Habitat for Humanity®

Terwilliger Center for Innovation in Shelter

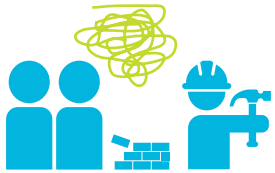
Hand in Hand with Homeowners:

How Masons' Norms and Practices Affect Low-Income Home Construction in India, Kenya and Peru

July 2019

Key messages

1



Strong distrust between masons and clients, which can result in lower-quality construction, was observed in all three countries.

There is a need to improve trust and enhance feedback as a means for improving both construction quality and masons' livelihoods.

2

Most low-income households' point of contact with construction professionals, such as engineers and architects, is through masons.

If the objective is to improve households' access to the services usually provided by these professionals, the most likely avenue is through masons whose skills have been appropriately upgraded, not by making the professionals' services more accessible.

3

Masons have very weak incentive to take up formal training.

Programs should instead focus on changing poor construction behavior in other ways, such as improving the incentives that masons have to acquire a skill; nontraditional training strategies (e.g., on-site microtrainings that do not hurt a mason's income); business and soft skills enhancement to increase client numbers and improve client retention for qualified masons; and improved materials that make it easier for laborers to "do the right thing."

4

The word-of-mouth referral system is the main strategy masons use to find new work.

This serves to establish a minimal level of trust between the household and the mason from the beginning of the relationship but does not allow households to select masons based on certification, skill levels or other factors directly related to the quality of construction. This is reinforced by families evaluating masons' work based on superficial indicators, not structural quality. Expanding the options available to households and masons to find each other could be a strategy for improving this outcome.

5

New or alternative housing technology, materials and techniques are often seen as solutions for affordable housing,

but this research shows that they will likely not succeed unless the marketing takes into account the principal influencers of low-income households. In many cases, masons are some of the biggest influencers. Thus, marketing needs to take them into account.

6

Masons' influence on households is not a one-way street,
and it depends on several factors, including the type of mason and the wealth of the household.

7

The strength and prevalence of a given social norm should determine the intervention type.
Norms may be similar across different settings, but the strength and prevalence varies with country context.

Introduction

Habitat for Humanity's Terwilliger Center for Innovation in Shelter works with housing market systems by supporting local firms and expanding innovative and client-responsive services, products and financing so that households can improve their shelter more effectively and efficiently. The ultimate goal of the Terwilliger Center's market systems program is to make housing markets work more effectively for people in need of decent, affordable shelter, thereby improving the quality of life for low-income households.

Understanding the forces at play in the construction of low-cost housing is key to promoting positive change. With this in mind, the Terwilliger Center commissioned a study to understand how low-income households make decisions on housing design and construction and what actors and social norms influence these decisions in three diverse settings: Kenya, India and Peru. The study focused on norms, the informal rules that govern collective behaviors and expectations of behavior governed by empirical expectations ("What I think others do") and normative expectations ("What I think others expect me to do").

The studies covered both homeowners and the masons who work with them. The research specifically investigated the role of masons and how they interact with both clients and suppliers, because understanding their social norms, networks and information flows is key to knowing where and how to exert positive influence over the low-income housing market.

Study locations

Each country study had its own orientation, tailored to its particular market context.

In India, the research focused on understanding the preferences of and influences on households and masons in two different districts in Tamil Nadu: Kancheepuram, a peri-urban inland district on the outskirts of the capital, Chennai, that is less likely to be influenced by natural disasters, and Cuddalore, a coastal peri-urban district, which was selected because of its greater record of disaster damage.

In Kenya, most urban dwellers wish to build incrementally, more likely in a rural area that is the husband's town or village of origin. The first phase of research was carried out in an urban area to explore this dynamic. The site was Korogocho, an urban slum in the northeast of Nairobi. The second phase of research took place in two areas to trace the different pathways that some residents of Korogocho took to build homes. This took researchers to peri-urban areas of Nairobi, and Siaya County in western Kenya, where several former residents of Korogocho and other informal settlements in Nairobi have relocated.

In Peru, the study site was the informally constructed neighborhood of La Florida in San Juan de Lurigancho. The research focused on understanding the preferences of and influences on households and masons in the transition from a semi-permanent wood structure to a permanent concrete-, iron- or steel-reinforced building with flooring. This transition was selected because it is the stage in which the most significant financial investment begins and in which the foundation for any future structural plans is established. Suboptimal decisions in this stage of construction determine the future shelter upgrades and extensions that may be required or feasible; they also generate additional costs during extensions and increase exposure to structural insecurity in the face of environmental risks and disasters.

Introduction

Research methodology and methods

The individual country studies were based on three change objectives:

- **Change Objective 1:** Increase agency for women in housing decision-making.
- **Change Objective 2:** Ensure households use more disaster-resilient construction techniques (India and Peru only).
- **Change Objective 3:** Improve masons' ability to change their practice, leading to better services for low-income homebuilders.

The research methods used were similar across the three sites (Figure 1 on page 5), with a combination of desk reviews, key informant interviews and focus groups.

More detailed information about the study findings across all three change objective domains can be found in the individual country reports at habitat.org/tcis.

This report consolidates and examines the findings under Change Objective 3: improve masons' ability to change their practice, leading to better services for low-income homebuilders. It explores both the decisions of masons to invest in their practices and the influence that social norms, networks and information flows play in this decision across three diverse country areas.

The report is divided into the following sections:

1. **The role and profile of the mason:**
   The relationship between masons and households, how masons and households perceive the occupation, and the mason's career trajectory.
2. **Information, influence and social norms:**
   Who influences masons, where they get their knowledge and the norms that govern how they behave, and how they are seen and selected by clients.
3. **Next steps:**
   How to work with masons to increase uptake of better materials and building practices.

