Here we are also showcasing practical, field-tested solutions from across our global network:

- **Empty Spaces to Homes (Europe):** Converting vacant buildings into affordable, low-carbon housing through adaptive reuse.
- **Malawi Informal Settlement Upgrading:** Securing land tenure and improving infrastructure through community-led upgrading.
- **Fiji Climate Resilience:** Embedding Indigenous knowledge into housing and climate resilience measurement.
- **Guardian Constructor (Peru):** Supporting safe, incremental housing through integrated service hubs and financing.
- **Bamboo Housing (Nepal):** Scaling climate-resilient, low-carbon homes through a sustainable bamboo ecosystem.

Together, these case studies demonstrate how locally grounded solutions can drive systemic change globally.

Empty Spaces to Homes: revitalizing vacant spaces into affordable housing

Problem and Context

Across Europe, millions face housing insecurity due to rising costs, energy poverty, and insufficient social housing. Over 39 million people cannot afford adequate homes, while 1.2 million have none at all. The building sector generates 36% of Europe's CO_2 emissions - more than all transport combined - yet 46 million homes stand vacant, often near infrastructure, jobs, and services. Repurposing these could save up to 85% of embodied carbon compared to new builds. However, existing housing and urban policies, together with prevailing sector practices, prioritize new construction and overlook circular and adaptive reuse. This reinforces both the affordable housing crisis and the built environment's excessive emissions. The *Empty Spaces to Homes (ESTHer)* initiative addresses these challenges by developing and demonstrating scalable solutions to convert vacant spaces into affordable, energy-efficient, and healthy homes.

Solution Developed

The initiative addresses Europe's housing affordability crisis and the environmental impact of new construction by transforming vacant and underused buildings into affordable, energy-efficient, and healthy homes, offering an alternative to continuous new building. It develops housing solutions based on adaptive reuse, providing homes for vulnerable groups (low-income households, people on social housing waiting lists, elderly and young). Activities include cross-country research on social housing and vacant-building landscapes, demonstration renovation projects, development and testing of innovative financial models, and targeted policy advocacy.

Its innovation lies in integrating environmental, technical, social, financial, and institutional dimensions when developing affordable housing solutions: life-cycle-based carbon-footprint methodology; participatory co-design with local authorities, sector stakeholders (national coalitions and EU-level Community of Practice on Affordable Housing); new financial and policy mechanisms that position building reuse as a driver of social inclusion and climate neutrality; communities engagement; and volunteers engagement on demo builds.

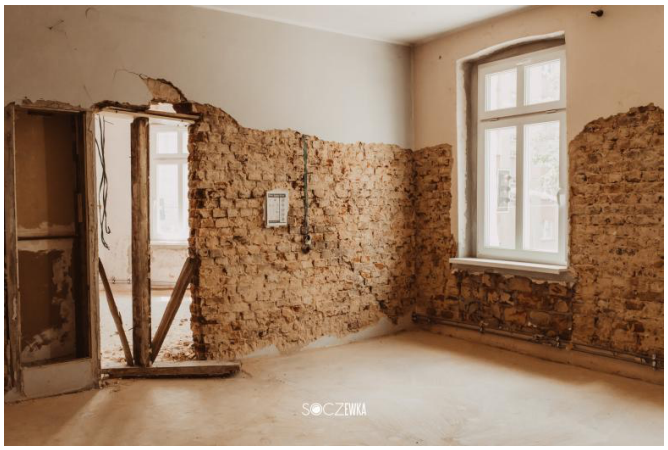
Implementation

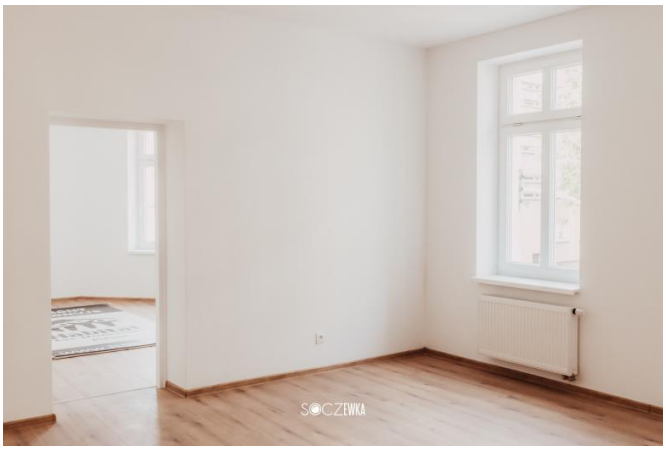
Actions implemented run mostly in parallel. Baseline studies in Poland, Great Britain, Hungary, and Croatia analyzed social housing and vacant-building landscapes, identifying barriers and opportunities. National Coalitions (Poland, GB) and an EU-level Community of Practice on Affordable Housing were established to engage stakeholders and co-create solutions. A Life Cycle Assessment (LCA)-based carbon-footprint tool was developed, aligned with EU Taxonomy and Level(s) standards. Demonstration renovations ("demo builds") converted vacant tenements into affordable, energy-efficient homes.

Financial and governance models, including Social Rental Agencies (SRAs), have been developed and tested. Advocacy and communication campaigns influenced housing and climate policies and mobilized citizens and sector actors.

Actors involved include HFHI Europe and Middle East (lead coordination); Habitat offices in Poland, GB (local execution); research and technical partners (Periféria, ENOVA, Urban Development Consultants, LSE, IBS, etc.); municipalities, NGOs, financial institutions, private developers, and community groups through National Coalitions and the Community of Practice.

The initiative is funded by the Laudes Foundation with co-funding from M&G, VKR Employee Foundation, and local partners. Resources combine grants, partner contributions, and public–private collaboration, ensuring financial resilience and stakeholder ownership.





Enablers & Obstacles

One of the key enablers of ESTHer is the current EU policy momentum - with the *Affordable Housing Action Plan*, *Renovation Wave*, *European Green Deal*, and *New European Bauhaus* placing affordable housing high on the political agenda. ESTHer translates this momentum into practice and demonstrates how adaptive reuse of vacant buildings can deliver affordable, low-carbon homes. Implementation is supported by the main partners' funding, partnerships, and collaboration established through national coalitions (Poland, UK) and a Community of Practice on Affordable Housing.

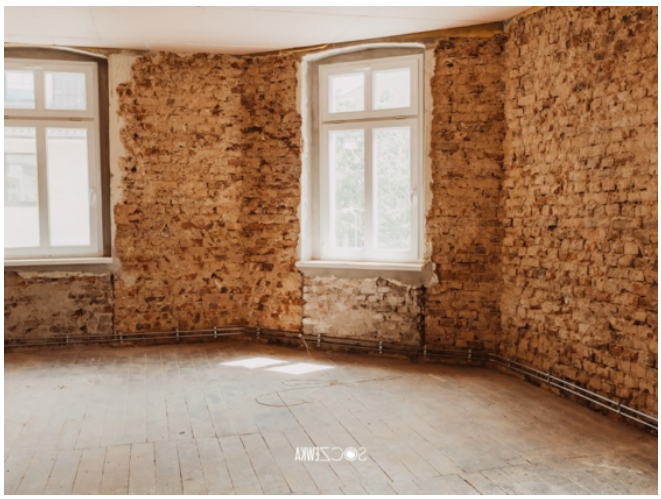
Results & Impact

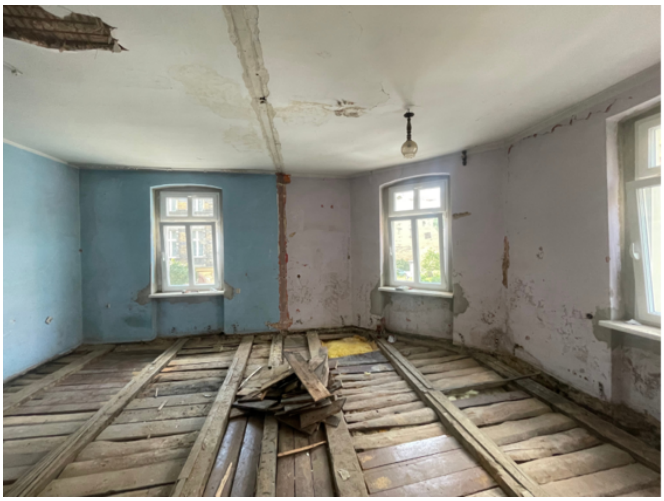
This housing practice has:

- influenced housing and climate policy discussions at both national and EU levels, contributing to the ongoing Affordable Housing Action Plan and the recognition of adaptive reuse within the Renovation Wave and Green Deal.
- conducted comparative research in Croatia, Hungary, Poland, and Great Britain, mapping the social housing and vacant-building landscapes and documenting barriers and enablers for reuse.

- developed new financial model for converting empty buildings into affordable housing, a Life Cycle Assessment (LCA) framework and tool for measuring embodied and operational carbon and created national coalitions and a European Community of Practice to ensure lasting collaboration.
- Currently conducting research mapping financial models and instruments across Europe
- A key practical milestone was the demonstration renovation in Poland, successfully converting a vacant tenement building into affordable, energy-efficient homes, validating the approach and providing a replicable model for municipalities.

More than 70 organizations and municipalities joined project coalitions, contributing to development of sustainable affordable housing solutions - from financial model design, or innovative governance frameworks, to local implementation.





