



PEOPLE-FIRST DESIGN

**PRIORITISING THE WELLBEING OF RESIDENTS
IN THE DESIGN & CONSTRUCTION OF
LOW-INCOME HOUSING**

CONTENTS

Critical impact of climate change in India: Urbanisation and shelter for the urban poor	3
A window of opportunity to make an impact	4
New research offers vital insights into the Indian housing context	4
Key recommendations: Opportunity to improve the lives of millions of Indians	5



PROJECT PARTNERS

Monash University

Monash University is an international research-intensive university, delivering education and research excellence across the Indo Pacific.

Ashok B Lall Architects (ABLA)

ABLA focuses on sustainable and energy efficient buildings, and is active in research on affordable, sustainable and low-carbon housing for urban India.

Indian Institute of Public Health Gandhinagar (IIPH-G)

IPH-G is India's first and largest public health university working on strengthening the health system in India through education, training, research and advocacy/policy initiatives.



CRITICAL IMPACT OF CLIMATE CHANGE IN INDIA: URBANISATION AND SHELTER FOR THE URBAN POOR

Over 75% of Indian districts are susceptible to extreme climate events, with average temperatures expected to rise by 4.4°C by 2100. The duration and intensity of heat waves across the country are also rising and by 2050, over half of India's citizens will live in urban areas, driving rapid urbanisation and increased demand for housing.

The resulting Urban Heat Island effect can cause urban surface temperature to rise up to 50°C. This becomes a vicious cycle where rising energy usage (air conditioners and fans) causes higher carbon emissions, worsening the climate crisis.

While climate events affect everyone, the most vulnerable people are the hardest hit. The situation is made worse by poorly designed affordable housing stock being rapidly built to meet the pace of urbanisation. These buildings have an adverse impact on the health and well-being of millions of people, leading to issues including health problems, heat stress, threats to physical safety, and social vulnerability.

IMPACTS OF POORLY-DESIGNED BUILDINGS



Health Problems



Heat Stress



Physical Safety



Social Vulnerability

A WINDOW OF OPPORTUNITY TO MAKE AN IMPACT

India is preparing to revise the National Building Code, which is a timely moment for action to reform living conditions of millions. It is a unique opportunity to ensure that the revised code will include and regulate climate-resilience and health aspects of low-income urban housing.

New research offers vital insights into the Indian housing context

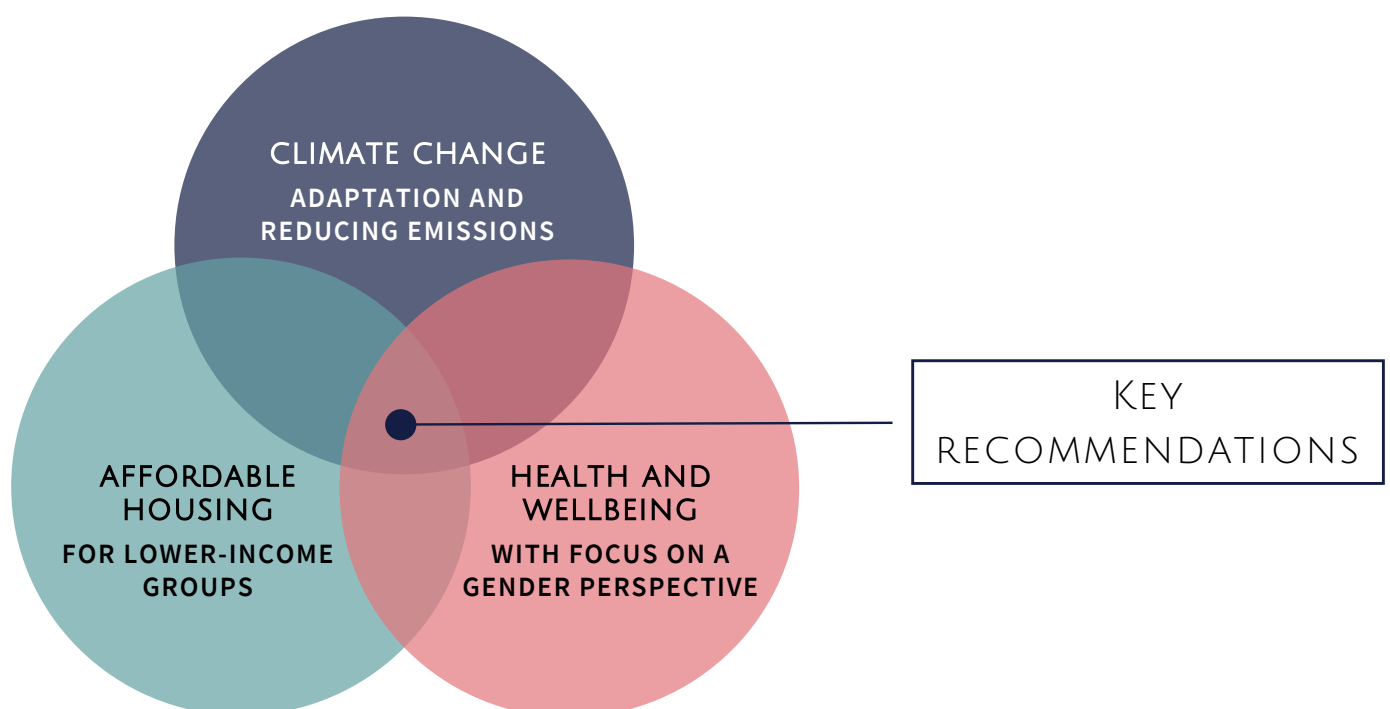
Experts from GBPN, ABLA, IIPH-G and Monash University have conducted extensive research for almost two years, reviewing in detail the indoor and outdoor environmental quality of affordable housing in India. This has included local expert consultation on:

- Current healthy building scenario
- Correlation of heat waves and health of occupants
- Review of policy, codes, regulations and green rating systems
- Sample survey of existing affordable housing projects
- In-depth interviews with residents

Based on this thorough analysis of local conditions, the team of experts has developed a series of recommendations that can enhance policies and regulatory framework governing affordable housing. These have been put forward in a white paper, developed by GBPN.

The white paper defines healthy affordable homes holistically, based on physical, social and psychological health and well-being of residents of all ages and gender categories.

The recommendations are not merely best practice, they are economically affordable and administratively feasible within the present resources.

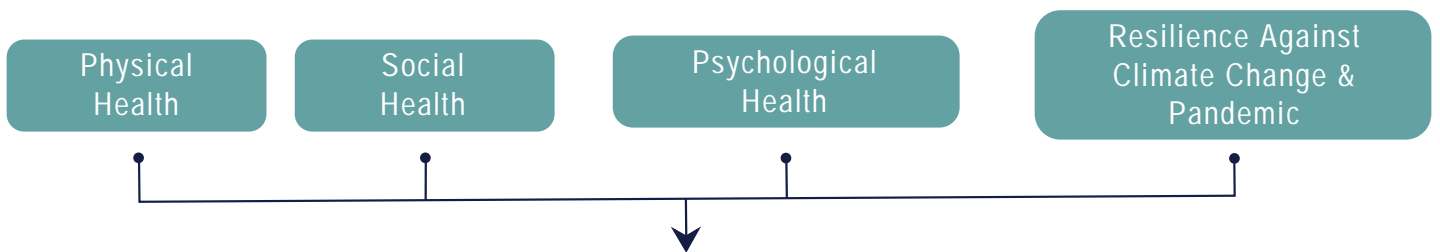


KEY RECOMMENDATIONS: OPPORTUNITY TO IMPROVE THE LIVES OF MILLIONS OF INDIANS

The expert recommendations arising from this significant research project provide an opportunity to improve the quality of life of millions of Indians. They are practical and affordable and can be implemented within the existing administrative frameworks at National, State and Urban Local Bodies (ULB) institutional levels.

They are grouped under four key determinants of healthy affordable homes: Physical Health, Social Health, Psychological Health and Resilience against Pandemic and Climate Change.

Determinants of Health



Key Recommendations: Highlights

- Limit building heights to stilts plus four storeys
- Limit housing densities to avoid overcrowding
- Include women in post-occupancy management of shared spaces
- Permit flexibility in partitioning of internal spaces
- Mandate reflective coating and insulation for roofs
- On-site drainage to avoid stagnant water
- Emergency water storage at community level
- On-site waste management and recycling
- Provision for protection from flooding
- Cross-ventilation and external shading of windows
- Habitable outdoor and social spaces
- Sufficient distance from major transportation arteries to avoid pollution
- Protection of homes from mosquitos and vermin
- Review of fire tender access rules to optimise green open space
- On-site vehicular parking to maximise green open space

Institutions positioned to deliver





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