This report explores both the decisions of masons to invest in their practices and the influence that social norms, networks and information flows play in this decision across three diverse country areas.

Figure 1: Research methods

Kenya

73 interviews:

- Households
- Masons and other key influencers (such as hardware retailers, polytechnic institutes, savings groups, etc)
- Households assumed to be earning less than US$10 per day (Terwilliger Center target household group)

India

76 interviews and

10 focus groups:

- Women and men in low-income households
- Masons
- Other key influencers: local retailers, associations, training centers and government officials

Peru

30 interviews and

5 focus groups:

- Desk reviews
- Women and men in low-income households
- Masons
- Other key influencers: local hardware retailers, professional construction contractors, local leaders and government officials
- Observational site visits to hardware stores and a prefabricated home market

1 The role and profile of the mason

1 The role and profile of the mason

The importance of the relationship between households and masons

The relationship between "base-of-the-pyramid" families and masons is at the center of the incremental homebuilding process used by most families globally to acquire housing. With little access to formal design services and planning advice, families rely heavily on masons for guidance in building their homes.

In turn, these informally trained artisans conform their advice and construction services to decisions families already have made based on their aspirations and purchasing power. The interplay between mason and family is a significant factor in determining the adequacy and decency of the house that the base of the pyramid ultimately dwells in.

Masons are also a principal source of construction-related information in all three countries studied (Figure 2 on page 8). In both India and Kenya, whereas higher-income groups tend to seek advice from more experienced contractors and engineers, masons with lower levels of experience tend to be hired by lower-income groups. These households rely more on input from masons on how to construct their houses than do higher-income groups.

This phenomenon may reflect the tendency of lower-income households to be less informed and knowledgeable about construction than higher-income households, who have higher levels of formal education and tend to have more access to information. Moreover, masons start their careers by working within their communities (which tend to be lower-income), and continue to work with them even after they transition into contracting work.

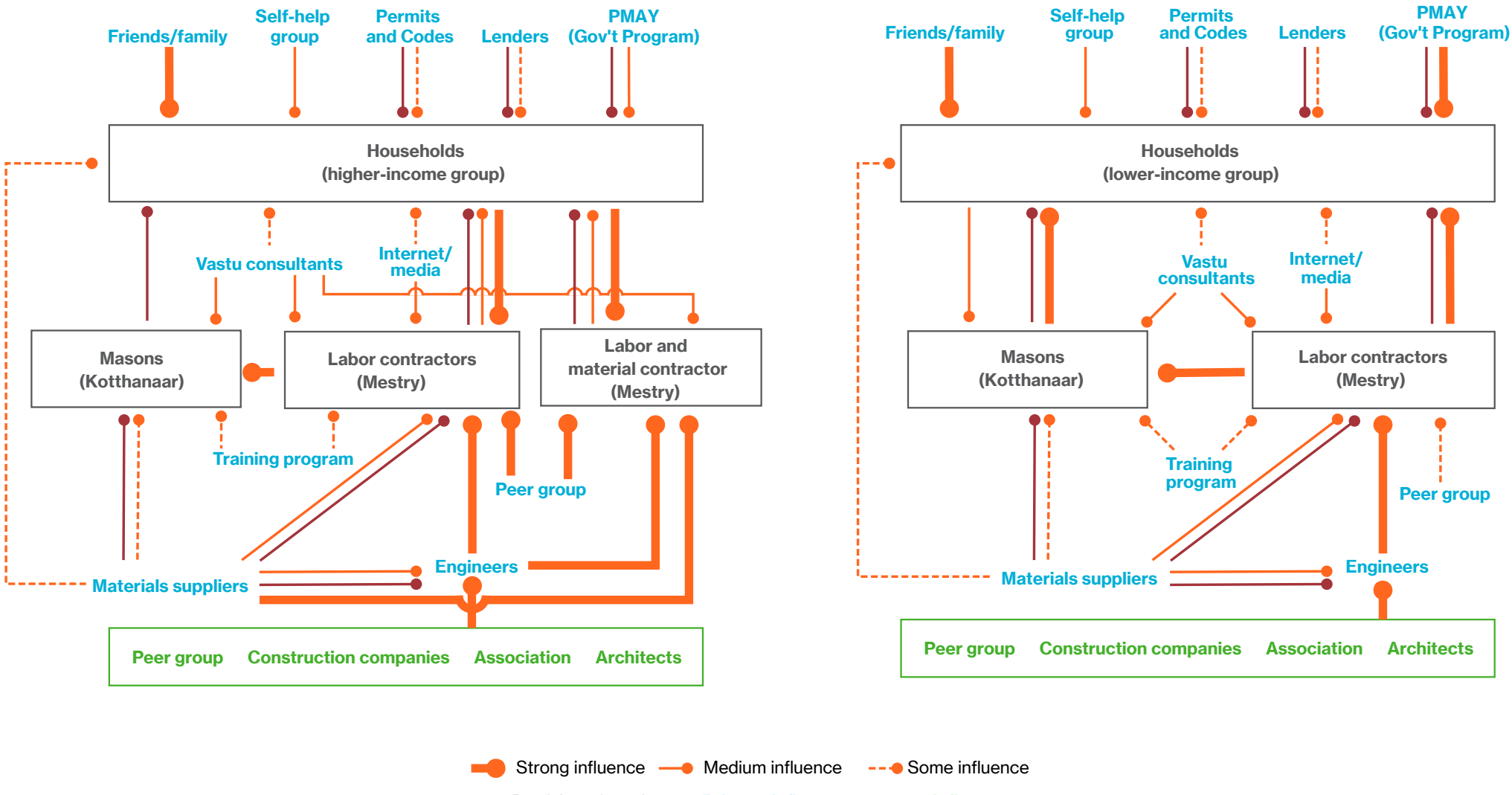
The trust between a household and a mason is greater in these circumstances, as they both come from the same community. This makes it more likely that households will be willing to delegate decisions to masons, but it also minimizes the potential for constructive feedback between both parties. In the case of higher-income households, masons have little incentive to influence them or push for the adoption of new practices. These households tend to seek masons' advice primarily on basic structural issues.