Number of beneficiaries

Where applicable, specify the number of people or households benefiting from the housing practice (we strongly encourage practices that benefited a **minimum of 500 households**)

Fifteen housing units will be converted into homes, offering immediate support to vulnerable groups. Importantly, policy advocacy, stakeholder engagement and replication of the model will drive systemic changes, benefiting many more over time.

Four were already converted in Poland demo build. This provided housing to one family on social housing waiting list, and three families of Ukrainian refugees.

Evidence of impact

https://www.habitat.org/media/31871/download?attachment

Replication & scale up
Was the housing practice replicated elsewhere?

First piloted in Poland and the UK, the project is being replicated in Hungary and Croatia through baseline studies, mapping, and demonstration planning. Its success is driven by multi-stakeholder coalitions, adaptable financial and governance models, and strong policy engagement at local and EU levels. These elements enable replication across diverse urban contexts.
Success is driven by multi-stakeholder coalitions, adaptable financial and governance models, and strong policy engagement at local and EU levels. These elements enable replication across diverse urban contexts.

How can this housing practice be scaled up to expand its scope and reach?

Scaling is planned through “Empty Spaces 50 Cities Vision,” aiming to engage 50+ European cities by 2026 in converting vacant spaces into homes. By combining research, demonstration builds, policy advocacy, and cross-sector collaboration (incl. existing and new partnerships), the project delivers a replicable toolkit to scale its impact across diverse European contexts. Stakeholder engagement structures, including national coalitions in the UK and Poland and a regional Community of Practice on Affordable Housing, were formed to foster collaboration, scale impact, and share knowledge.

Policy uptake

ESTHer operationalizes high-level EU housing concepts by translating them into concrete actions. It advocates for a common EU definition of “vacant real estate,” conducts research to map underused properties, and promotes their sustainable reuse. Through public consultations, bilateral meetings, and coalition work, ESTHer successfully contributed to the EU Affordable Housing Plan and cohesion policies. The consortium proposed amendments to the EU housing crisis report and national recommendations in Poland, turning conceptual EU goals into practical regulatory and funding measures.

Lessons & Takeaways

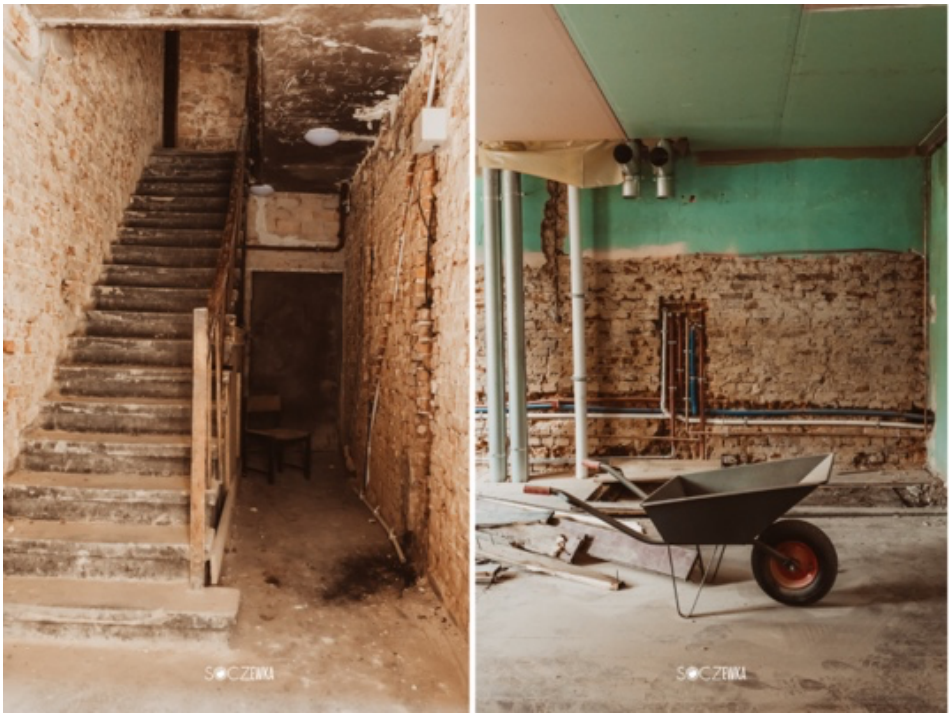
The ESTHer project builds on Habitat for Humanity’s proven model of transforming vacant spaces into homes, showcasing significant potential for scaling and replication. To expand its impact, ESTHer will implement pilot projects with demonstration builds, conduct research, and develop practical toolkits addressing legal, financial, and design challenges related to repurposing vacant spaces.

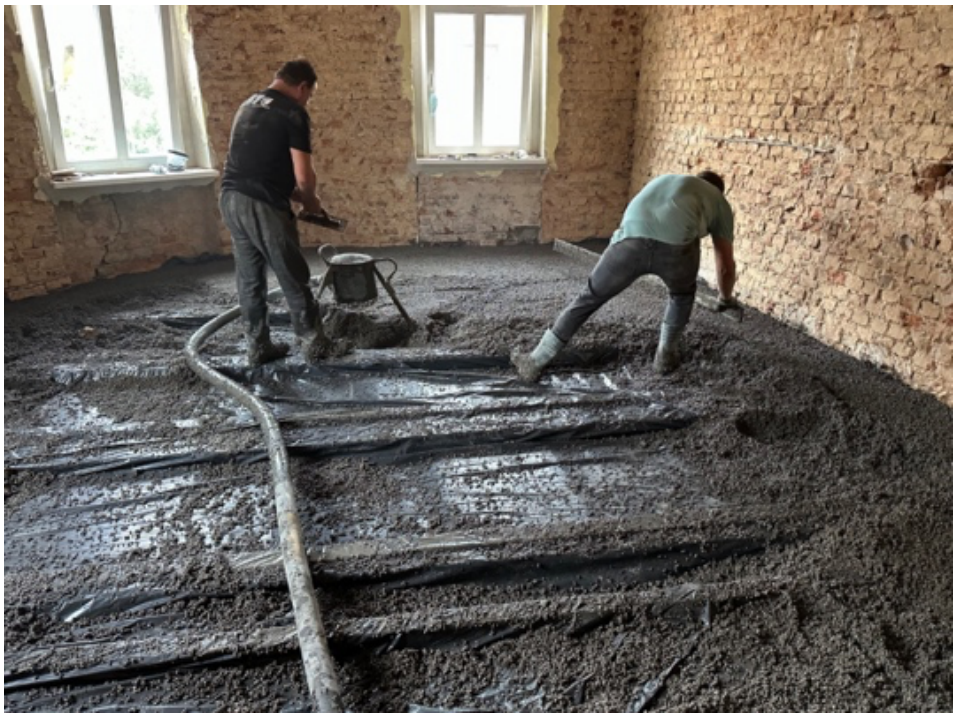
https://www.habitat.org/emea/empty-spaces-to-homes/resources

