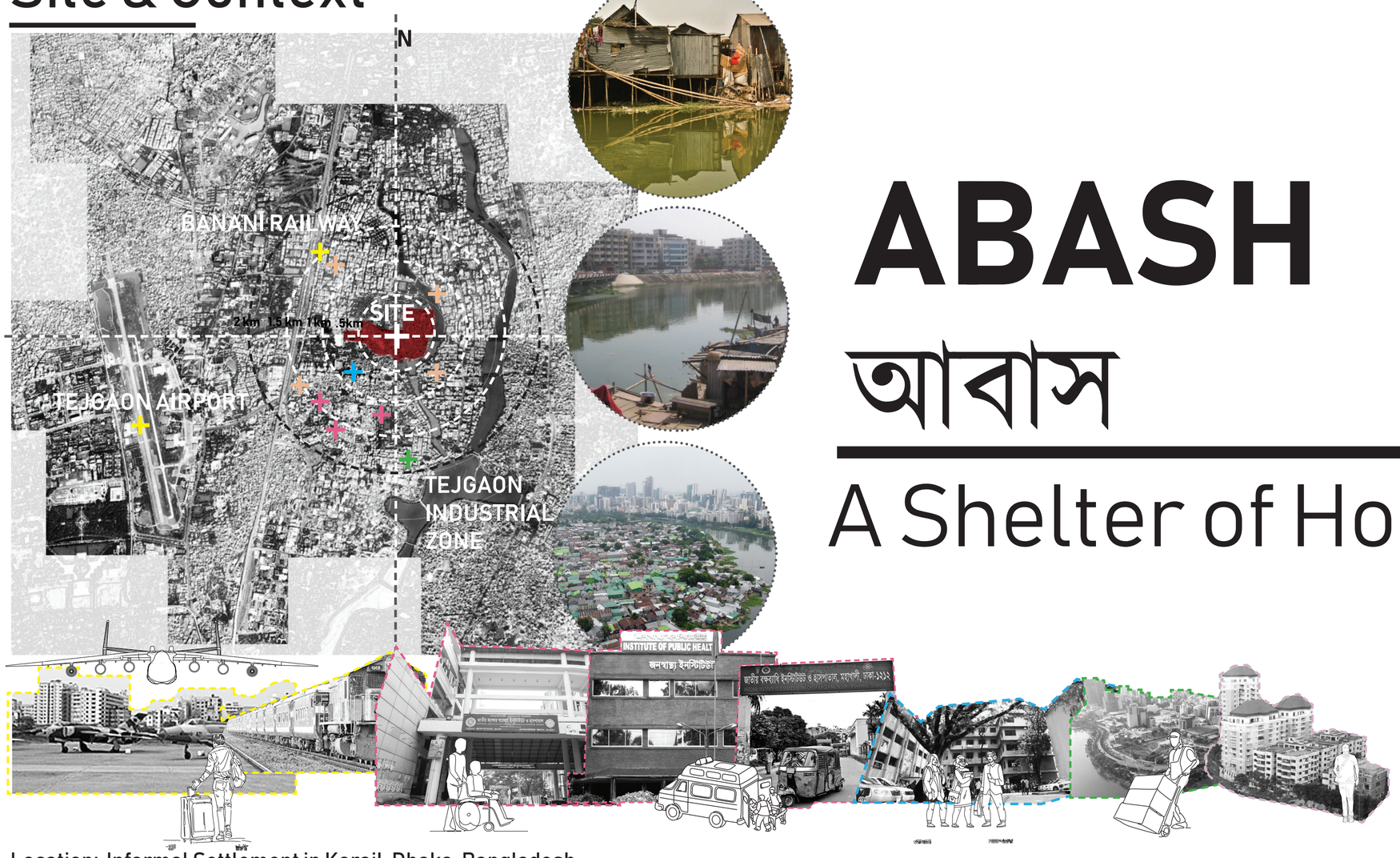
Site & Context



Location: Informal Settlement in Korail, Dhaka, Bangladesh

ABASH

আবাস

A Shelter of Hope

Abash reimagines heat-adaptive living within Korail, Dhaka, Bangladesh's largest informal settlement. Using locally available materials—brick, bamboo, and recycled materials—the project creates a resilient housing model that responds to extreme heat, density, and social vulnerability. Through passive cooling design and shared community spaces, Abash aims to nurture dignity, comfort, and connection in one of the most heat-stressed urban environments.