Because masons make most of the decisions about selecting materials that are subsequently purchased by the households, they become de facto gatekeepers for the introduction (or lack thereof) of alternative materials and innovative techniques. As such, they represent an important pathway to influence uptake and adoption by low-income households of sustainable or disaster-resilient materials and construction practices.

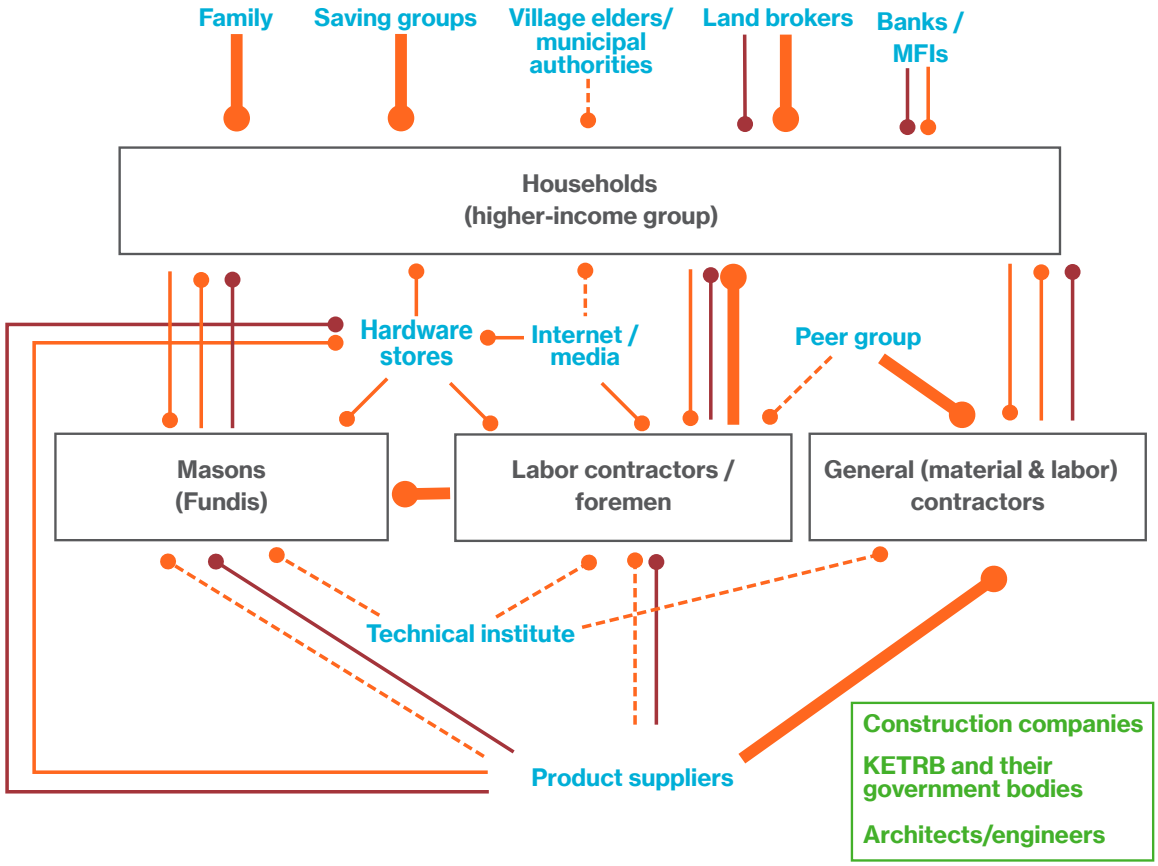
Because masons make most of the decisions about selecting materials that are subsequently purchased by the households, they become de facto gatekeepers for the introduction (or lack thereof) of alternative materials and innovative techniques.

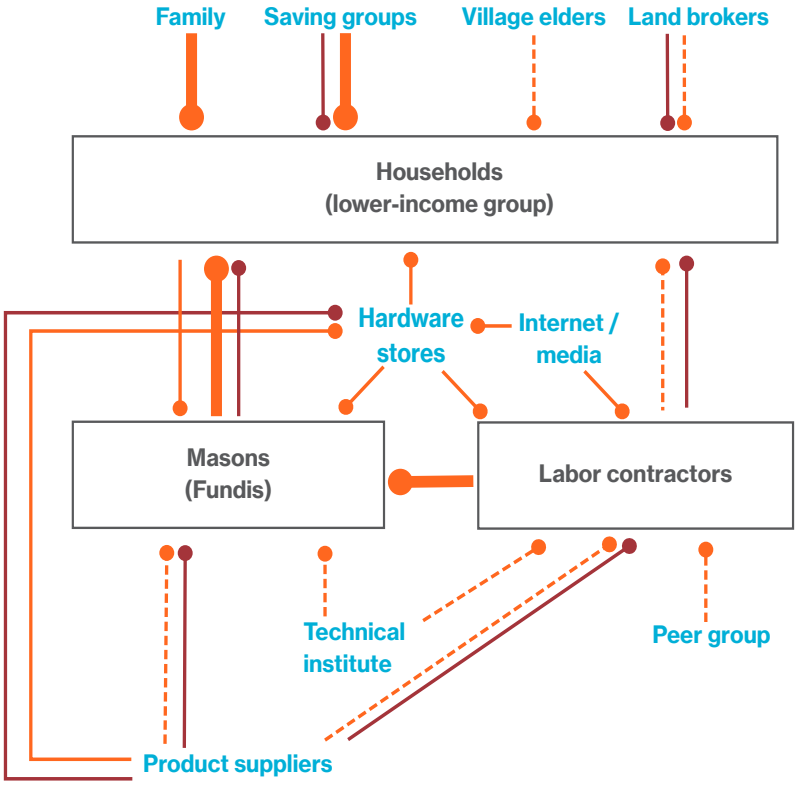
Figure 2: Information flows and influencer maps