Advocacy resources | Habitat For Humanity

Articles, publications, media reports

https://www.habitat.org/emea/empty-spaces-to-homes



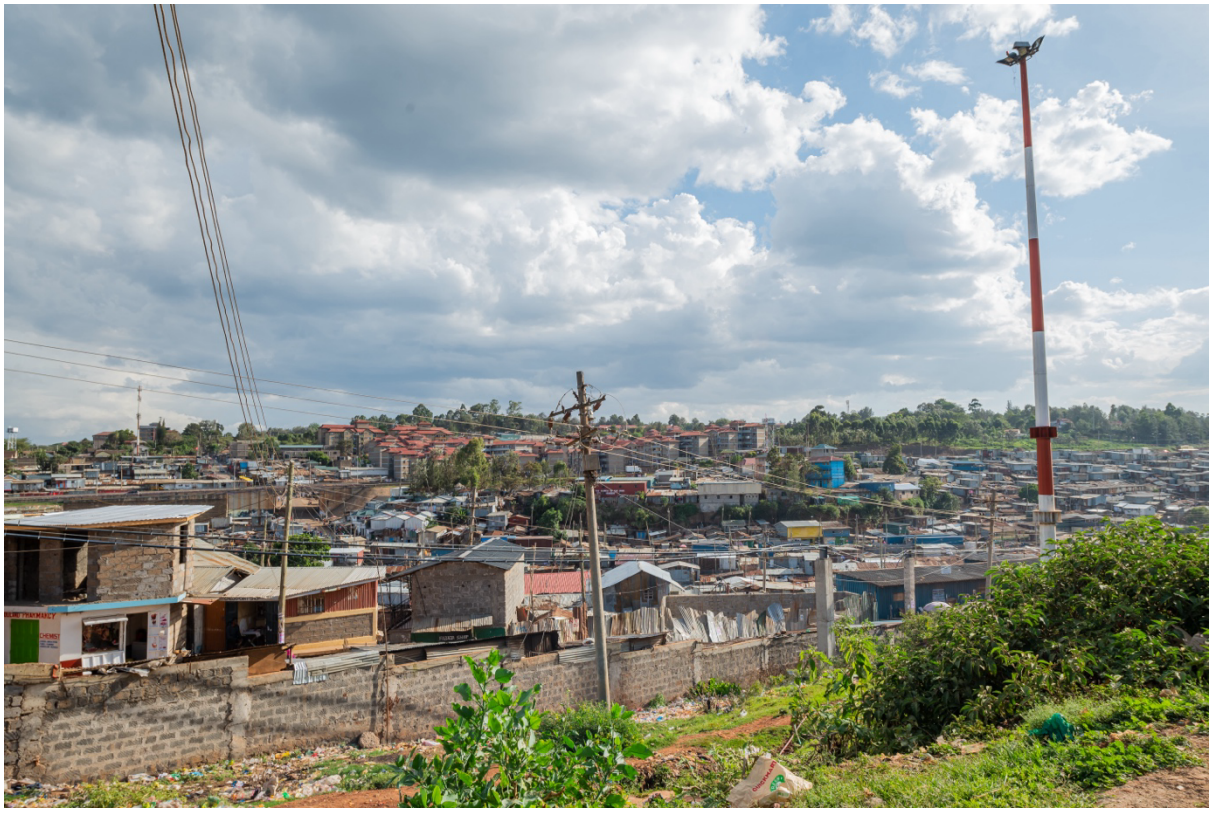


Informal Settlement Upgrading Initiative through the Home Equals Campaign

Problem and Context

Malawi is one of the fastest urbanizing countries in the world. The fast pace of urbanization has outstripped the capacity of local governments to provide adequate infrastructure and services, while most new housing emerges in informal settlements without secure tenure and access to basic services. An estimated 1.9 million people live in informal settlements, areas that are characterized by extreme hazard exposure and marginalization. In Lilongwe alone, 76% of the city's residents live in slums.

These challenges are exacerbated by policy and governance implementation gaps. City development plans are not monitored or enforced, and officials are rarely held responsible for this neglect. Although laws like the Local Government Act and National Land Use Policy empower citizens to engage with the state, this potential is unrealized due to misinformation, misapprehension of rights, and a limited capacity to advocate.



Solution Developed

As a key part of Habitat for Humanity's "Home Equals" campaign, Habitat Malawi initiated the community-driven slum upgrading pilot project in Area 27, Lilongwe.
This initiative:

- Empowered resident networks to advocate for participatory land-use planning and securing official city approval for layout plan.
- Facilitated the production of Certificates of Lease formally granting them secure tenure rights and integrating their plots into the city's legal framework.
- Facilitated the establishment of housing savings groups to build capital to finance incremental housing improvements and foster resilience.
- Supported the new housing construction and improvements in the area.
- Implemented physical improvements like road grading, drainage, and water/sanitation access.

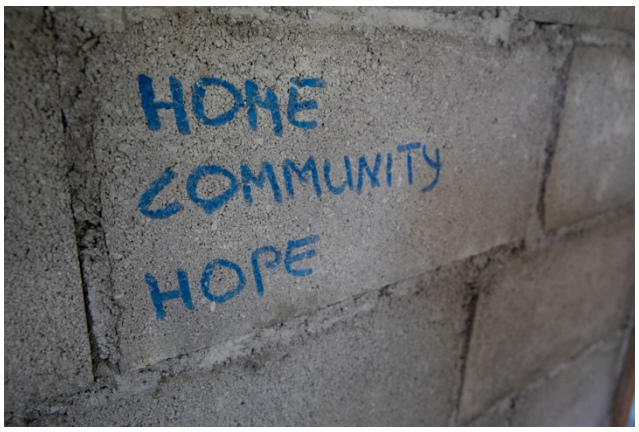
The model that has been formally adopted in the National Slum Upgrading and Prevention Strategy which is currently under development. The strategy once finalized will indirectly benefit about 1.9 million people currently living in informal settlements across Malawi.

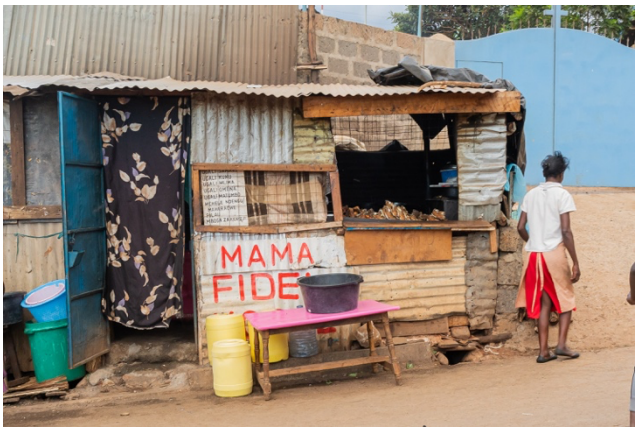
Implementation

The solution involved a series of interconnected actions in “Area 27”, an informal settlement in Lilongwe. This community driven process began by empowering resident networks to advocate for themselves, leading to participatory land-use planning. This effort culminated in the official approval of a formal layout plan by the Lilongwe City Council. The project then advanced to physical implementation, including road grading, drainage work, and improvements to water and sanitation access.

The key actors in this initiative were Habitat for Humanity Malawi (HFHM), which acted as the catalyst and facilitator; the Area 27 resident networks, who were the primary participants; and the Lilongwe City Council, the government body that provided crucial official approval. The implementation timeline progressed from community mobilization and planning to official plan approval, culminating in the infrastructure upgrades.

This successful pilot was supported by HFHM's resources and funding through the Home Equals campaign. Its most vital asset was the strategic partnership between an international NGO, organized community groups, and a formal government body. This tripartite model was essential for achieving both immediate community impact and broader policy change.





Enablers & Obstacles

The initiative was propelled by several key enablers:

- Profound community engagement built trust and established a shared vision among residents. This momentum was leveraged to secure political buy-in from the Lilongwe City Council, culminating in approval of the layout plan.
- The partnership between HFHM, the community, and the council provided integrated technical, social, and institutional support.

Significant obstacles were encountered:

Within the community, resistance emerged to aspects of the planning process, including reluctance to cede land, concerns over demolition of structures and trees, and hesitancy to begin paying city rates. These were addressed through transparent dialogue, participatory planning, and fair relocation processes, securing community consensus.

Simultaneously, a major systemic obstacle was the absence of a national slum upgrading policy. This was overcome by using the pilot as proof of concept, catalyzed Malawi's first National Slum Upgrading and Prevention Strategy.

Results & Impact

This initiative delivered significant tangible outcomes, directly providing 402 families (approximately 1,050 people) with formal security of land tenure through the approved layout plan. Qualitatively, this newfound security has reduced the constant threat of eviction, provided a critical asset for economic resilience and empowered some residents to confidently invest in improving and upgrading their own homes, demonstrating a powerful shift from temporary occupancy to permanent belonging.

In the longer term, this project seeds broader transformation. The community benefits from improved public health through new drainage and sanitation, reducing flood risk and waterborne diseases. Economically, stabilized households can build equity and productivity. Environmentally, planned infrastructure promotes safer waste and water management. Most significantly, the project's success provided the proven, scalable model for Malawi's first National Slum Upgrading and Prevention Strategy, promising to replicate this impact for millions of citizens nationwide.

Number of beneficiaries

The project directly benefited 402 households (approximately 1,050 individuals) by providing security of land tenure and enabling housing improvements through savings groups. The project also provided a proven, scalable model that was instrumental in informing and catalyzing the development of Malawi's first National Slum Upgrading and

Prevention Strategy which will potentially benefit over 1.9 million people. Success in Area 27 offered tangible evidence and a practical blueprint, moving slum upgrading from a peripheral issue to a central national priority.

Evidence of impact

The following are the evidence of impact:

a. HFHM project has been reported in the Malawi country report on the progress of New Urban Agenda published on the Urban Agenda Platform: **https://share.google/Jn4VA5vvBhVdkieqi** p.26, 73.
b. Advocacy Newsletter: **https://habitat.mw/wp-content/uploads/2025/08/HFHM-ADVOCACY-NEWSLETTER-25.pdf**
c. approved layout plan for the informal settlement for Area 27: **https://habitat.mw/wp-content/uploads/2025/01/APPROVED-LAYOUT-PLAN-FOR-AREA-27.pdf**
d. **Revised Final Report - STRUCTURAL ASSESSMENT OF HOUSE REPAIRS IN AREA 27 SECTOR 3, LILONGWE CITY 20250707.pdf**
e. **LEGALIZED LAND-SECURE LAND TENURE.pdf**

Replication & scale up - How can this housing practice be scaled up to expand its scope and reach?

This practice can be scaled up through the implementation of the model as a core part of Malawi's National Slum Upgrading Strategy. This enables systematic replication by municipal governments across the country. This policy framework allows for scaling the approach to other cities, significantly expanding its reach to millions of informal settlement dwellers.