Why This Site?

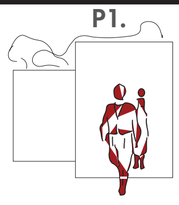
Korail reflects both the challenges and potential of informal urban settlements in Bangladesh. Its complex social and spatial fabric provides an opportunity to develop low-cost, scalable, and community-driven design solutions that can be adapted to similar contexts across the Global South.

Proposed Intervention Site

The selected site lies along the southern edge of Korail, where dense housing meets active community life. The proposal combines ground-floor economic activities—small shops, tailoring, and repair spaces—with upper-level residential units designed for thermal comfort and airflow. Shared courtyards and gardens act as cooling zones and collective spaces, strengthening both climatic resilience and social cohesion.

Design Principles

P1.



"Life First"

Prioritise saving lives over protecting physical infrastructure.

P2.

"Build to Transform, Not Just to Replace"

Treat every threat as a moment for systemic improvement, not just rebuilding.

P3.

"Use What Is Available, Not What Is Ideal"

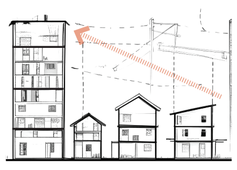
Adapt to local materials and community skills, rather than importing high-tech solutions.

P4.

"Communities as Code-Makers"

Involve local community in the creation and evolution of climate rules and development to understand their needs and expectation

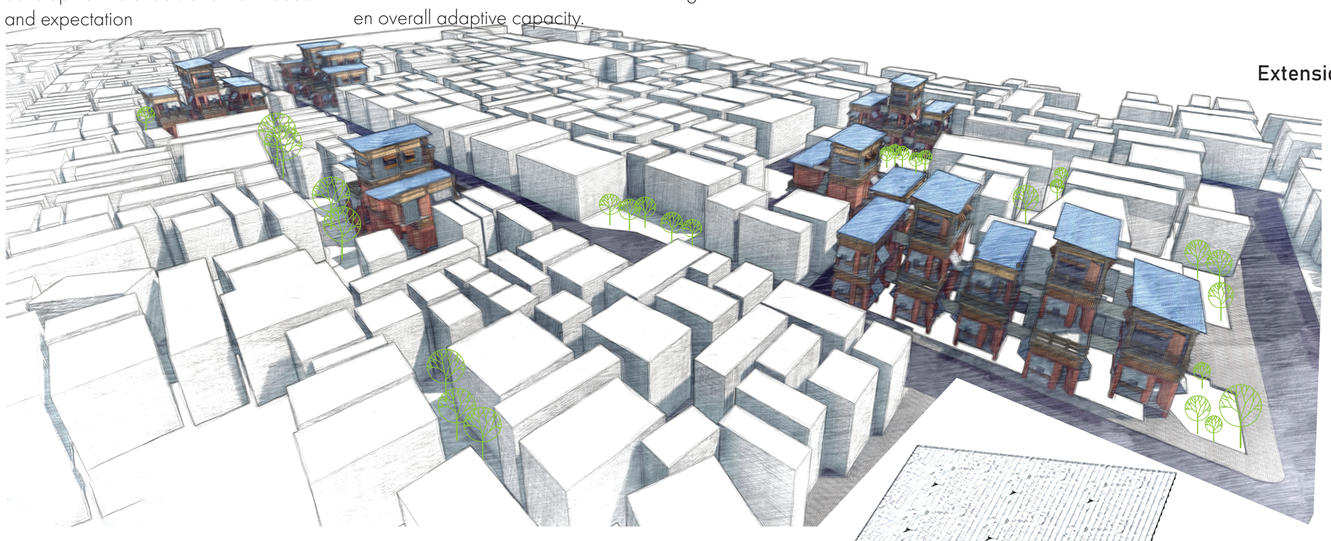
P5.



"Connect Scales: From Shelter to City"

Effective Heat adaptive strategy must be framed across scales—not just individual homes but communities and cities—to strengthen overall adaptive capacity.