India



Kenya

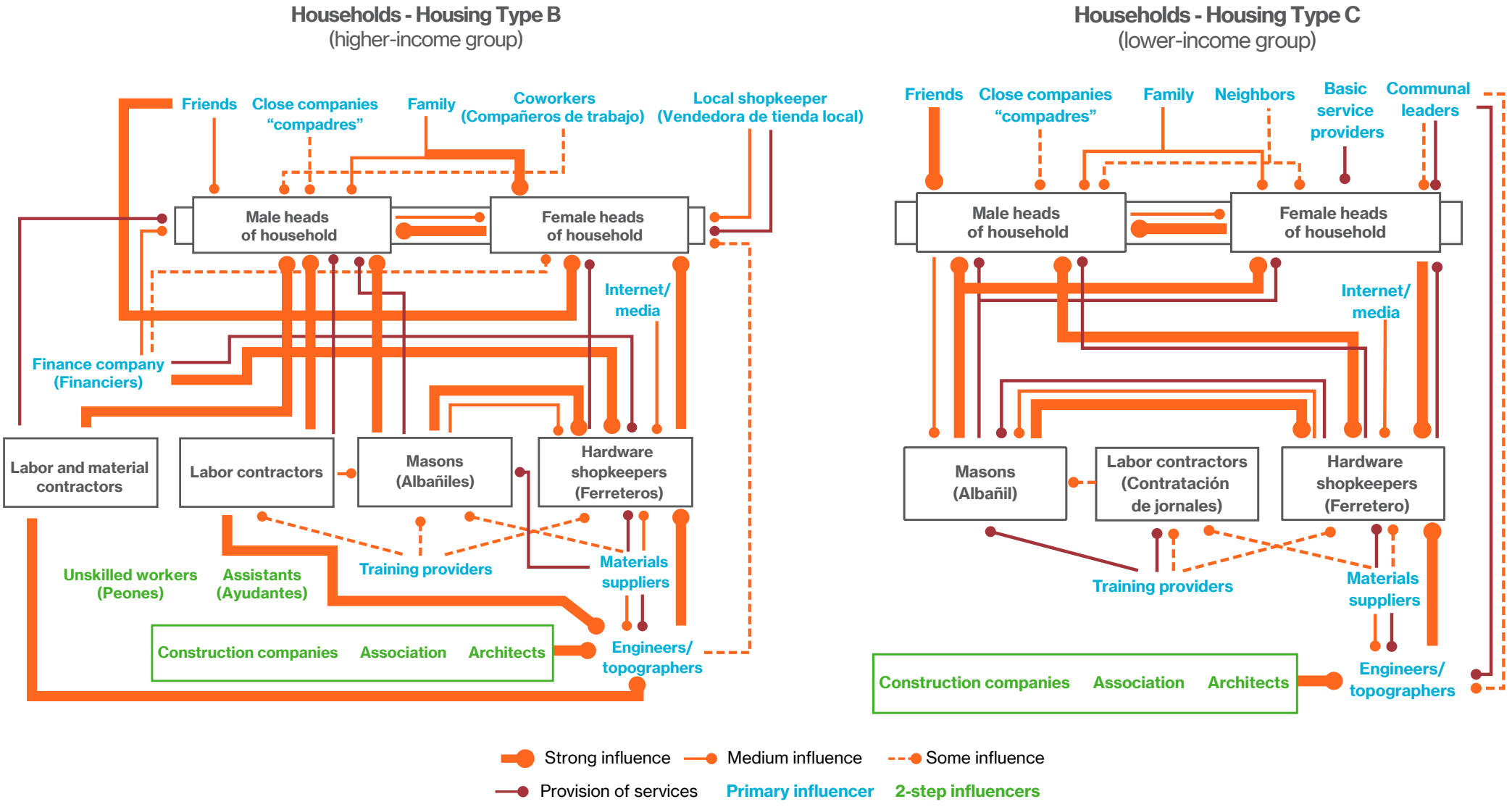




Strong influence — Medium influence - - - Some influence

Provision of services — Primary influencer — 2-step influencers

Peru


Households - Housing Type B
(higher-income group)
Friends
Close companies "compadres"
Family
Coworkers (Compañeros de trabajo)
Local shopkeeper (Vendedora de tienda local)
Male heads of household
Female heads of household
Internet/ media
Finance company (Financiers)
Labor and material contractors
Labor contractors
Masons (Albañiles)
Hardware shopkeepers (Ferreteros)
Unskilled workers (Peones)
Assistants (Ayudantes)
Training providers
Materials suppliers
Construction companies
Association
Architects
Engineers/ topographers
Households - Housing Type C
(lower-income group)
Friends
Close companies "compadres"
Family
Neighbors
Basic service providers
Communal leaders
Male heads of household
Female heads of household
Internet/ media
Masons (Albañil)
Labor contractors (Contratación de jornales)
Hardware shopkeepers (Ferretero)
Training providers
Materials suppliers
Construction companies
Association
Architects
Engineers/ topographers
Strong influence
Medium influence
Some influence
Provision of services
Primary influencer
2-step influencers

1 The role and profile of the mason

Mason profiles

The job title of mason exists in all three study sites, but this simple word masks a multitude of types, ranging from sole operators to contractors who simultaneously manage multiple projects and teams (Figure 3). They are far from a homogenous group. It is important to keep this in mind when designing and assessing suitable interventions through the masons's channel to improve the housing market.