Policy uptake

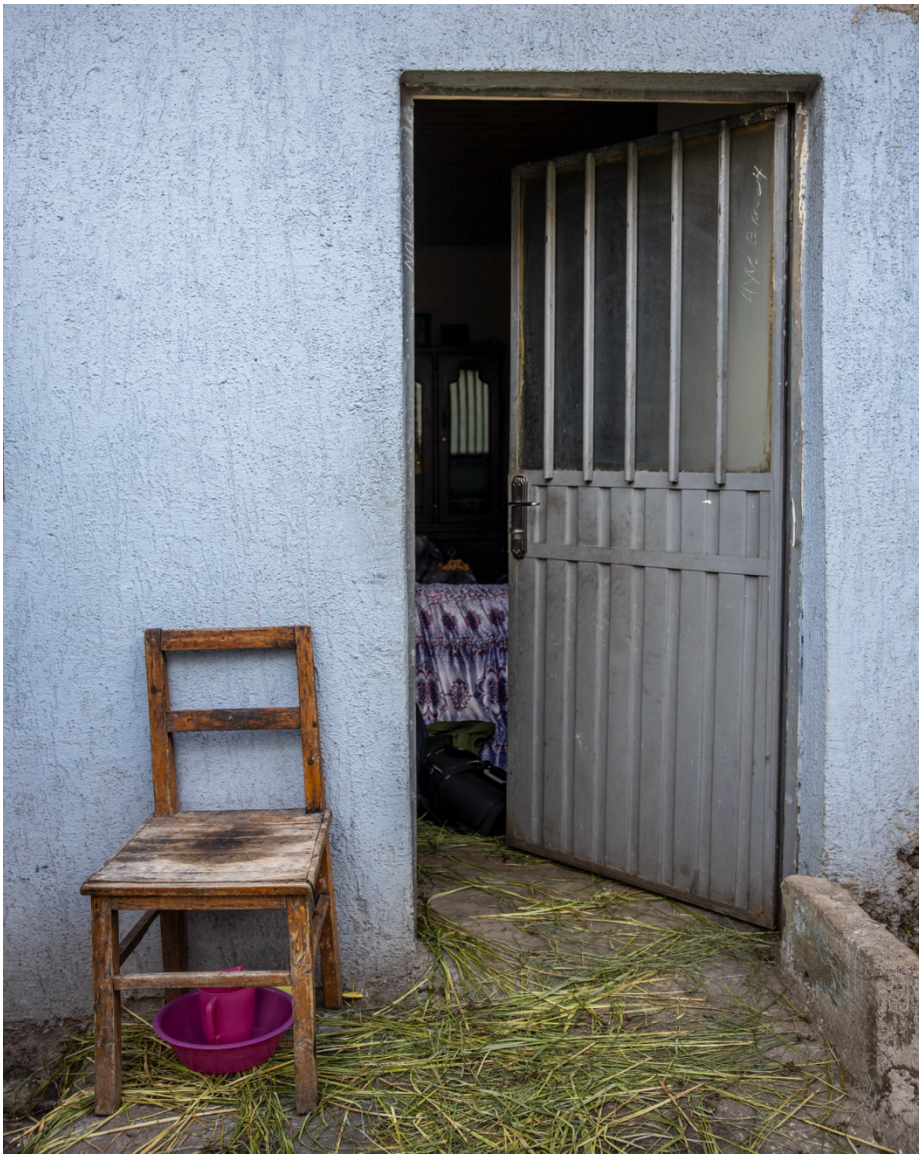
The practice directly informed and catalyzed Malawi's first National Slum Upgrading and Prevention Strategy. The community-driven model from Area 27 including participatory planning, tenure formalization, and infrastructure upgrading provided the evidence-based blueprint for the national policy. This successful pilot demonstrated a scalable approach, convincing policymakers to adopt and institutionalize these methods as the standard for slum upgrading initiatives.

Lessons & Takeaways

We would revise our approach to ensure deeper community understanding and sustainable outcomes. Firstly, allocation of more time and resources to the participatory land demarcation and surveying phase. The technical nature of plot alignment and tenure documentation required a more iterative and visual

learning process; a quicker pace risked some residents signing agreements without fully absorbing the long-term implications of the formal layouts. Secondly, our initial community savings group model could have been strengthened by embedding more robust financial literacy training up front, rather than reactively, to better prepare members for managing construction loans and long-term maintenance costs.

To ensure deeper community understanding and sustainable outcomes, we would revise allocation of more time and resources to land demarcation and surveying phase. The technical nature of plot alignment and tenure documentation required a more iterative and visual learning process; a quicker pace risked some residents signing agreements without fully understanding the implications. The initial community savings group model could have been strengthened by embedding more robust financial literacy training up front to better prepare members for managing construction loans and long-term maintenance costs.



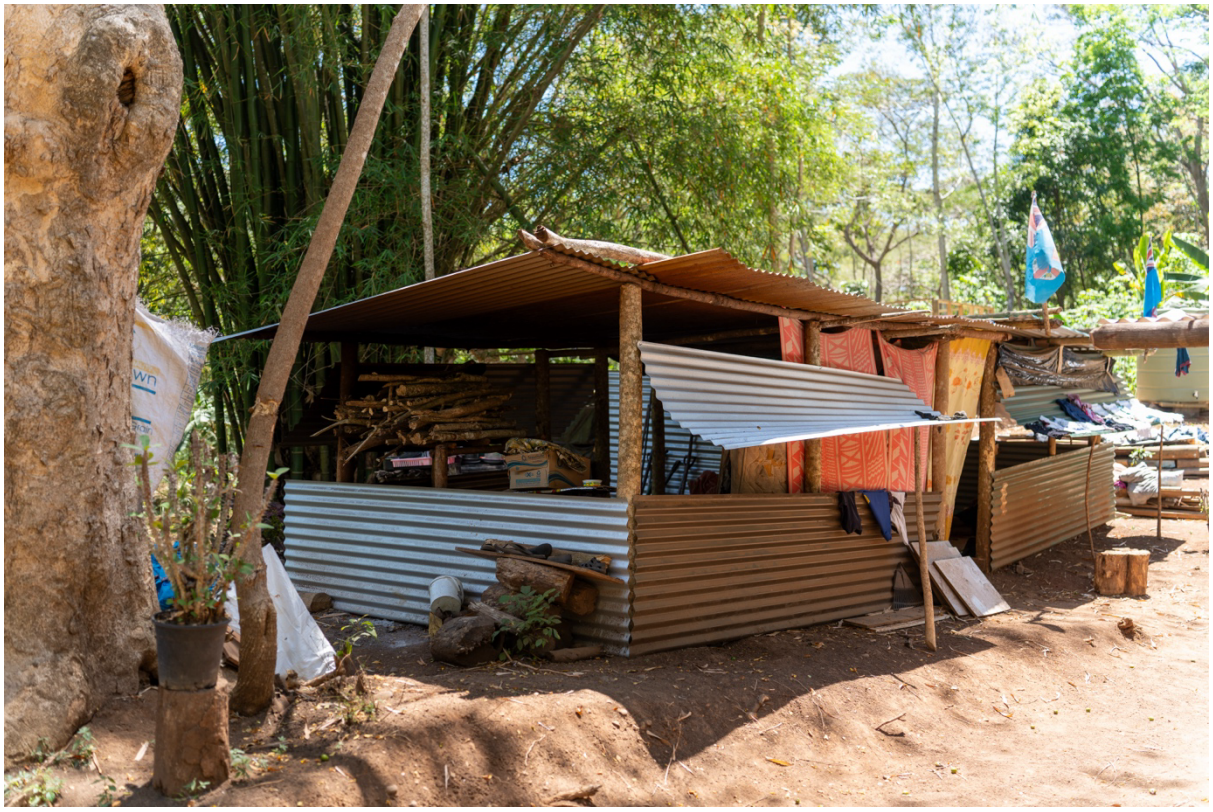
Climate Resilience in the Pacific – Co-designing Pathways to Culturally Meaningful Impact Measurement in Fiji

Problem and Context

Pacific countries are at the forefront of adapting to climate change. A climate resilience measurement framework analysis in the Pacific context related to climate-induced displacement and housing is needed to inform more effective program design and policy for climate resilience in Pacific communities.

While global indices and frameworks aim to track the impact of climate-resilient development investments, they tend to prioritise quantitative data and often fail to capture the nuanced, diverse nature of success in local contexts, overlooking cultural perspectives, social change, and locally defined notions of impact. This disconnect undermines the effectiveness and legitimacy of resilience investments and highlights the need for more inclusive, context-sensitive evaluation frameworks.

This work focuses on iTaukei Fijian solutions that respond to local shelter and basic services needs arising from climate change and the deeply embedded cultural need to preserve ties with home.



Solution Developed

Habitat for Humanity (HFH) is developing a culturally grounded approach to impact measurement in Fiji through village-led master planning that reflects locally meaningful indicators of success. This practice directly addresses the challenge of measuring climate resilience in diverse contexts by embedding Fijian worldviews into program design and evaluation. The current lack of locally and culturally relevant impact measurement data on housing and climate resilience is a significant barrier to achieving it. Partner communities are Indigenous Fijian (iTaukei), and the key objective is to strengthen impact measurement by integrating eco-relational principles—such as kinship, cultural and spiritual ties to land (*Vanua*), and the understanding that humans are part of a holistic ecological system. HFH's relational, rather than transactional, engagement model in Fiji is a social and institutional innovation that enhances legitimacy and effectiveness, with outcomes including increased community ownership and organisational learning across HFH. This approach offers a practical pathway for locally-led climate resilience while navigating global reporting requirements.

Implementation

Current PhD research is drawing from recent program experience in Fiji from a more holistic and locally responsive cultural perspective. The completed Vunuku project and impact assessment, along with the current pilot project in Serua (2024-2025), are demonstrating the achievement of more effective resilience of communities experiencing a process of climate-induced displacement. The analysis of these interventions is informing a scaled-up resilience program in Fiji (2026-2031), incorporating culturally meaningful project design and impact measurement for effective climate resilience.

