



## Terwilliger Center for Innovation in Shelter



# Shelter Innovation Highlights

Series by Habitat's Terwilliger Center on developing markets to expand affordable housing • August 2018

### In brief

Habitat has improved access to finance for more than 3 million low-income households in the past decade, but numerous challenges related to construction materials, services, housing knowledge and policies remain. Habitat's Terwilliger Center for Innovation in Shelter uses a market-based strategy to address these challenges in three ways:

- 1) Supporting private-sector development of housing solutions that respond to the needs of low-income households.
- 2) Facilitating initiatives led by the public sector and other relevant organizations to improve policy and regulatory bottlenecks hindering affordable housing.
- 3) Improving demand for quality housing solutions through consumer education and more effective marketing.

The Terwilliger Center uses a set of diagnostic tools to identify the root causes of housing market dysfunction and appropriate partners, such as housing supply firms, who can effect and sustain change and reach low-income households at scale.

## Market systems concept note

Since 1976, Habitat for Humanity has been helping families build strength, stability and self-reliance through affordable shelter, yet with an estimated 1.6 billion people expected to lack adequate housing by 2025,<sup>1</sup> the traditional approach of constructing new homes is insufficient to meet this demand. As early as 2008, Habitat began to explore alternative strategies to meeting surging demand that focused on addressing the challenges low-income households face in improving their existing shelter.

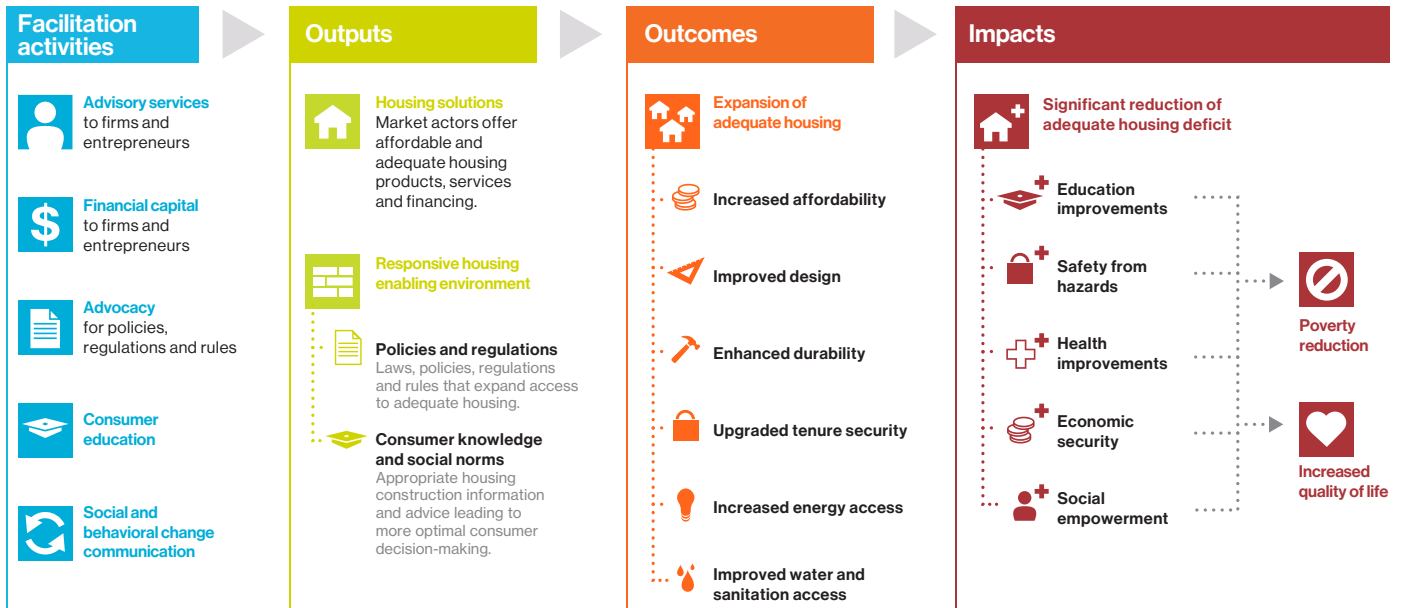
Habitat launched the Terwilliger Center for Innovation in Shelter to explore strategies for improving low-income households' access to affordable financing and quality expertise, labor and materials – all core elements, and often constraints, in a household's ability to access adequate shelter. The Terwilliger Center has made significant headway in increasing low-income households' access to housing-related financial products and services, having provided advisory services to more than 71 financial service providers to serve over 6.8 million individuals. Yet numerous constraints still face low-income households in accessing affordable, adequate shelter, including lack of knowledge on best practices in construction, limited understanding of and access to materials, and prohibitory regulations regarding land tenure and security. The Terwilliger Center's approach aims to address these challenges and to create a sustainable and large-scale reduction of the housing deficit by **facilitating the development of more competitive, inclusive and resilient housing market systems.**