Figure 3: Mason profiles

Mason type	Country nomenclature	Country attributes
Labor mason: Undertakes, subcontracts, works under contractor, leads small teams and manages projects. Earns a daily wage, usually one project at a time.	India: Kotthanaar	Can work independently. Takes one job at a time. Serves low-income households.
	Kenya: Fundi	Has one or two areas of expertise.
	Peru: Albañil	Can work independently or as part of a team. Has a minimum of four years of on-the-job training, otherwise deemed an apprentice. Serves low-income households, usually has one or two areas of expertise.
Labor contractor: Manages a team of five to 10, can raise working capital, manages multiple projects, may be subcontracted by larger builders, can also work as a head mason if needed.	India: Mestri	Paid a fixed fee.
	Kenya: Foreman	Constructs multistory buildings. Uses permanent materials. Has formal certification. Is multiskilled.
	Peru: Maestro de Obra	Hired by contractors for larger jobs. May have received technical training. Rarely used by low-income households.
Labor and material contractor: Independently manages projects, can comfortably manage more than two projects, delegates to head mason, has reliable access to capital, materials and specialized skills.	India: Mestri	Manages a large team. Can be a trained civil engineer or a former mason who has climbed the career ladder.
	Kenya: General contractor	Attends trade expos. Has training. Uses social media and websites. Typically has registered construction companies.
	Peru: Contratista	Runs teams of masons, led by foremen. May serve as a source of quality education for foremen and masons. Not used by low-income households.

1 The role and profile of the mason

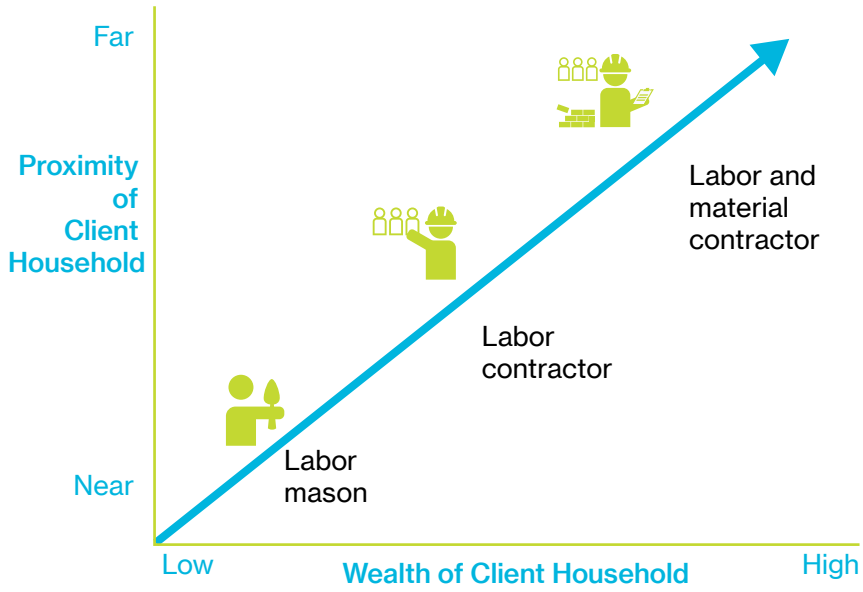
The mason's career

A mason's career progression can look very similar across all three areas of study (Figure 4), although the research found that not all masons wanted their current work to be their future career. Generally, construction work and masonry are viewed as respectable professions, often paying better than other trades, for those who cannot afford to continue their formal education. Construction will always occur, and therefore masons are always in demand.

In both Kenya and India, masons generally come from low-income backgrounds, and masonry is widely seen as a profession for those young people who do not have the financial means to go into higher education or even finish school. Although masonry is seen as a tough, labor-intensive work, it is widely seen as a respectable profession.

In both countries, masons usually start working at a young age, with the majority leaving school in grades 5-7. Starting out as laborers, usually under the supervision of more experienced masons or contractors, their aspiration is typically to become contractors, as this is perceived as a sign of increased status. It also is more lucrative, since they are in a position to make margins on other masons' wages and on the cost of materials. However, when masons begin operating independently and taking on individual construction contracts, they usually start with households from within their communities, who are more likely to be lower-income.

Figure 4: Mason's career progression



1 The role and profile of the mason

Improved perception

In India, the perception of masons within the community has improved significantly over the past 10 years, in part because masons can now aspire to make a much better living than in the past. While masons' wages were 50 Indian rupees (72 cents) per day only 10-15 years ago, a labor mason can now aspire to make 700-800 rupees ($10.20-$11.70) a day, or up to 15,000 rupees ($218) per month. This is in contrast with more traditional urban jobs, such as working in sales, that often pay as little as 7,000 rupees ($102) per month.

In Kenya, the progression from labor mason to general contractor can vary dramatically, depending on their networks, communication skills, business aptitude and (learned) skill across various aspects of construction. Although all of the contractors interviewed had different pathways, one common factor that seemed to help their advancement was developing their skills across various domains, rather than specializing in only one.