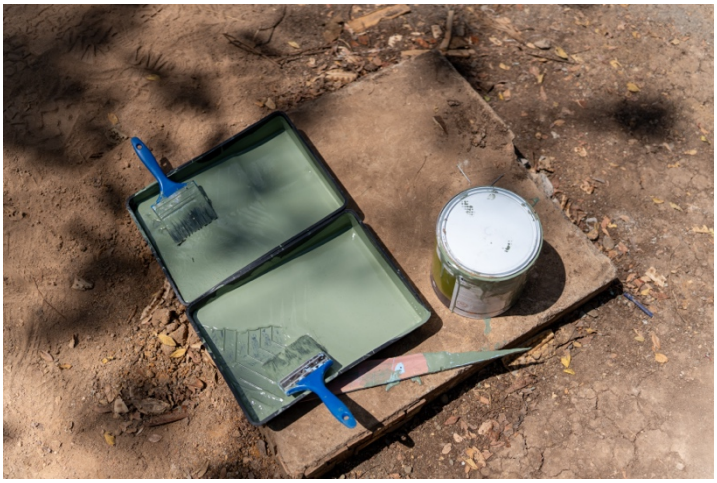
Locally-led baseline assessments undertaken with communities and local government are uncovering cultural values and associated identification of targeted interventions to improve the climate resilience of housing and services, as well as skills and knowledge development needs. A Disaster Risk Reduction (DRR) masterplan will be completed in Jan 2026, learning from the Vunuku DRR Masterplan 2021-2031, which will be the basis for committee members and provincial government representatives to address community priorities.

Assessing baselines and impacts with culturally relevant output and outcome indicators through reflection sessions, stakeholder consultations, focus group discussions, key informant interviews, and surveys will measure any meaningful increase in community resilience to climate-related challenges, integrating local Fijian iTaukei worldviews into MEAL systems.

Enablers & Obstacles

Implementation is supported by a deep understanding of cultural, historical, and governance contexts, and by respecting local protocols that foster trust and openness. A research ethic grounded in eco-relational principles, rather than transactional approaches, enables meaningful engagement. Methods

aligned with local cultural rhythms and recognition of nuanced community practices, alongside respect for governance mechanisms, are critical drivers for success. Challenges can include short timelines that risk undermining cultural protocols, reliance on Western lenses that overlook local knowledge systems, and assumptions privileging Western perspectives. Treating the community as homogeneous rather than acknowledging diverse viewpoints also poses barriers, which can be mitigated through adaptive, culturally responsive approaches.



Results & Impact

Building trust with local communities is the proven first step to enable a more accurate and holistic understanding of community context, including diverse perspectives, as has been experienced in the Vunuku project. HFH's approach has facilitated locally identified community priorities that are embedded in local culture, learning about the nuanced cultural patterns of land use in Fiji, shaped by environmental and cultural drivers. Critical insights around land and culture in Serua between island and the mainland are informing the Disaster Risk Reduction (DRR) Masterplan, ensuring relevance and sustainability through local ownership. Embedding local language and concepts reinforces Fijian eco-relational principles and demonstrates community leadership in decision-making.

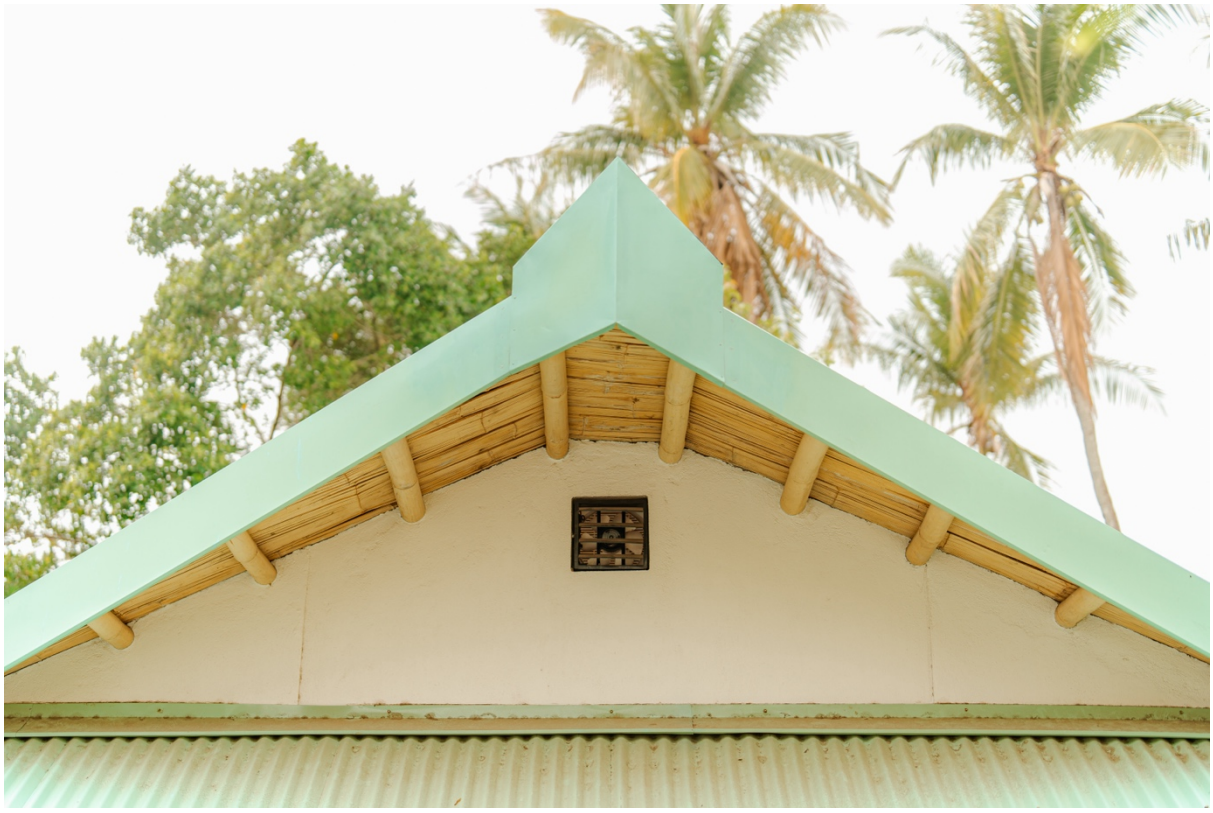
HFH's approach to engagement reaches all sub-groups within the community, including low-income households and marginalised groups, ensuring their priorities are reflected in climate, disaster, and risk planning. Alignment with sub-national governance mechanisms strengthens legitimacy and integration with formal planning and development processes.

HFH approach aims for enhanced resilience to climate risks through locally-led approaches that respect cultural knowledge and practice. Long-term, this approach supports sustainable housing practices, reduces vulnerability for low-income households, and promotes environmentally responsive development that respects cultural heritage.

Number of beneficiaries

The advancement of this development approach and culturally meaningful measures of effectiveness in climate resilience is expected to reach at least 6,000 people (or 1,200 households) in the next 2 years. There is significant potential to scale up impact and reach through increased support (and climate risk exposure) in the Pacific. The current pilot project in Serua is engaging 90 households or 395 people. while the earlier Vunuku project experience engaged with 38 households or 161 people.

Habitat for Humanity has an MOU with the Fijian government in recognition of the specialist expertise that HFH brings to government priorities. The government has earmarked 17 additional informal settlement communities as high priorities for climate-related support, which would expand the scale of beneficiary reach significantly.



Evidence of impact

Vunuku DRR Masterplanning 2021-2031

Vunuku Impact Assessment 2024

Replication & scale up
Was the housing practice replicated elsewhere?

This culturally grounded approach to impact monitoring is being replicated in a new pilot HFH investment in a location (Serua) where climate change threatens housing, livelihoods and wellbeing.

The team is engaging through cultural protocols and Fijian research ethics rooted in reciprocity, trust, and eco-relational principles. Understanding cultural ties to land across island and mainland contexts is critical for co-creating appropriate support.

How can this housing practice be scaled up to expand its scope and reach?

The collaborative partnership between PhD research and Habitat for Humanity involves researching, testing, and co-designing an approach to generate important evidence around effective climate resilience that will inform a multi-year, scaled-up program design development process in Fiji from July 2026.

Embedding Fijian eco-relational principles and this culturally grounded approach to impact measurement will be adapted for other contexts and countries too, aligning investment design with community voices, local cultural norms, and diverse perspectives into planning and resilience monitoring.

Policy uptake

Community-led DRR Masterplans are being integrated with government-owned Integrated Village Development Plans (IVDPs) by embedding resilience and more localised, culturally informed strategies at the grassroots level. IVDPs are mandated under the iTaukei (Indigenous) Affairs Act and operationalized through the Integrated Rural Development Framework (IRDF), ensuring alignment with national priorities. This approach directly supports objectives in the Fiji National Development Plan (NDP) and National Housing Policy, which emphasise housing quality in enhancing resilience to climate risks.

Lessons & Takeaways

Improvements are ongoing through collaboration with a doctoral researcher, aiming to engage all HFH staff in Fiji in building organisational understanding of eco-relational impact measurement and its distinction from Western transactional approaches. The partnership will co-design principles and practice notes, and strengthen staff confidence and capacity to identify entry points for embedding and enhancing Fijian eco-relational approaches.