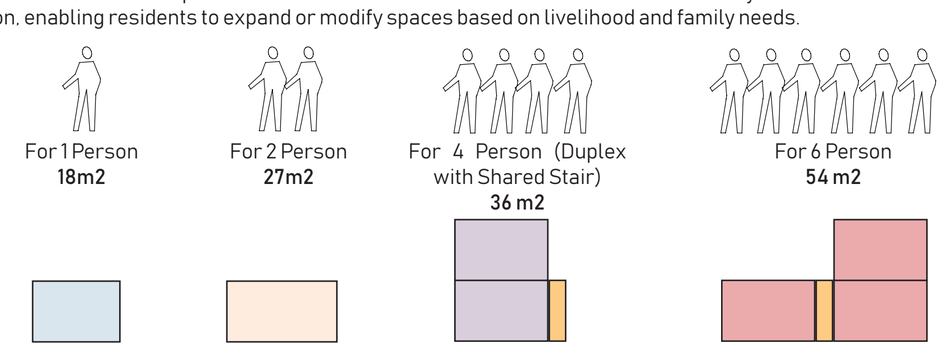
"To develop a Heat Adaptive community Prioritizing social equity, inclusivity, and human wellbeing."



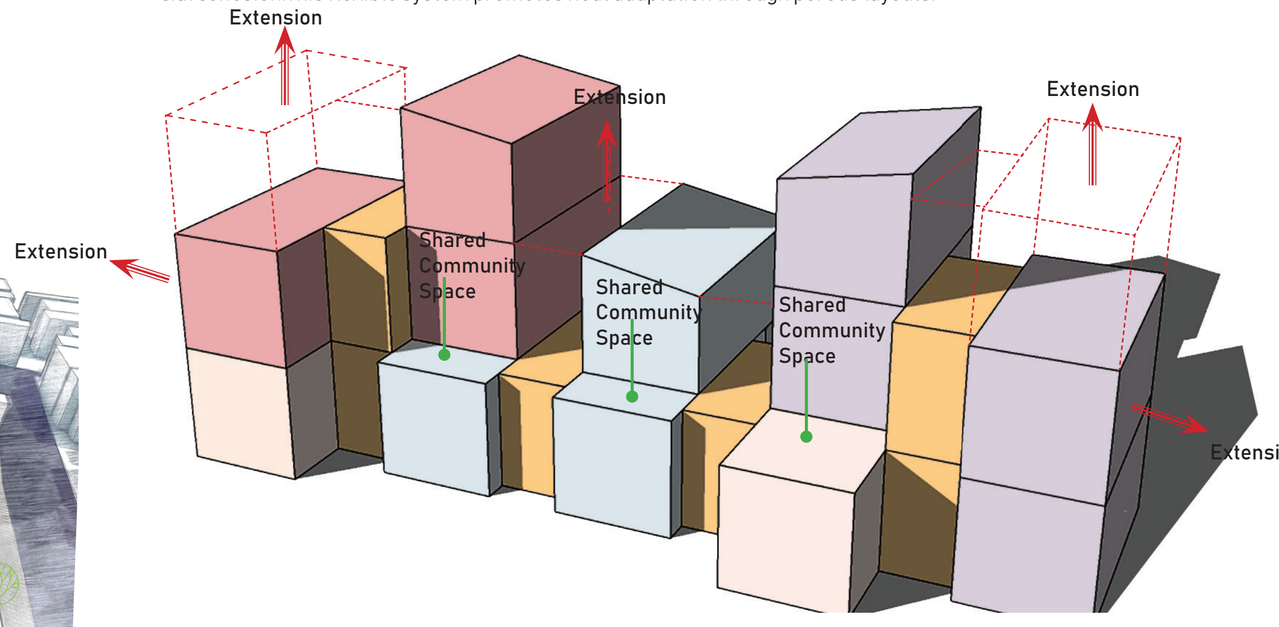
Proposed Modules in-between the site of informal settlements, Korail, Dhaka