In Peru, by contrast, the work of a mason is considered to be a subsistence occupation, not an entrepreneurial process. Masons will typically move on to other activities when they have the opportunity. Those who stay in the trade rely on social recognition to fuel their demand in the market, and they may subcontract to other masons. They are, however, more in demand than engineers or architects precisely because they are not professionals and therefore do not need to obtain formal property documentation from the municipality to perform their work.

2 Information, influence and social norms

2 Information, influence and social norms

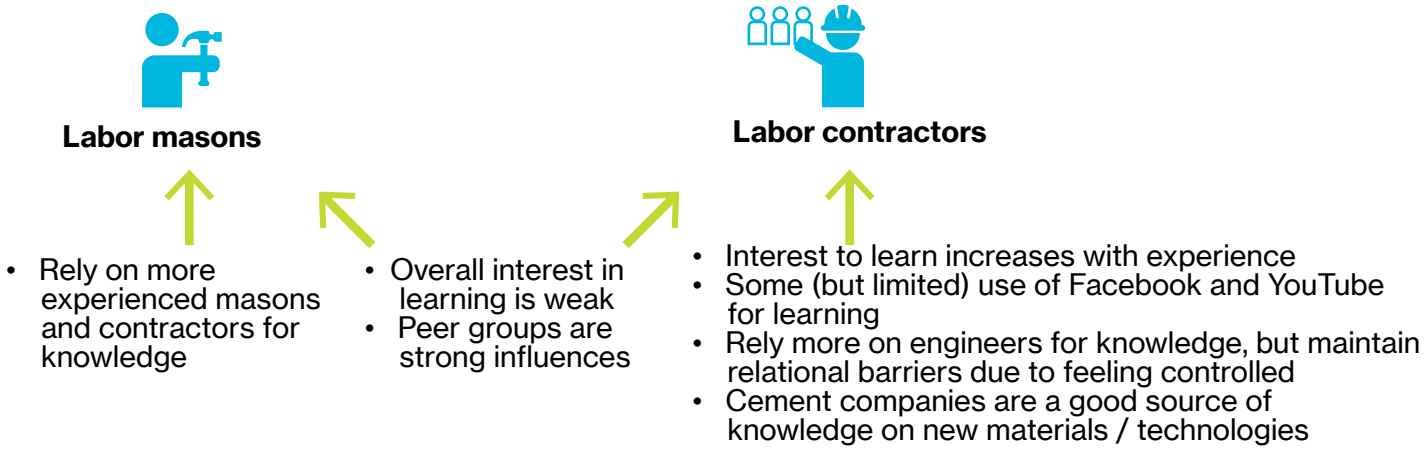
How masons acquire skills, and who influences them

In all three countries, on-the-job training is standard, and vocational or technical training is rare. Technical training institutions have weak influence, although in Kenya they play a role in becoming a contractor.

In India, masons are subject to a variety of influences (Figure 5). Reliance on media for information and learning is low, and masons' interest in learning overall is particularly weak. Experienced masons are a strong source of knowledge for more junior masons, and their advice is sometimes valued even more than that of engineers and architects. However, some of the masons interviewed in the study use YouTube and Facebook for learning.

Peer groups of masons – and especially contractors – are strong influencers, driving a lot of collaboration within the construction community. Contractors seem to share information on prices, how to manage conflict with clients, and best practices and technologies. Engineers have a strong influence on more experienced masons. Some masons, however, said that although they learn from engineers, they don't feel entirely confident working with them as they feel controlled. Cement companies are another good source of knowledge, especially on new materials and technologies, for most masons and contractors.

Figure 5: Influences on masons in India



2 Information, influence and social norms

In Kenya, fundis who work in both urban and rural areas play an important role in bringing innovations up-country from the urban areas. However, masons in rural areas did not necessarily aspire to work in urban areas, and vice versa. In urban areas, there is more competition for jobs, whereas in rural areas, established masons can expect plenty of contract opportunities. Hardware retailers also appear to moderately influence masons and structure owners' choices at different stages in the homebuilding process. They themselves are influenced by distributors who act as intermediaries between them and manufacturers.

In Peru, masons are one another's main influencers, and they also influence the hardware dealers. Outside of this, there were no evident influencers of masons. It is the masons who determine what materials are used, including the brand. The choice of mason is typically on recommendation of another family, relatives or close friends. In the area studied, work for masons is limited and temporary, and they cannot be selective about accepting work. Some masons also indicate that they can do all kinds of work related to housing construction, even if they have no experience in these areas.

Masons' social norms

Although different norms carry different weight among masons in each of the three study sites, there also are commonalities in terms of training, knowledge gaps and relationships with clients.