"Guardian Constructor"

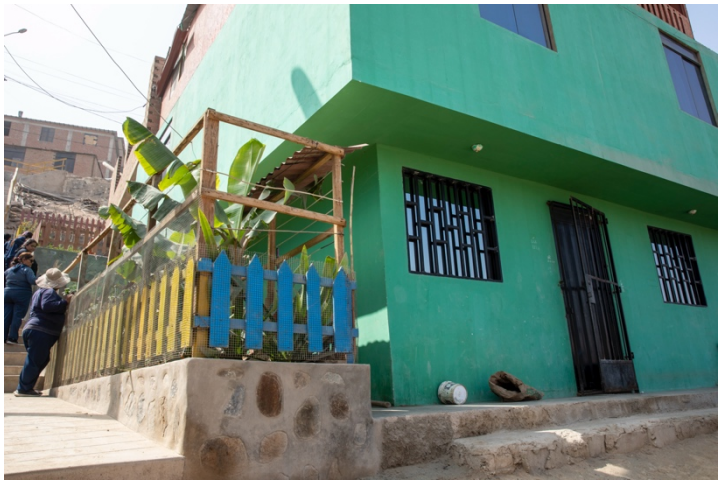
An inclusive business model for incremental housing construction in Peru

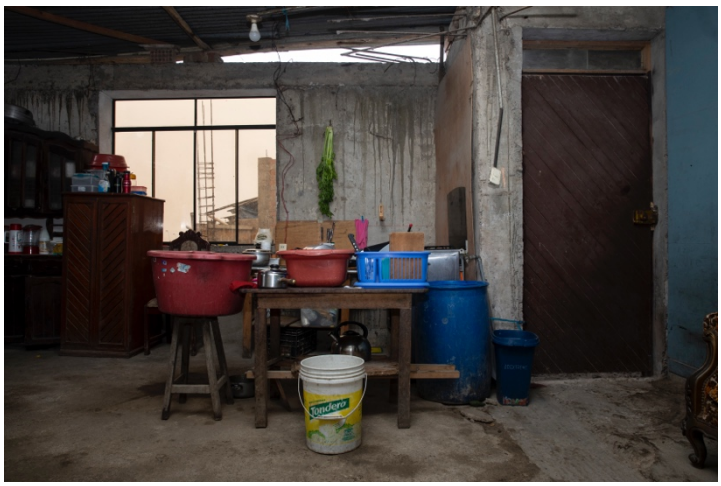
Problem and Context:

In the last 20 years, Peruvian cities have expanded by 39% (93% of which has been informal), widening the gaps in urban inequality and social vulnerability (GRADE, 2020). Cities in Peru build at least 143,000 new homes per year, but the formal sector only builds 43,000 homes. The rest are built informally and incrementally. This context results in unsafe housing, with precarious materials and exposure to seismic and environmental risks. Policy gaps contributing to the problem include insufficient regulation and specific programs that recognize and support incremental construction, weak coordination between the State and the private sector, and the absence of incentives from housing ecosystem actors to promote safe, sustainable solutions adapted to the reality of the construction experience of vulnerable families in urban peripheries.

Solution Developed:

Guardian Constructor addresses the challenges of incremental housing by creating hubs ("Full Building" and "Casa La Firme") that connect families, construction companies, suppliers, and financial institutions in a formal service network tailored to household needs. Its goal is to ensure safe, quality housing by reducing risks, costs, and time through embedded services like design, legal and technical assistance, financing, and after-sale support. The model integrates previously disconnected actors into a multi-stakeholder ecosystem, mobilizing nearly US$21M, building trust with 9,400 families, and generating scalable, inclusive business models nationwide.





Implementation:

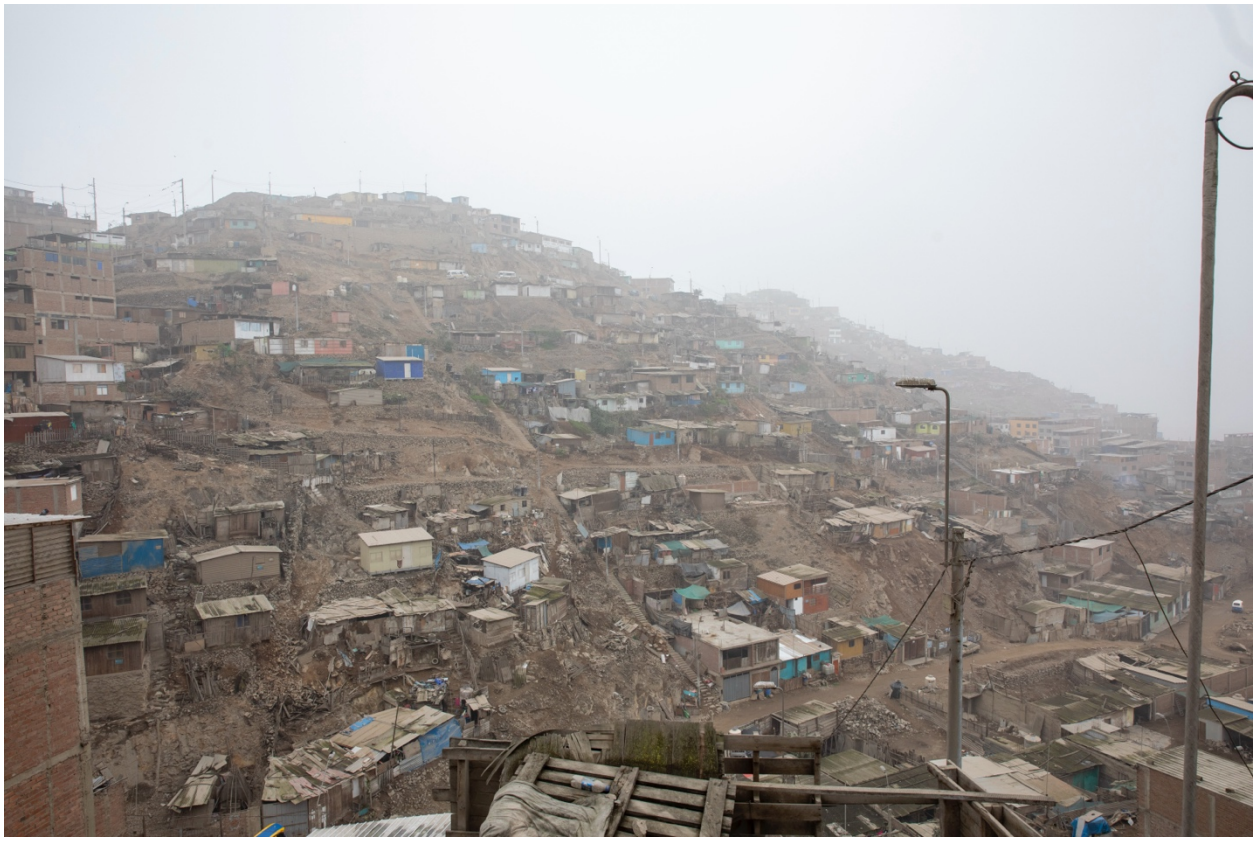
The business model development began with research on families that build incrementally to understand their construction practices. By identifying root problems in the process, the first prototype was co-designed with civil

associations, construction companies, and tested with families that had previously acquired land plots from Menorca, a real estate developer. This process followed several iterations, ending in building complete homes and de-risking financial access with government subsidies. Today, the model continues to iterate with microfinance institutions, to scale nonstructural solutions.

Construction companies, civil associations, microfinance institutions, and real estate developers are orchestrated through the two commercial hubs, reducing supply chain friction and organizing demand as part of Guardian Constructor’s value chain.

The Guardian Constructor timeline starts in 2020 with a cooperation agreement and pilot testing with families. In 2021, an integrated model was co-designed, partnerships extended, and digital and in-person solutions advanced, adding new allies and systems. From 2022–2024, a commercial hub strengthened the
model, and by 2025, a second hub will segment demand by territory.