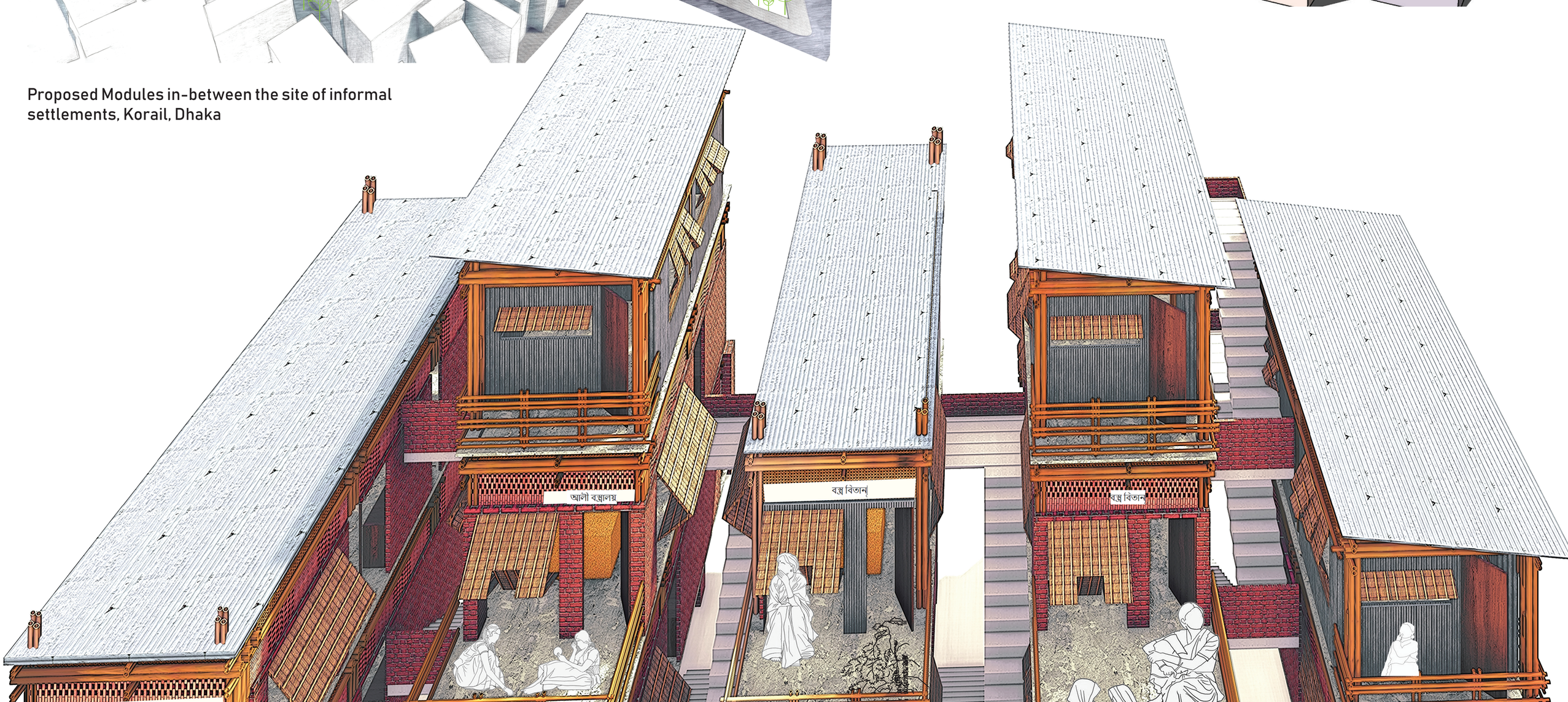
Modules

The design follows a 3m × 3m modular grid, inspired by the compact, multifunctional spaces of Old Dhaka's vernacular architecture, where shops and residences coexist within a dense urban fabric. This system allows for flexible adaptation, enabling residents to expand or modify spaces based on livelihood and family needs.