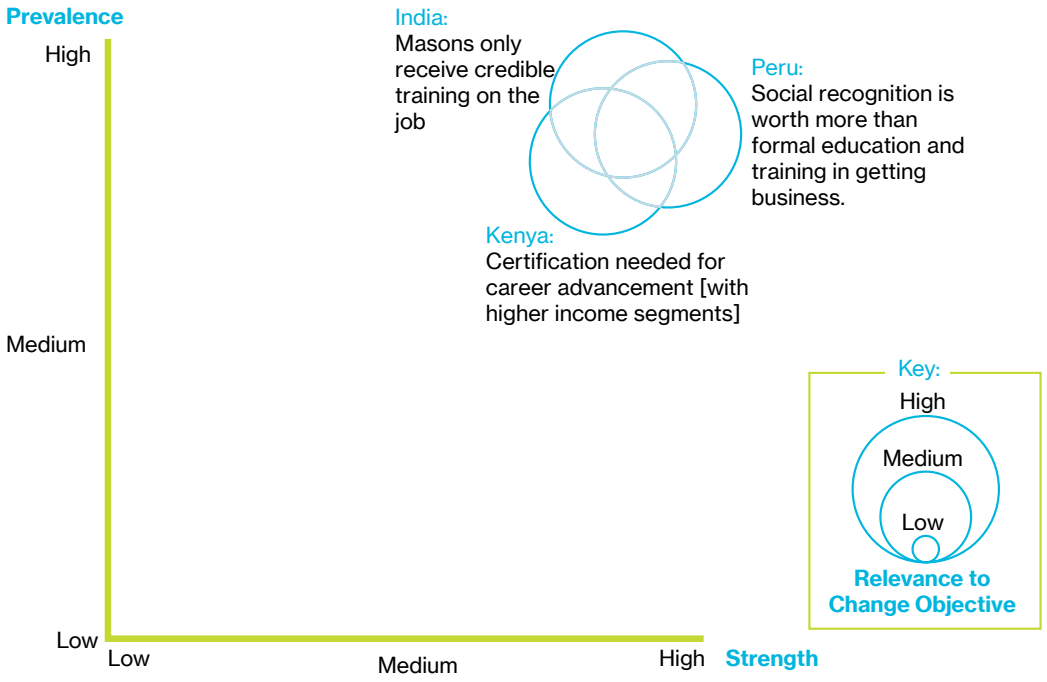
Masons receive credible training only on the job

In India, many masons are reluctant to value formal construction training, largely because they believe construction is a hands-on profession that is primarily learned on the job (Figure 6 on page 17). Most of the interviewed masons were extremely dismissive of formal training courses and certification processes. Any construction worker formally trained would have to go through the same learning process and on-the-job training as anyone else. The situation is similar in Kenya, where masons learn on the job, although more value is attached to formal training and certification than in India. Still, only 16 percent of fundis have formal training. In Peru, it is social recognition, rather than formal education and training, that gets masons their contracts. Households consider whether the mason has experience in the construction of housing near their home, whether this construction process has been deemed good by the owners, and if the mason is honest and punctual.

Masons are unwilling to accept knowledge gaps

Masons in India and Peru share a common trait: an unwillingness to acknowledge what they do not know. In India, many of the interviewed masons believe that they know everything there is to learn in the construction sector, a belief that is fueled by the lack of innovation in the sector – or their ignorance of such innovation. They also, however, are unwilling to accept that they have gaps in their knowledge or that they could be at fault. In Peru, whatever service a client requests, the answer will always be "Yes, the service can be done." The masons think that, with access to social networks and training videos and advice from more experienced peers, any needed skill can be learned.

Figure 6: The role of training



Households are reluctant to share negative feedback

Fueling masons' reluctance to admit knowledge gaps is a reluctance by households to share negative feedback, and errors are seen as inevitable in all countries (Figure 7 on page 18).

Conversations with masons in India – and in Kenya and Peru – revealed a dysfunctional feedback system from households (Figure 8 on page 18). Since masons and households often come from the same neighborhood or village, the households are often reluctant to share negative feedback with the masons to avoid disputes. This lack of feedback means that masons are rarely aware that the work that they have delivered is unsatisfactory, and that they should improve in their delivery. This norm is likely to be more prevalent in lower-income communities, where there is a stronger link between households and masons.

In Kenya, clients similarly see errors in construction as inevitable and rarely complain. There is a mindset among households that once the work is paid for, it is too late to expect masons to return to fix any errors. This lack of feedback has the effect that masons are rarely aware that the work that they have delivered is not up to standard, and that they could improve in their work. In Peru, client feedback is not given as long as the mason's work is cheap. A mason who offers a lower quote is more likely to get the work, even if he does not have the best reputation.