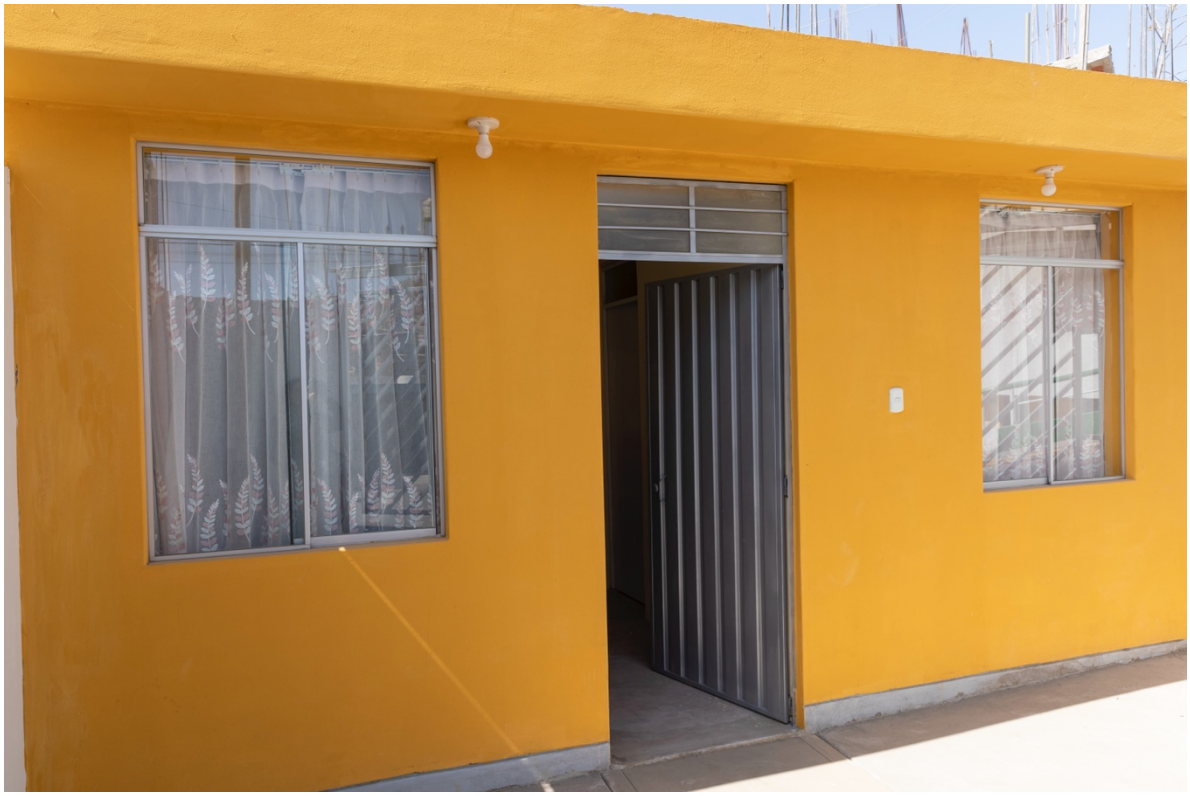
The process required Memorandums of Understanding among partners. The Terwilliger Center invested financial, staff, and material resources and established the first commercial hub (Full Building).



Enablers & Obstacles:

The main enablers were the evidence generated by the Terwilliger Center, which identified financing and quality barriers, providing technical support and legitimacy, and the participation of families, who validated prototypes and contributed inputs to iterate the solution in real contexts. Multi-stakeholder collaboration connected supply and demand in a fragmented market, and the commercial hub (Full Building) became key by concentrating services, financing, and providers in a single platform. Finally, the use of technology and data strengthened customer acquisition and demand management, while partnerships with financial institutions supported the early stages of scalability through digital innovation in subsidies and loans.

Obstacles: market fragmentation, families’ distrust, and limited financial articulation. They were overcome through technical evidence, community validation, demand management data, and multi-actor alliances.



Results & Impact:

In the Fiscal year 2025, Guardian Constructor reached 21.256 households through information-sharing initiatives, and there were 3.497 households that reported that they are aware of where to purchase the products and services. As part of the qualitative results, we share a link to the testimonies of Erika Estrella and Jorge de la Cruz, who share their experiences.

Guardian Constructor transforms the way low-income households build their homes, shifting from an unsafe, informal, and costly process to one that is more efficient, affordable, and sustainable, with direct impacts on the assets, health, and quality of life of millions of families. Incremental housing

construction in Peru generates annual cost overruns of USD 5.613 billion, of which 83% fall on families. These are driven by construction inefficiencies, illnesses linked to precarious housing, and excessive payments for basic services. A family that builds progressively invests on average USD 61,449, almost double the cost of a formal house, perpetuating poverty and inequality. At the community level, informal expansion accounts for 93% of urban growth over the past 20 years, straining services and increasing vulnerabilities. Environmentally, it contributes to the loss of green areas and USD 230 million in annual GHG emissions. Assisted construction models can reverse this scenario, reducing annual cost overruns by up to USD 3.867 billion, while improving health, productivity, and urban sustainability.

Replication & Scale up

Guardian Constructor began its testing phase in the district of Mala, Peru, through the Full Building commercial hub and in partnership with the urban developer Menorca, which has sold lots to families in the area. From this starting point, the initiative expanded its offering to regions such as Lambayeque and Piura. In 2025, with the addition of a second commercial hub, La Firme, and the continued alliance with Menorca, the decision was made to scale Guardian Constructor to a national level.

How can this housing practice be scaled up to expand its scope and reach?

Secure investments to expand hubs, strengthen demand management, and cover replication costs impact capital and credit-adapted products. Consolidate agreements with developers, suppliers, financiers, and local governments while fostering a learning community. Scaling requires standardizing processes, tech for client profiling, real-time monitoring of user experience and impact, and data to refine the value proposition and attract partners.

Public advocacy is in its early phase, but they have already influenced policy. The Ministry of Housing formally recognized incremental housing through Legislative Decree No. 1675, aligning regulations with families’ needs and capacities. This change could benefit 2.9 million households (14.5 million people) in urban Peru, where around 70% of homes are built incrementally. Though still at the pilot stage, the recognition shows the mode’s growing role in shaping national housing strategies

Lessons & Takeaways

Stronger focus on financial products from the start. Families’ access to credit tailored to incremental housing needs was initially limited. In hindsight, a deeper early engagement with financial institutions and fintech’s could have expanded affordability and adoption faster.

User experience and communication. Initial pilots taught us that families often undervalued technical assistance. We would place greater emphasis on

awareness campaigns and co-design processes to ensure families not only access services but also recognize their long-term value.

Developing the Bamboo Market Ecosystem in Nepal:

Scaling Climate-Resilient, Inclusive and Low-Carbon Housing Solutions

Problem and Context:

Nepal faces a persistent housing crisis, with an annual shortfall of 34,000 units and nearly half its population living in substandard homes. Around 1.5 million families, mostly Dalit and Indigenous, remain landless and reside in fragile structures made of mud, straw, or untreated bamboo that fail under climate stress. Existing housing and finance policies exclude these groups, as access to government or market-based financing requires land ownership or collateral. Despite policy commitments under the Right to Housing Act (2018), implementation is fragmented and poorly aligned with financing mechanisms. To bridge these gaps, Habitat Nepal pioneered a Matching Funds Model, combining government subsidies with philanthropic investment to deliver inclusive, climate-resilient housing for the most marginalized families otherwise left behind.

Solution Developed:

The initiative addressed Nepal's housing deficit by establishing a sustainable bamboo housing ecosystem that delivered 867 resilient homes for landless, Dalit, Indigenous, and women-headed families. Its objectives were to (1) expand access to climate-resilient housing through inclusive co-financing, (2) strengthen local bamboo enterprises and supply chains, and (3) institutionalize bamboo as
a green, policy-recognized building material. Key innovations included the Matching Funds Model, blending government subsidies with USD 6.8 million in philanthropic investment and community labor contributions, ensuring affordability and ownership. Eight upgraded bamboo treatment centers run by local firms and cooperatives now produce 14,500 treated poles monthly, generating jobs and market stability. The Cement Bamboo Frame Technology (CBFT) reduced CO_2 emissions by 94% compared to RCC construction, while mason training and youth volunteering enhanced technical capacity. Integrated policy advocacy led to the draft National Bamboo Guideline, transforming bamboo's image from "poor man's timber" to a mainstream, climate-smart housing solution embraced by both government and markets.

Implementation:

The initiative integrated five coordinated actions to establish a sustainable bamboo housing ecosystem.

1. Bamboo Treatment Centers: Eight centers operated by private firms and NGOs were upgraded through technical and financial support, ensuring the production of standardized treated bamboo.

2. Bamboo Housing Design: The Cement Bamboo Frame Technology (CBFT) and prefabricated wall panels improved construction quality, efficiency, and climate resilience.

3. Government-Subsidized Construction: In partnership with 15 local governments, 867 resilient homes were built for marginalized families under a matching-funds model combining government and donor resources.

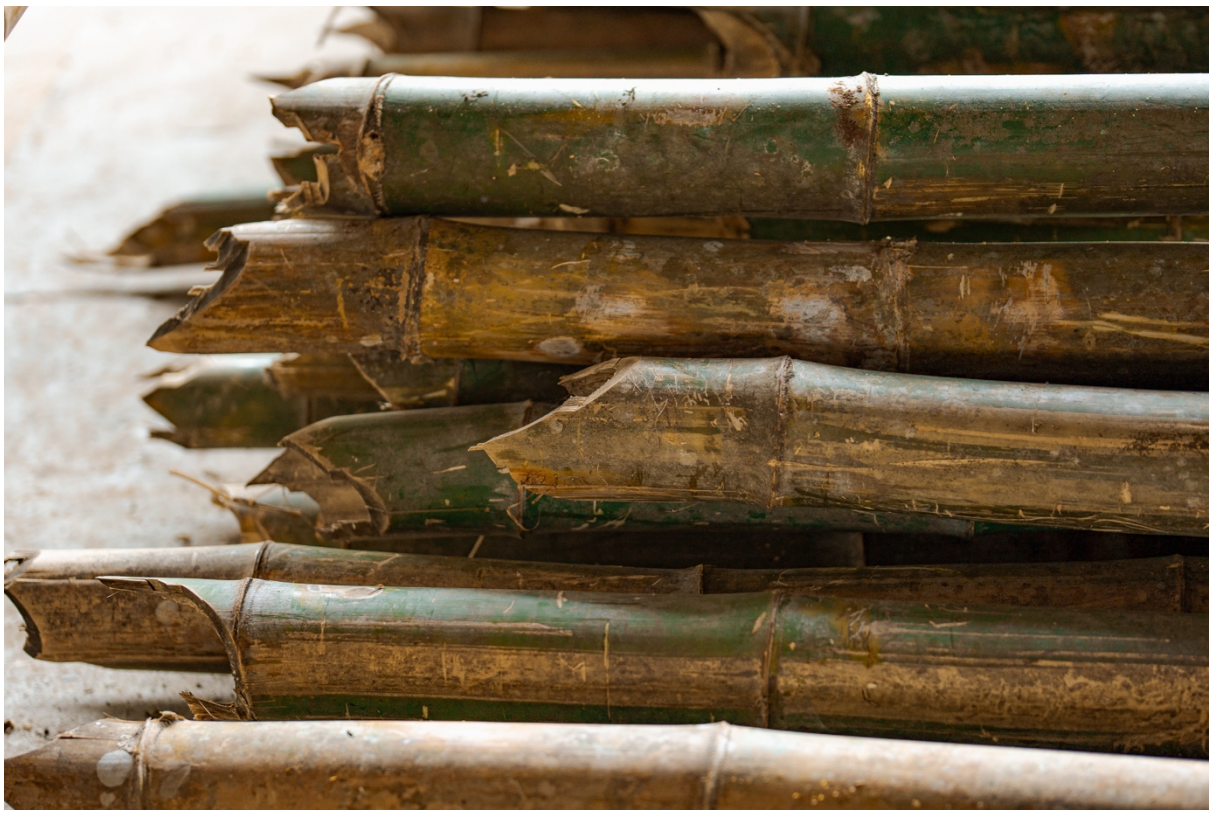
4. Market-Based Construction: Contractor training, exposure visits, and private-sector partnerships stimulated commercial demand and enterprise growth.