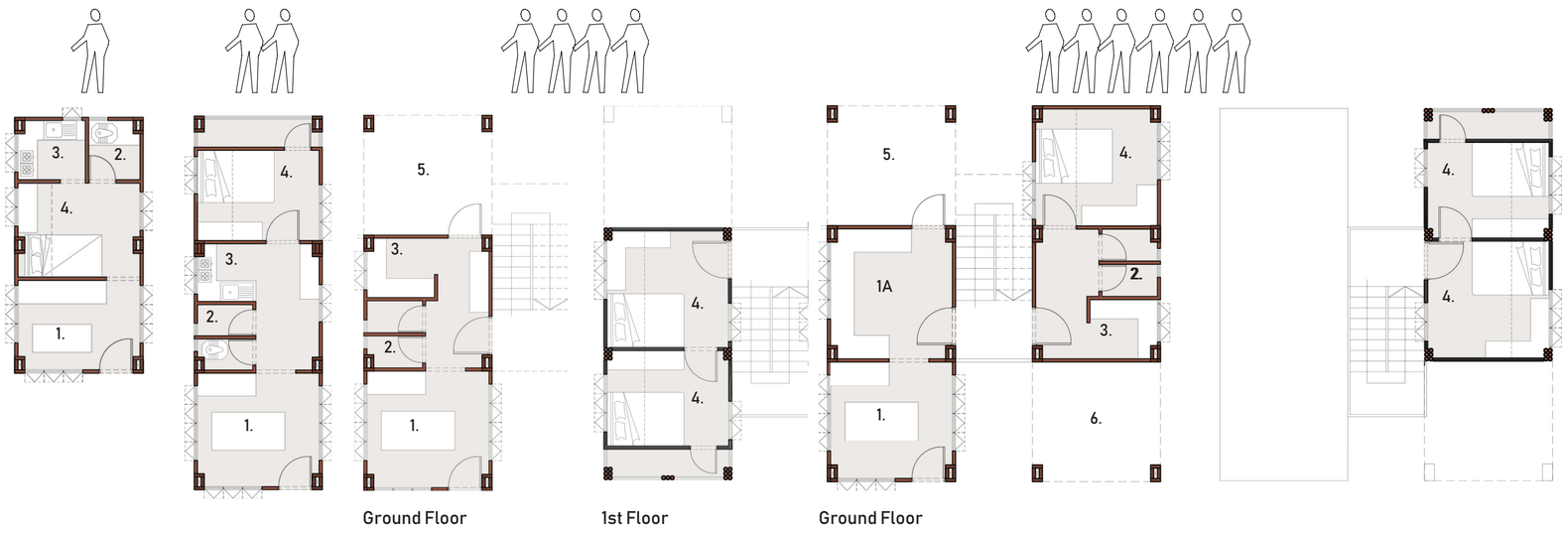


For incremental growth, these modules cluster into a 20-person community block—a small, adaptable neighborhood capable of evolving over time. The mixed-use layer integrates residential units, micro-shops, and small workshops, reflecting the live–work culture of Bangladesh's vernacular architecture found in Old Dhaka. As families expand or economic needs shift, new modules can be added vertically or horizontally, maintaining structural simplicity and social cohesion.This flexible system promotes heat adaptation through porous layouts.





Modules Plan



Each module is elongated along the north–south axis (6 m facing north–south) to maximize natural ventilation and daylight balance. This orientation aligns openings on the longer façades, allowing prevailing breezes to flow through bedrooms and living spaces, maintaining interior comfort without mechanical cooling.

Theeastandwestfaçades,beingnarrower,reducedirectsolarexposureandheatgain.Smallshadedopenings,bamboscreens,andextendedroofeavesfurtherprotectfromlow-anglesun.