<sup>1</sup> McKinsey Global Institute. "A Blueprint for Addressing the Global Affordable Housing Challenge." 2014. [http://www.mckinsey.com/-/media/McKinsey/Global%20Themes/Urbanization/Tackling%20the%20worlds%20affordable%20housing%20challenge/MGI\\_Affordable\\_housing\\_Full%20Report\\_October%202014.ashx](http://www.mckinsey.com/-/media/McKinsey/Global%20Themes/Urbanization/Tackling%20the%20worlds%20affordable%20housing%20challenge/MGI_Affordable_housing_Full%20Report_October%202014.ashx)

## The Terwilliger Center’s approach to promoting more inclusive housing market systems

The Terwilliger Center’s ultimate goal is to significantly reduce the global housing deficit, thereby reducing poverty and increasing the quality of life for low-income households as laid out in the housing market systems theory of change.

Figure 1: Terwilliger Center’s housing market systems theory of change

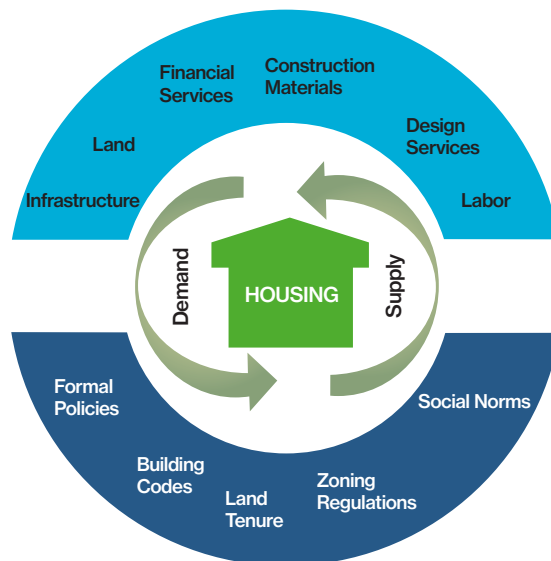


## What is a housing market system?

In general, a market system illustrates the environment and agents that facilitate and impact a core supply-and-demand function. A housing market system includes the *who* and *how* of homebuilding – who makes housing available and influences the process and how a family buys the products and services. A housing market system can be thought of as three interlinking functions (see **Figure 2**):

**The core function:** This includes the actual producers and “consumers” of the housing products and services. These are the people, firms and institutions who *supply* the products and services required to build a house, along with the families who *demand* these products and services to secure adequate shelter for themselves.

Figure 2: The housing market system



**The supporting functions:** These are the services that make it possible for families to build, repair, improve or expand their homes. Supporting functions within housing market systems include land services, infrastructure, financial services, construction materials, design services and labor. Each of these supporting functions is in and of itself a complex system.

**Rules:** Sometimes referred to as “the enabling environment,” these are the written and unwritten rules that govern the market system. Rules governing housing market systems include formal policies, standards and codes in the housing and construction sectors; land tenure; zoning regulations; and the preferences people have in building materials and designs.

### Putting consumers at the center

Consumers lie at the center of the housing market system, so our analysis needs to start with an understanding of the common housing categories (for example, brick houses versus concrete block houses) used by low-income consumers (our primary target population), major construction defects, and other constraints and vulnerabilities related to each housing category. Consumer preferences must also be taken into account: What types of housing do people aspire to and why? Then we must look at the affordability of different types of housing and seek to identify the ways in which the poor are paying more for housing than their wealthier peers. Finally, we need to develop a basic understanding of the size of the market and whether there is any unmet demand.

## Understanding key characteristics of housing market systems

Facilitating more inclusive housing market systems requires understanding the five general characteristics of market systems described below and their implications in the housing context.



### 1. Households and communities

Market systems are interconnected with households and communities – which can also be considered systems – as decisions about how to spend money and time are negotiated within households and among community members. Understanding how household and community systems interact with market systems and with each other provides insights around the informal “rules” governing the housing market system.



