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Climate Mitigation, Adaptation & Green Finance

Community-Led Climate Resilient Housing: The ROOH Learning Lab Model

This case study demonstrates how community-led Learning Labs can operationalise climate-resilient housing in informal settlements through incremental upgrading, co-production and evidence generation. It offers a replicable model for Commonwealth cities to align housing, urban finance and adaptation agendas while strengthening multi-level collaboration, skills development and inclusive climate governance.

Rasulabad informal settlement workshop. *ROOH*

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1. Executive Summary

“Roof Over Our Heads” (ROOH)[1] is a global campaign launched in 2022, at COP27, to address one of the most urgent yet under-served climate challenges: how to build climate-resilient homes for people living in informal settlements across the Global South.

ROOH responds to the reality that extreme heat, flooding, wind and disasters disproportionately affect households that self-build incrementally, often with fragile materials and without formal planning, infrastructure, or finance. Rather than delivering top-down housing projects, ROOH established “Learning Labs” in informal settlements. Initially piloted in India, ROOH’s methodology is explicitly designed for transferability across informal-settlement contexts globally and has since extended to 12 countries across Asia, Africa, and Latin America.

The campaign focuses on incremental upgrading, retrofitting, evidence generation, and broadening access to technical knowledge, co-producing solutions with women’s collectives, community federations, built-environment professionals and material suppliers. ROOH has developed standardised tools, including a resilience index, alongside cross-regional learning processes that enable the generation of comparable evidence across settlements.

Evidence from ROOH highlights that effective adaptation in informal settlements requires community-generated data, multi-level partnerships, and financing mechanisms aligned with incremental housing investment patterns. The model shows how climate resilience can be operationalised through co-production rather than top-down delivery.

[1] Roof Over Our Heads: https://campaignforrooh.org/

2. Context and Challenge

Globally, informality is expanding. As rapid urbanisation outpaces formal housing supply in many regions, informal settlements are absorbing an increasing share of urban population growth, particularly across Africa and Asia.

Residents typically build and upgrade their homes incrementally using available materials and informal finance. These homes are frequently exposed to extreme heat, flooding, high winds, and landslides, with limited access to formal insurance, infrastructure or public investment.

Climate policy and adaptation finance have historically overlooked these communities, with vulnerable neighbourhoods often remaining outside or on the periphery of all discussions on climate. While adaptation frameworks emphasise resilience, there has been limited operational methodology to translate that into incremental housing upgrades in informal settlements.

The challenge is therefore threefold:

1. **Technical** – How to identify affordable, climate-resilient materials and construction techniques suitable for incremental upgrading.
2. **Institutional** – How to align community knowledge, professionals, private sector actors, and policy systems.
3. **Financial** – How to support households who self-finance construction through small, staged investments.

This challenge is highly relevant across Commonwealth countries, particularly in Asia and Africa, where rapid urbanisation, climate vulnerability, and informality intersect. ROOH directly supports adaptation agendas under UNFCCC processes, the Race to Resilience campaign, and broader SDG commitments to resilient, inclusive cities.

3. Approach or Experience

ROOH's primary innovation is the establishment of "Learning Labs" within informal settlements as spaces for collaborative learning and evidence generation. In its initial phase, seventeen settlements across nine Indian cities served as proof-of-concept sites, bringing together women's collectives from Slum Dwellers International (SDI) federations, community residents, local masons and contractors, architects and built-environment professionals, material suppliers, financial actors, and campaign coordination teams. Rather than delivering externally designed housing projects, the Labs create settings in which technical expertise and community experience are brought together to explore practical approaches to climate-resilient upgrading. While implementation began in India, the model is designed to support transferability through shared learning and collaboration across regions. Over the last three years, 60 Learning Labs have been implemented across 12 countries, with the initiative targeting 100 Labs across 20 countries.

The Learning Labs follow a structured, participatory process grounded in community-led data gathering and iterative testing. Households document migration histories, housing typologies, construction materials, vulnerabilities, and repair cycles, generating locally grounded evidence that informs assessments of micro-climatic risks such as extreme heat, rainfall, wind exposure, and flooding. Based on these assessments, incremental retrofit options are tested directly within existing homes, including roof reinforcement, insulation alternatives, drainage improvements, and material substitutions. Solutions are developed collaboratively between residents and technical professionals, ensuring that interventions reflect household affordability constraints and incremental construction practices. Lessons generated across settlements are synthesised into shared tools and approaches, including three annual publications, standardised instruments and a resilience index that support comparison and learning across different contexts.

ROOH moves away from demonstration-house or showcase project models and instead focuses on incremental upgrading pathways aligned with how low-income households build and invest over time. The initiative emphasises skills development, improved access to affordable materials, and the broadening of technical knowledge among communities and practitioners. Documentation, including books, diagrams, and simplified visual materials translates technical learning into accessible formats, ensuring knowledge remains publicly available and usable beyond individual settlements. Alongside settlement-level activities, the campaign engages global climate institutions to advocate for the inclusion of informal-settlement evidence within adaptation frameworks, linking locally generated knowledge with broader climate discussions and processes.

4. Insights and Lessons

ROOH highlights several strengths in community-led climate adaptation. Women-centred leadership, through women's collectives, provides accountability and helps ensure interventions reflect lived realities. The co-production model builds trust and enables collaboration between communities and professionals, while an incremental approach aligns solutions with how households actually invest and upgrade their homes, increasing feasibility. Standardised tools and resilience indexing support learning across locations, and links to UN climate processes help connect local experience with global adaptation debates.

However, challenges remain. Limited access to formal adaptation finance constrains scaling, and translating grassroots evidence into formats recognised within academic and IPCC processes remains difficult. Maintaining methodological coherence while adapting approaches across diverse country contexts also requires ongoing balance. The core lesson is that climate adaptation in informal settlements must be participatory, evidence-driven, incremental, and institutionally connected.

5. Key Takeaways

- Community-generated data is essential for credible adaptation planning.
- Incremental retrofitting aligns climate resilience with household affordability.
- Women-led federations provide durable governance anchors.
- Standardised resilience assessment tools enable scaling across cities and countries.
- Multi-level partnerships connect grassroots action to national and global climate frameworks.

This Case Study was prepared by Ms Sheela Patel, founding director of the Society for Promotion of Area Resource Centres (SPARC) and member of the ROOH Secretariat, by way of contribution to the work of the CSCC Housing Action Group, March 2026.

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