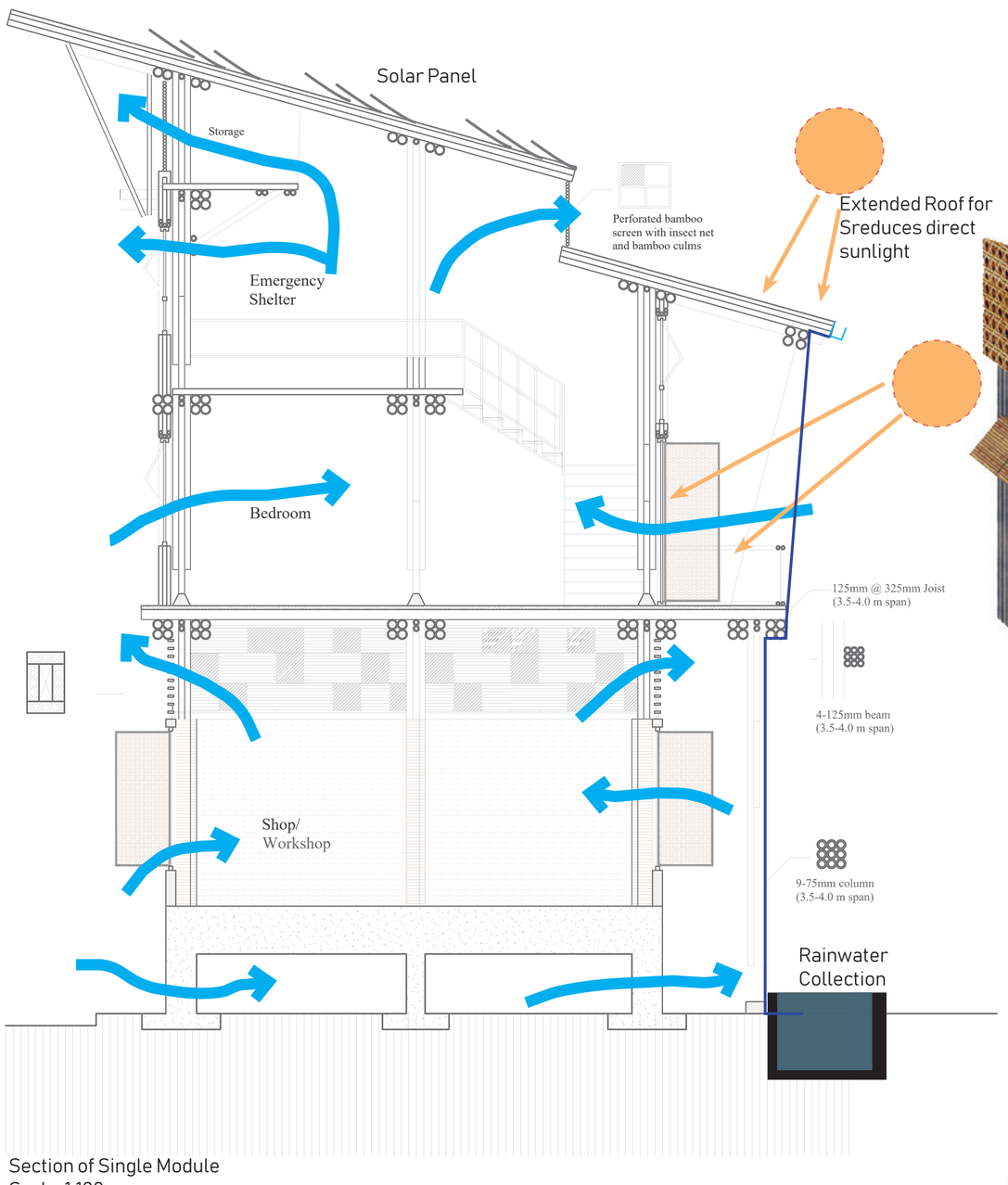
Drawing from the courtyard typology of Bangladeshi vernacular houses, the design introduces shared gardens and small communal courtyards where residents can cultivate local vegetables and gather in shaded outdoor spaces. These neighbourhood-shared zones, often in front of shopfronts or cluster edges, act as cooling pockets and social connectors, blending livelihood, greenery, and collective well-being.

Heat Adaptation:

1. Climate Responsiveness: Abash integrates High thermal-mass brick walls, insulating bamboo strips with coconut coir, and reflective sheet cladding regulate indoor temperatures. Extended roofs, Perforated screen, courtyards, and cross-ventilation enhance passive cooling, while rainwater collection and green roofs improve microclimate resilience.