5. Ecosystem Strengthening: Mason and youth training, bamboo harvesting orientation, community forest engagement, and nursery establishment built a sustainable supply chain.

Key Actors:
Government (policy and subsidies), private sector (treatment centers, Base Bahay partnership), NGOs (technical support), and communities (labor and ownership).

Timeline: Pilot (2019–2020); Scale-up foundations (2021–2025); National mainstreaming (2025–2027).

Resources: Over USD 8.8 million mobilized from the Hilti Foundation, government co-financing, private sector, and community contributions.



Enablers & Obstacles:

Implementation was driven by a strong government partnership, with 15 local governments co-financing construction and the Ministry of Urban Development leading policy endorsement through the forthcoming National Bamboo Guideline. The Hilti Foundation's investment, coupled with community engagement and technical collaboration with Base Bahay Foundation, accelerated innovation and market adoption. Training 300+ masons and entrepreneurs strengthened local capacity, while advocacy and visibility campaigns built public trust in bamboo as a durable material. Key obstacles included bureaucratic delays in fund release and skepticism about bamboo's durability. These were mitigated through early government involvement, demonstration houses, and policy dialogues that showcased bamboo's technical and environmental performance, building institutional confidence and paving the way for mainstream adoption.

Results & Impact:

The initiative directly improved housing conditions for 867 low-income and marginalized households, including landless Dalit, women-headed, and disaster- affected families, through a mix of government-subsidized and market-based bamboo housing models. Families contributed labor, savings, and community management, ensuring ownership and sustainability. Eight upgraded treatment centers now produce 14,500 treated bamboo poles monthly, creating local jobs and reliable supply chains.

A CO_2 study found that Cement Bamboo Frame Technology (CBFT) emits 94% less CO_2 than RCC and 83% less than brick masonry, positioning bamboo as a leading low-carbon, climate-resilient construction solution. Public trust in bamboo has grown through 36 social media campaigns (7.8M reached), 21 national media features, and Nepal's First National Bamboo Conference, showcasing model homes and public buildings.

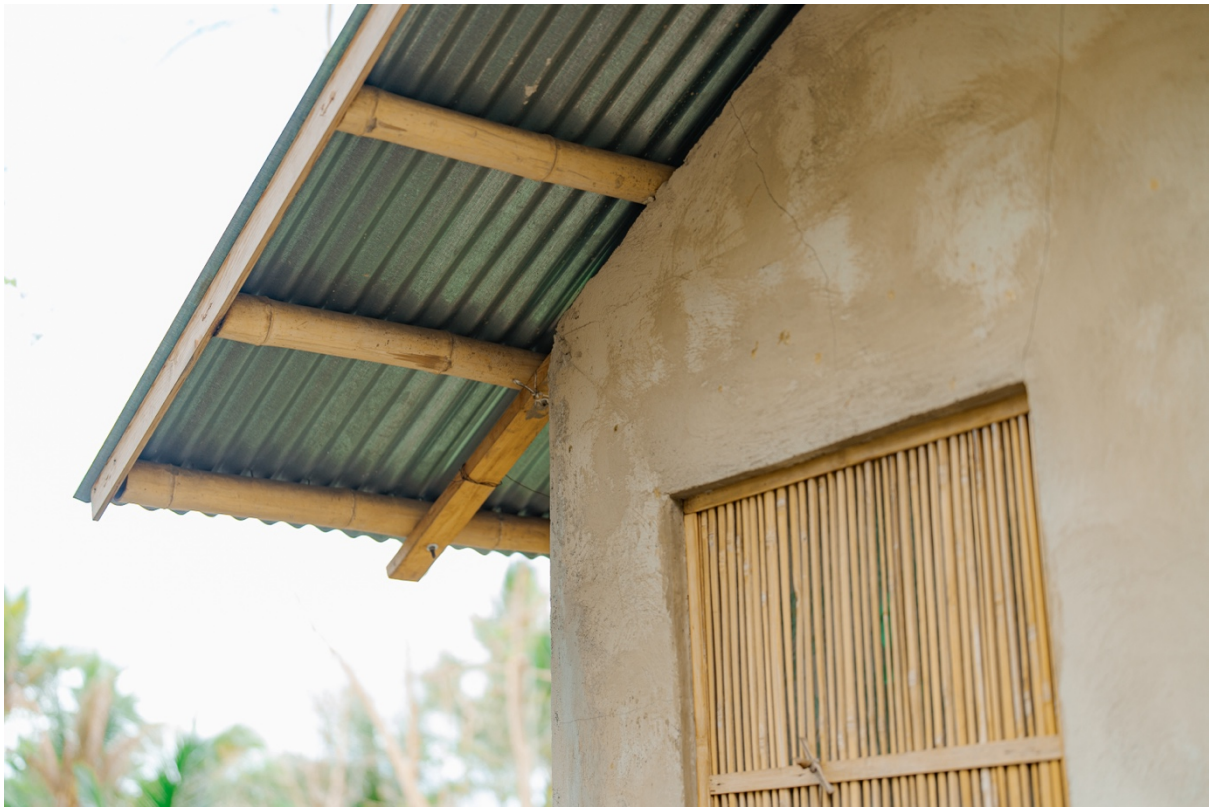
This multi-level approach shifted bamboo's perception from 'poor man's timber' to a recognized green building material, catalyzing policy recognition through the forthcoming National Bamboo Guideline and inclusion of treated bamboo pricing in local government rate schedules. The result is a transformative ecosystem that integrates public, private, and community actors linking livelihoods, resilience, and decarbonization for Nepal's sustainable housing future.

Between 2019 and 2025, the bamboo housing initiative directly benefited 867 households, approximately 4,335 individuals, through the construction of safe, disaster- and climate-resilient bamboo homes in partnership with local governments. In addition, over 2,500 people (including masons, farmers, youth volunteers, and entrepreneurs) benefited indirectly through skills training, employment, and value-chain participation, creating a robust and inclusive bamboo housing ecosystem across multiple provinces of Nepal.

Replication & Scale-up
Was the housing practice replicated elsewhere?

The bamboo housing model has been replicated in multiple municipalities across Koshi and Madhesh provinces of Nepal, through both government-subsidized and market-based housing schemes. Key enabling factors included:

- Government co-investment mechanisms, which demonstrated financial feasibility
- Established bamboo treatment centers, ensuring quality material supply
- Technical partnerships with Base Bahay Foundation and local universities for design validation
- Community training programs that built local construction skills and ownership.



How can this housing practice be scaled up to expand its scope and reach?

Scaling will focus on market mechanisms and in integrating bamboo housing into national and provincial housing programs, supported by the forthcoming National Bamboo Guideline and inclusion in the Building Code. Expansion will leverage public–private partnerships, microfinance linkages, and carbon finance opportunities to attract investment. Strengthened training networks and certified
treatment centers will enable replication across Nepal's disaster-prone and low-income regions.

Policy Uptake

The project directly informed Nepal's National Bamboo Guideline, drafted and submitted by Habitat Nepal to the Department of Urban Development and Building Construction. The guideline, which is now under final review by the Ministry of Urban Development, will standardize bamboo construction practices and pave the way for its inclusion in the National Building Code. Additionally, several provincial and municipal governments have integrated treated bamboo pricing into their official housing rate schedules

Lessons & Takeaways

While the bamboo housing model proved effective, earlier engagement with national regulators and the private sector could have accelerated policy approval and market adoption through visible demonstration homes, microfinance partnerships, and behaviour-change campaigns that repositioned bamboo as a desirable, climate-smart housing choice, creating both aspirational and financial incentives for households to adopt the technology beyond subsidy programs. Future initiatives will emphasize early policy alignment, standardized quality assurance, and stronger gender and inclusion integration.