### 2. Interconnectedness

Housing market systems include multiple, often interconnected components and interact with other systems, such as health, education and sociocultural systems, in addition to households and communities. Changes in one interconnected system can affect the functioning of other systems.

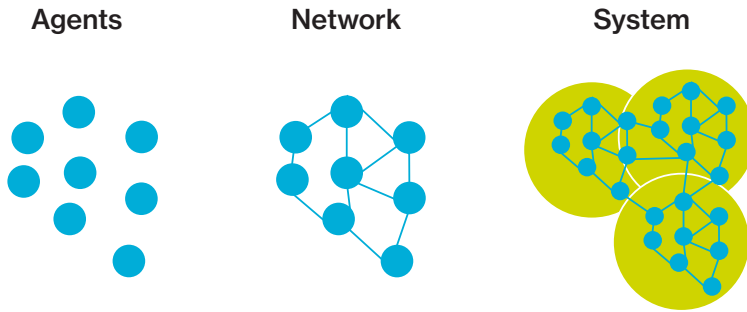


### 3. Complexity

Market systems in general contain a wide variety of firms, institutions and service providers (often called “agents”) that are interconnected yet independent (i.e., networked). The interactions between agents and networks are individualized behaviors, and as a result are unpredictable and nonreplicable. In a housing market system, agents may include homeowners, construction firms and masons. Networks can include social linkages between peer

groups or informal relationships between artisans. **Figure 3** illustrates the relationships among agents, networks and the system as a whole.

**Figure 3: Components of market systems**



#### 4. Feedback loops

Market systems are constantly changing systems that evolve in response to feedback loops that can either reinforce or minimize patterns of behavior. Understanding the drivers, or feedback loops, behind behavior within a market system provides insights into whether to promote or break those loops in order to encourage greater competitiveness and resiliency within the market system. In a housing market system, identifying feedback loops is important for understanding how consumer preferences and social norms are enforced. For example, in some housing market systems, consumers prefer bricks despite the availability of more sustainable methods of construction. This belief is reinforced by the status conveyed by owning a brick house. Social status drives the choice, rather than the consideration of durability or sustainability. This behavior pattern may be minimized by another feedback loop, such as an educational campaign about the value of alternative building materials.

#### 5. Flows



Flows of people, capital, information and ideas, and resources and materials characterize networks within market systems. Inequity within market systems is often due to unequal access among agents and networks to these flows. Understanding the nature of these flows can help market systems practitioners identify points of leverage to effect change resulting in a more inclusive market system. Continuing the example of using brick, market systems practitioners must understand whether information regarding material selection is readily available to all homeowners.

### Practicing adaptive management

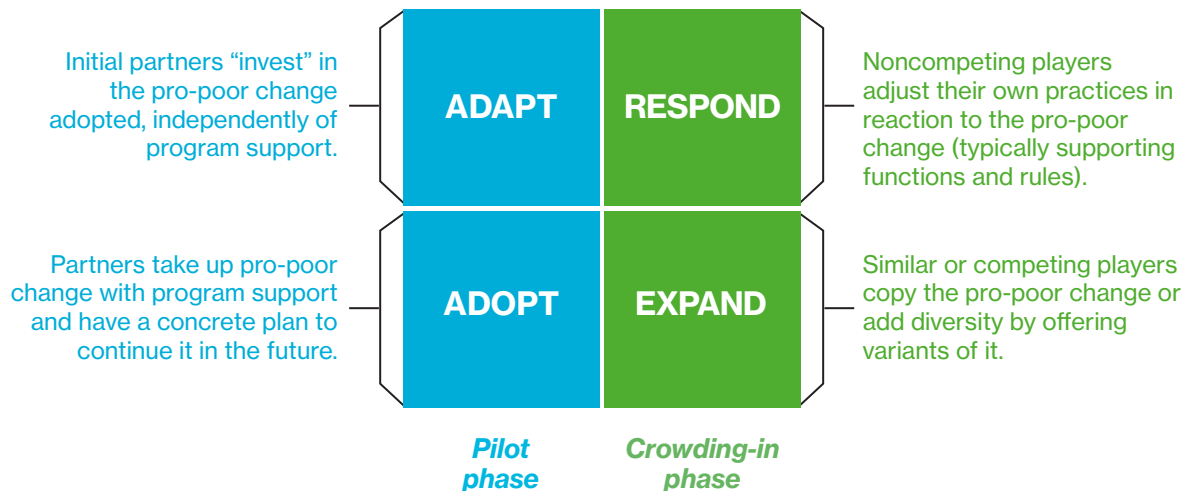
Because the Terwilliger Center works in unpredictable, complex systems, we use a structured, iterative process of robust decision-making, with the aim of reducing uncertainty over time via system monitoring. This process, known as adaptive management, provides us with the ability to recognize and adapt to changing circumstances. Successfully implementing adaptive management requires a high level of experimentation; excellent monitoring systems and tools; and the ability to change strategies, plans and activities in response to ongoing learning.

