataka

Building a Youth-Responsive,
Heat-Resilient Policy Ecosystem



Executive Summary

Heat stress is no longer an episodic environmental hazard in Karnataka. It is an emerging public health, development and governance challenge that is reshaping the lives of young people across diverse ecological settings. Rising temperatures, changing weather patterns, water scarcity and urban heat island effects are influencing how young people study, work, travel, earn livelihoods and care for their physical and mental wellbeing. The consequences extend beyond discomfort, affecting education, labour productivity, health outcomes and aspirations for the future.

Methodology

This evidence paper brings together four complementary streams of knowledge.

- An interdisciplinary evidence synthesis which included a literature review
- Qualitative listening exercises with young people across four geographic typologies.
- Expert insights
- Youth co-design workshop.

Together, these sources provide a nuanced understanding of how heat stress is experienced across Karnataka and identify pathways for building a youth-responsive policy ecosystem.

Geographic Scope

The study focuses on four distinct socio-ecological settings that together reflect Karnataka's climatic and developmental diversity. These four typologies are representative of Karnataka's diverse heat-risk ecologies and emphasise that effective climate policy must account for their differing realities.

Urban settings capture the experiences of young people navigating densely built environments, transport systems, unequal access to cooling infrastructure and the effects of urban heat islands.

Coastal settings examine humidity-driven heat stress and the interaction between rising temperatures, marine ecosystems and fishing-dependent livelihoods.

Tribal settings explore how heat intersects with forest dependence, ecological change, water insecurity and indigenous knowledge systems.

Arid agrarian settings focus on drought-prone regions where heat combines with water scarcity, agricultural labour and livelihood insecurity to shape everyday life.

Understanding Heat Through Young People's Life

A central finding across all evidence streams is that heat acts as a **risk multiplier**. Rather than operating in isolation, it amplifies existing inequalities related to poverty, occupation, infrastructure, housing quality, water access and geography. A literature review on the topic demonstrates that young people engaged in agriculture, fisheries, construction, informal work and long-distance commuting face heightened exposure to heat-related risks, while adolescents and young adults in poorly ventilated urban settlements experience compounded thermal stress due to inadequate cooling infrastructure and declining green cover.

The lived experience exercises reinforce these findings while adding critical local nuance. In Yadgir and Kalaburagi, participants described heat as an unavoidable reality that affects work, mobility, education and recreation, with many reporting dehydration, fatigue, skin conditions and reduced productivity. Water scarcity and changing agricultural patterns create difficult trade-offs between protecting health and maintaining livelihoods. At the same time, young people have adapted by altering work schedules, changing diets, using protective clothing and seeking shade, while calling for better information and stronger community support systems.

In coastal Honnavar, young fisherfolk experience heat through humidity, direct solar exposure at sea and changing marine ecosystems. Fishing schedules are increasingly adjusted to avoid peak temperatures, while communities combine scientific weather forecasts with traditional ecological knowledge to navigate changing conditions. Collective action, including sharing drinking water and supporting fellow workers during periods of extreme heat, emerged as an important source of resilience.

In the tribal region of HD Kote, participants interpreted climate change through ecological transformation rather than temperature alone. Heat was described alongside shrinking forests, changing rainfall patterns, declining biodiversity and the disappearance of traditional foods and forest products. Indigenous knowledge continues to play an important role in healthcare and adaptation, highlighting the need for policy approaches that recognise and strengthen community resilience rather than replace it.

Urban participants in Bengaluru described increasingly hot summers, unequal access to cooling, infrastructural struggles and lengthy commutes as key contributors to heat exposure. Experiences varied according to housing quality and economic status, with some households able to access air conditioning or cooling spaces while others relied on behavioural adaptations and public shade. Participants consistently emphasised the importance of protecting trees, lakes and green spaces as part of long-term heat resilience.

Expert consultations reinforce that many **indirect consequences of heat remain under-recognised**, particularly economic impacts on young people, productivity losses, infrastructure-related exposure and the effects of urban design on thermal comfort. Experts highlighted the need for equitable regional development, climate-sensitive architecture and planning approaches that reduce rather than intensify heat exposure.

The youth consultation workshop further demonstrated that **participants view heat as deeply interconnected** with physical health, mental wellbeing, menstrual health, livelihoods, food systems, water security and social relationships. Young people expressed concern that they are disproportionately affected by climate change while remaining insufficiently represented in policy discussions, despite possessing valuable local knowledge and adaptation strategies.

Youth as Climate Resilience Actors

Considering the insights from these streams of knowledge, the evidence suggests that they should be recognised as knowledge holders, community responders and policy actors, rather than positioning youth solely as beneficiaries. Meaningful participation in planning processes, investment in youth-responsive systems and support for youth-led adaptation initiatives can strengthen both climate resilience and public health outcomes across Karnataka.

Building a Youth-Responsive Heat Resilient Ecosystem

The concept underpinning this project proposes an alternative vision based on a simple but transformative principle. Climate policy should be developed for young people, of young people and by young people.

- FOR Young People: Designing systems that protect youth wellbeing - This includes strengthening public health responses, climate-responsive educational environments and protecting youth livelihoods
- OF Young People: Ensuring meaningful participation in governance - This includes youth informed heat action planning, local governance platforms and recognizing youth as stakeholders
- BY Young People: Supporting youth led adoption - This includes building on existing adaptive behaviors, valuing traditional knowledge and community awareness in peer networks.

Advancing Youth-Responsive Heat Resilience in Karnataka - A Roadmap

The roadmap, made in consultation with youth across various geographies and backgrounds in Karnataka, builds on the project's central proposition that climate action should be for young people, of young people and by young people. It seeks to move beyond isolated interventions towards a coordinated ecosystem with strategic priorities in which institutions, communities and young people work together to strengthen resilience.

Short Term Priorities (1-2 Years)

- › Strengthening heat-health awareness among young people
- › Integrating youth perspective into heat planning
- › Improving data and evidence on youth heat vulnerability
- › Promoting local adaption knowledge

Medium Term Priorities (3-5 Years)

- › Institutionalizing youth participation
- › Fostering climate-responsive learning environments
- › Supporting climate sensitive livelihoods
- › Strengthening climate sensitive infrastructure

Long Term Priorities (Beyond 5 Years)

- › Embedding youth in climate governance
- › Advancing integrated climate-health planning
- › Preserving and strengthening traditional knowledge systems
- › Building intergenerational climate leadership

Conclusion

Across urban neighbourhoods, fishing communities, tribal settlements and drought-prone agricultural regions, rising temperatures are influencing health, education, livelihoods, mobility and wellbeing in profound and interconnected ways.

The project also brought to light the fact that heat is a multidimensional development issue and that there is no singular youth experience of heat in Karnataka. Perhaps the most significant finding of this report is the disconnect between the realities experienced by young people and the ways in which climate governance is currently organised. This report argues that addressing this gap is not simply a matter of inclusion or equity. It is fundamental to effective climate governance.

The evidence, therefore, points towards a clear conclusion: Karnataka's response to rising heat cannot be designed for young people without actively engaging young people themselves. Building a resilient future will require policies that protect youth, institutions that include youth and governance systems that trust and enable youth leadership so that climate action is framed **of, by and for young people**.