2 Information, influence and social norms

Figure 7: Relationship between mason and client

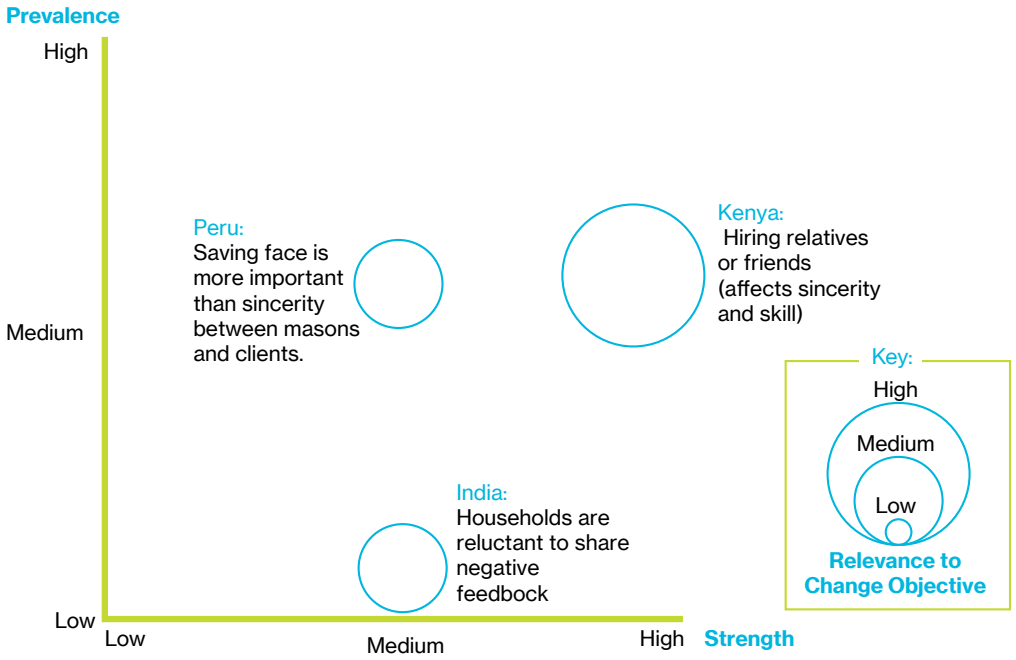


Figure 8: Broken feedback loop between clients and masons in India

2 Information, influence and social norms

Both parties show a lack of trust

In all three countries, there is strong distrust between masons and clients, which results in lower-quality construction. In Kenya, for example, both masons and clients fear the other will cheat them, such as masons overcharging for materials or not showing up for a job, and clients abruptly stopping work or withholding payment. Homebuilders overcome this fear by doing due diligence: looking at other structures the mason has built, or asking for referrals from trusted sources. Masons mitigate risk by taking on multiple jobs at the same time.

Never mind the quality; how does it look?

Another common thread connecting low-income homebuilders in three very diverse settings is prioritization of outward appearance over structural integrity. A mason's work will be judged by the look of previous work. Although this is caused in part by a household's lack of knowledge of construction techniques, it has reinforced the expectation that finishings are one of the main criteria for determining the quality of a house.

Since masons are held accountable mainly for the finishing of their work, they have little incentive to learn about new practices and technologies that improve the disaster resilience, durability or weather preparedness of the houses they build. In both Kenya and Peru, homebuilders who do not use a relative or friend usually scout the neighborhood where they plan to build and ask for a referral from the owner of a house that looks nice.

The paying client is always right, and what matters is it's cheap.

In Peru, interviewees reported that the client who can pay can contribute, advise and demand whatever they want, assuming they can cover the cost, regardless of whether modifications are in accordance with technical parameters. More typically, what masons do does not matter, as long as it is cheap.

Being a mason is not always a profitable line of work, especially if the mason tries to provide his services for families with limited resources, given that these families cannot pay what masons consider to be fair. In many cases, they lower the costs by working themselves and asking their relatives to help as unqualified manual labor to contribute to the construction process.

In Kenya, this norm has a gender dimension: masons generally buy materials, use methods and follow the design and vision dictated by clients, but may disregard female clients' input because they are assumed to lack requisite technical knowledge. While masons recognize reputation is important, this reputation depends on whether they followed the client's instructions, and completed the work on time and within budget, more than it does on the quality of the work itself.

In all three countries, there is strong distrust between masons and clients, which results in lower-quality construction.

3 Next steps

3 Next steps

Information about masons' backgrounds, practices and especially their social norms, can be used to design effective interventions for improving low-income housing. Intervention ideas vetted by the Terwilliger Center during the research include:

India

- Working with mobile telecommunications companies to introduce a mobile phone app to improve the flow of information among masons, retailers and material companies.
- Strengthening existing materials channels by working with materials companies to introduce a voucher system. Masons who purchase material in bulk would then have access to a help line for technical assistance, an opportunity to speak to engineers and construction professionals, instructions on the products, and best practices.

Kenya

- Supporting the professionalization of fundis by working with the Kenya Engineering Technology Registration Board, or KERTB, to develop and adopt industry-relevant standards that recognize both formal and informal (on-the-job) training.
- Increasing trust between fundis and households by working with fundi aggregating platforms to further improve referral and rating systems linked to regulators. Supporting the KERTB and National Construction Authority in developing a contractor and fundi registry for easy access by consumers and fundi aggregators, and supporting the KERTB in conducting consumer education on how to select fundis.

Peru

- Improving the status of masonry as a profession through integration with university professionals through practicums for students in informal communities.
- Increasing households' demand for better construction services through promotion of appropriate materials and techniques by construction material suppliers and hardware stores.

Information about masons' backgrounds, practices and especially their social norms, can be used to design effective interventions for improving low-income housing.

This report was developed by staff members of Habitat for Humanity's Terwilliger Center for Innovation in Shelter and MarketShare Associates, including Adriano Scampi, Meghan Bolden, Raksha Vasudevan, Ashley Aarons, Scott Merrill, Sheldon Yoder, Mallory St. Claire, Jennifer Oomen, and Jane Otima, along with all the Terwilliger Center country personnel and MarketShare consultants in India, Kenya and Peru who dedicated themselves wholeheartedly to the research summarized in this report.

MARKETSHARE ASSOCIATES

Written by Jane Parry.
Layout and graphic design by Keisuke Taketani.
Photography by Annalise Kaylor, Terwilliger Center Peru, and Jason Asteros.
The report was produced with support from J. Ronald Terwilliger, the Hilti Foundation and IKEA Foundation.

HILTI The Foundation.

IKEA Foundation

Habitat's Terwilliger Center would like to express its gratitude to each of the households who participated in the household interviews and focus groups for this research. Their lives are at the core of the work Habitat does so that one day, everyone will have a decent place to call home.

Habitat for Humanity's Terwilliger Center for Innovation in Shelter
The Terwilliger Center for Innovation in Shelter, a unit of Habitat for Humanity, works with housing market systems by supporting local firms and expanding innovative and client-responsive services, products and financing so that households can improve their shelter more effectively and efficiently. The ultimate goal of the Terwilliger Center's market systems program is to make housing markets work more effectively for people in need of decent, affordable shelter, thereby improving the quality of life for low-income households.

To learn more, visit habitat.org/tcis.

Terwilliger Center for Innovation in Shelter

habitat.org/tcis