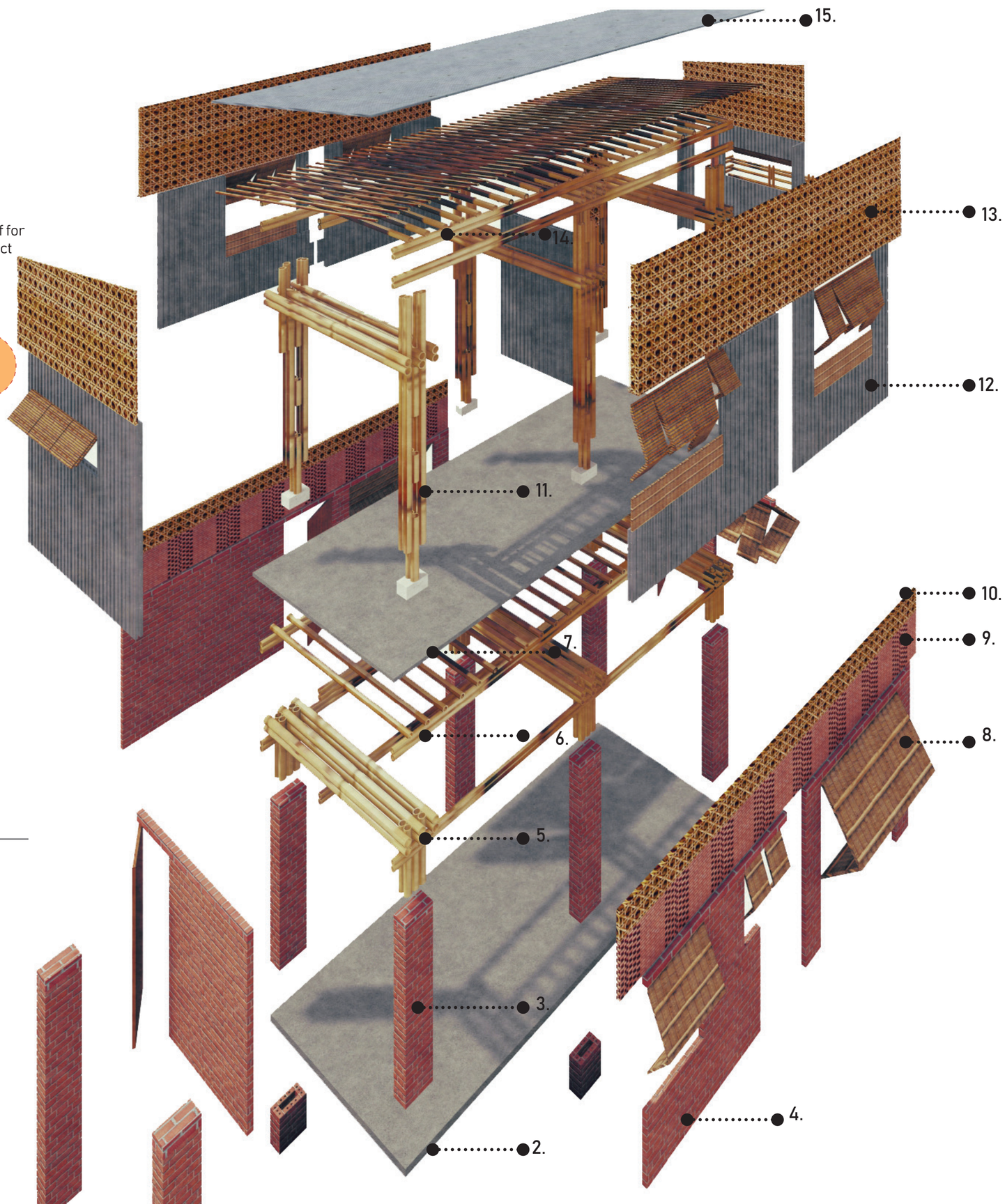
2. Scalability/ Adaptability:
Modular bedroom units with flexible layouts, movable partitions, and vernacular-inspired construction allow spaces to evolve with user needs. Shared courtyard gardens support multifunctional community use and local food cultivation.The modular system is easily replicable for larger communities.

3.Innovation:
The modular system is easily replicable for larger communities. By integrating recycled materials, local vernacular strategies, and heat-adaptive solutions, the design achieves low-impact, resource-efficient sustainability while respecting Bangladesh's traditional environmental practices.



Section of Single Module
Scale: 1:100

Axonometric View



1. Structural Footing
2. Sand Cement Floor
3. Brick Collumn (Rat trap bonding reduce brick cost)
4.Brick Wall
5. Bamboo Structure
6. Bamboo Joist
7. Sand cement screed
8. Bamboo woven pivot window
9. Perforated Brick wall
10. Bamboo perforated Culms panel
11. Bambool Structure
12. Double layer recycled sheet with coconut coir & bamboo strips natural insulation
13. Perforated bamboo screen with insect net and bamboo culms
14. Roof Joist
15. Recycle corrugated sheet

Materials Palettes