## Driving systemic change

Rather than addressing the symptoms of inadequate housing, the Terwilliger Center seeks to address the root causes of systemic constraints in housing market systems that are excluding certain population segments, preventing or reducing competition, and subjecting the system to shocks – in other words, transforming them to be more competitive, inclusive and resilient. Instead of directly intervening in housing market systems, the Terwilliger Center seeks to catalyze the action of others within the market system to bring about system-level changes while avoiding the possibility of becoming embedded in the market itself. Our role as facilitator is intentionally and inherently temporary.

The Terwilliger Center takes this indirect approach to addressing inadequate housing in order to focus on large-scale impact (recall the 1.6 billion target) and to ensure sustainability of the intervention. At its most readily observable point, systemic change will manifest in behavioral change on the part of market actors: firms, consumers and regulators. The Adopt-Adapt-Expand-Respond Framework, or AAER, provides a method for understanding the process by which interventions (referred to as “pro-poor change” in **Figure 4**) can result in systemic change.

**Figure 4: Adopt-Adapt-Expand-Respond Framework**



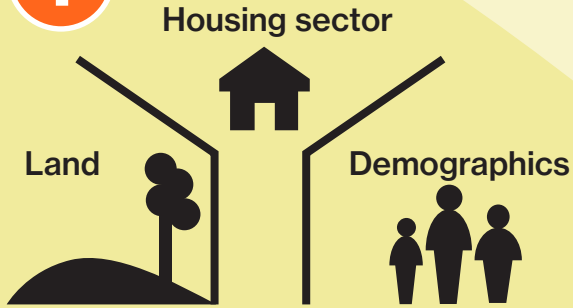
Under the AAER Framework, the Terwilliger Center facilitates the pilot phase of systemic change for a housing market system by supporting lead firms, or initial partners, in developing low-income housing products (the adopt phase). These pilot projects, which may include solutions such as affordable solar power or low-cost disaster retrofitting, are developed with the understanding that lead firms will continue the program without the Terwilliger Center’s support, “adapting” the piloted solution and investing in its longevity. During the crowding-in phase of systemic change, other agents (or partners) in the housing market system will copy the initial solution, thereby expanding its availability within the market, or adjust their behavior in response to the solution. In this phase, systemic change is truly felt as other partners and firms adopt the pilot project strategy.

## Designing housing market system interventions

The Terwilliger Center uses a phased approach to designing and implementing market system support projects. This approach emphasizes a research-oriented mindset and partnership with local firms.

## Bounding the system (Part I)

1



Define on basis of geography, consumer profile, category of housing, etc.

## Consumer research

2

Barriers to housing



Housing characteristics

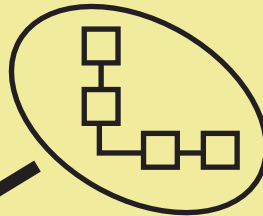
3

## Bounding the system (Part II)

Identify sectors

Based on consumer research, select a sector for in-depth analysis

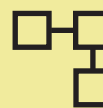
waterproofing



chain solar



flooring



## Sector analysis

4

Understand market actor relationships, bottlenecks and challenges



5

## Identify market-based solutions

- ID commercially viable solutions
- Assess lead partners

6

## Facilitate lead firm initiatives

Support market actor activities

7

## Monitoring and results management

- Assess both intervention and systems change
- Learn and adapt





## **1. Bounding the system (Part I)**

The interconnectedness of market systems means that they can be defined very broadly. Consequently, an initial task of market systems development practitioners is “bounding” the market system to limit the scope of assessments and interventions to a manageable scale. The bounded system should be broad enough to include actors and institutions with whom the support project may engage, but narrow enough to be managed effectively given program resources. The following are initial considerations the Terwilliger Center uses to focus the program:

- Geographic area.
- Consumer profile.
- Category of housing.
- Prioritized themes (such as disaster resilience and gender).

## **2. Consumer research**

After defining the initial consumer profile, our team undertakes consumer research to develop a stronger understanding of the target market segment, identify barriers that households in this market segment face in accessing adequate housing, and gain additional insights into the housing market system in focus.

## **3. Bounding the system (Part II)**

The consumer research phase provides the team with a better idea of the broad categories of barriers that consumers face when attempting to access adequate housing. In order to define an intervention, the team undertakes another system bounding exercise, drawing from the findings of the consumer research to select several sectors for in-depth analysis.

## **4. Sector analysis**

In this step, the team analyzes the prioritized sector, identifies the relevant market actors, and maps their relationships with one another. Interviews are conducted with market actors and sector experts to identify constraints in market access, input supply, technology and product development, management and organization, policy, finance, and infrastructure.

## **5. Identification and assessment of market-based solutions**

Market-based solutions are commercially viable solutions that address constraints within the selected housing market system in a sustainable manner. Once the team identifies a solution, they assess the commercial viability of this solution and identify potential private providers, often called lead firms. Lead firms for a solution addressing the consumer preference in materials may include construction companies or construction material supply firms.

## **6. Facilitation of market actor initiatives**

Market actor initiatives are activities that companies or agencies undertake to expand or develop the products, services and support they provide to low-income households. When collaborating with firms, the Terwilliger Center’s role is to facilitate activities that will contribute to systemic change and improve low-income households’ access to housing products and services.

## **7. Monitoring and results management**

Monitoring and results management enables a program to monitor results and adjust program strategies in real time through adaptive management approaches in an effort to achieve the program’s objectives. Monitoring and results management focuses specifically on:

- (1) Assessing the progress of lead firm interventions.
- (2) Assessing wider systems change.
- (3) Reviewing these results to inform programmatic adaptations.

## Designing an intervention

In the state of Tamil Nadu in India, the Terwilliger Center's research indicated that roofing was one of the most expensive components of construction and also one of the most likely to fail. Our diagnostic process led us to identify waterproofing as a major challenge in roofing and overall construction. Many households desire to build reinforced cement roofs but fail to waterproof appropriately. Annual monsoon rains and cyclones ensure that over time, water seepage deteriorates metal reinforcements and leads to mold and other health issues. While waterproofing costs less than 1 percent of house construction when done up front, most families are not aware of the need to waterproof.

The Terwilliger Center put out a request to companies in the waterproofing sector to respond with ideas for addressing this lack of awareness while increasing their sales to this segment. Through this process, we identified a distributor of waterproofing supplies who currently has no market with low-income households but sees this segment as an opportunity to expand its business. The distributor is interested in repackaging a simple waterproofing product to appeal to the low-income segment, plans to provide training to masons who work with these families on the proper application of the technology, and intends to implement marketing campaigns for households designed to raise awareness of the need for waterproofing. The Terwilliger Center is supporting the distributor in all three areas with expertise and grants, monitoring the company-led pilot to determine the degree of success and advising on appropriate adjustments for future variations of this pilot.

This initiative has also enabled the Terwilliger Center to establish partnerships with two major manufacturers of waterproofing supplies who would like to adapt their current waterproofing products to be suitable for a 500-square-meter home or smaller, the size of home that the low-income segment builds. In this way, the Terwilliger Center plans to continue working within the waterproofing sector to improve awareness of and access to the technology by low-income households.

## Looking ahead

The Terwilliger Center is working in Peru, Mexico, Kenya, Liberia, Macedonia, India and the Philippines. We seek to reach 1 million households by 2020, partnering with at least 50 firms to accomplish this. As the Terwilliger Center implements this housing market systems approach, it is committed to capturing lessons and sharing them with others seeking to join the center in laboring for a world in which everyone has a decent place to live. To follow our progress, check out the Terwilliger Center website at [habitat.org/tcis](http://habitat.org/tcis).

## About Habitat's Terwilliger Center for Innovation in Shelter

The Terwilliger Center works to build and expand inclusive housing market systems through a two-pronged approach: Mobilize the flow of capital to the housing sector and serve as facilitator and adviser to market actors. In addition, the Terwilliger Center advances knowledge around housing markets by conducting research studies, creating publications, developing tool kits for practitioners in the field and furthering impact in the sector by presenting these findings in key sector events.

For more information, please visit [habitat.org/TCIS](http://habitat.org/TCIS).

This document was produced by Habitat's Terwilliger Center for Innovation in Shelter.

Writers: Sheldon Yoder, Mallory St. Claire and Scott Merrill



HABITAT FOR HUMANITY INTERNATIONAL  
TERWILLIGER CENTER FOR INNOVATION IN SHELTER  
270 Peachtree St. NW, Suite 1300, Atlanta, GA 30303