



**Terwilliger Center for  
Innovation in Shelter**

# **Beyond Building: How Social Norms Shape Low-Income Home Construction in Peru**

**Consumer insights and  
systems mapping**

**May 2019**

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# Abbreviations and glossary

Acronym	Meaning
CO	Change objective
FG	Focus group
IWI	Interviews with influencers
MSA	MarketShare Associates
SUNARP	National Office of the Superintendent of Public Registries

Term	Meaning
<b>Change objective</b>	Changes in social behavior sought and to which one or more actions are directed. The change objectives, previously defined by the Terwilliger Center, are examined in this study.
<b>Type C housing</b>	Type C housing has only a record of occupation, formally without water, sewer and electrical light services; the first floor has a tin roof with wood walls (made of tongue-and-groove wood) and floors.
<b>Type B housing</b>	Type B housing has a formal title, with formal access to water, sewer and electric light services; the first floor has a roof, walls (made of brick and/or cinder blocks) and floors..
<b>Norms</b>	Principles that are imposed or adopted to direct the conduct or appropriate achievement of an action or the appropriate implementation of an activity.
<b>Social norms</b>	Rules of conduct shared by people in a certain society or group; they define what is considered to be “normal” and appropriate behavior for this group (Cislaghi and Heise, 2017).
<b>Prevalence</b>	Degree to which the social norm is present and is common in the area; therefore, it is the measure in which the norm is maintained or accepted at a collective level.
<b>Strength</b>	Degree to which the social norm influences the behavior and how difficult it is to eliminate, change, or modify it.
<b>Relevance</b>	Degree to which the social norm is an obstacle or limits the achievement of the change objective; therefore, it is necessary to be modified to generate the expected changes.



# Executive summary

Habitat for Humanity's Terwilliger Center for Innovation in Shelter 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 Kenya, India and Peru. In Peru, the research focused on understanding the preferences of and influences on women and masons in the transition from a semipermanent 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 plan is established. Suboptimal decisions in this stage of construction determine the future 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.

As part of the research approach outlined in this document – and presented in greater detail in a separate methodology document – we explored what networks and social norms constrain actors from making better decisions in low-income

housing construction designs and practices. To understand the preferences and influencers of the actors in Lima, Peru, MarketShare Associates, or MSA, conducted **desk reviews, 30 interviews and five focus groups** with women and men in low-income households, masons and various key influencers, such as local hardware retailers, professional construction contractors, local leaders and government functionaries. We also conducted observational site visits at large and small hardware stores and at Jicamarca market, where inexpensive prefabricated wood homes are sold in Lima.

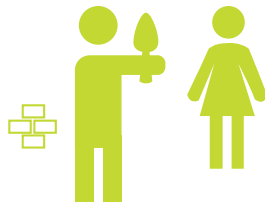
Using the informally constructed neighborhood of La Florida in San Juan de Lurigancho as a case study, we prioritized finding out how those currently living in semipermanent housing in this burgeoning community make decisions and where there might be opportunities for innovation and disruption to business as usual to make decent housing more affordable and accessible.

## Who influences low-income housing decisions?

The study prioritized exploring the network of influencers who shape the ability of women, households and masons to make decisions during low-income housing design and construction.

Key findings include:

- **The male head of household ultimately makes most decisions in the housing construction process and establishes the agreements with service providers.** The female head of household tends to push for decisions to be made but relies on her husband or other family members, who may have more knowledge of basic construction when it comes to decisions on structural components and materials. Most of the women's interest is in layout, especially the dimensions of the living room for entertaining family guests and the space available for multiple bedrooms for family members, especially children. Those households that have completed permanent, concrete houses in the territory also emphasized the need for effective communication between the male and female heads of household during planning and construction, as women often conduct the transactions.
- **Masons heavily influence what both men and women know about design and construction.** Masons tend to have the most influence in terms of giving households options of what they can do with the budget and space. Their relationship is typically stronger with the male head of household, although they have more daily contact with the female head of household, who is typically present during much of the workday. Hardware shopkeepers often are selected by the masons for the households to use and therefore do not want to contradict what masons have suggested. In most cases, women also are the ones who visit the hardware shops, although decisions on which materials to purchase are typically not made at the point-of-sale, but rather based on prior instruction from a husband, family member or mason. Masons also tend to share with and receive more information from hardware store owners than client households, other masons or other construction professionals, unless they work under an architect or engineer elsewhere.
- **Most households have limited contact with construction professionals, except when women have been involved in community-building efforts or when households pursue formal loans.** Some women are involved in municipal projects and/or participate in informal community building (*faenas*) of retaining walls and stairways. These projects sometimes involve on-the-job training from the municipal government or NGOs in the community. When financial service providers are involved in financing low-income housing, they tend to require the involvement of



professionals (architects, engineers, topographers and/or government housing authorities), but as the majority do not have sufficient legal paperwork to demonstrate land title, most loans are informal or not specifically for the low-income housing construction projects.

- **Most households building their own home, beyond formal territorial jurisdictions, do not consult or share their experiences with their neighbors.** Several community members mentioned that the interaction with most of their neighbors, especially regarding construction, was limited, which also was their preference. Neighbors rarely share construction know-how or lessons learned from others' experiences, while friends and work colleagues tend to live in other places and are not necessarily sharing in similar processes. Even the local association (*junta*) serves more of a regulatory role of terrain plots than a role in information dissemination on expectations on plots. Most interactions are related to problems or concerns.

### What social norms influence low-income housing decisions?

The suboptimal state of low-income housing, especially in and around Lima, is partly due to access constraints (like access to knowledge, quality products, construction services and finance). However, this study focused more on the intersection of social and individual factors that affect the decision-making of low-income housing actors. Our norms<sup>11</sup> findings focus on where individuals' perceptions of others' attitudes have an influence on the following three prioritized areas:

#### 1. Women's agency in low-income household construction decisions during the transition from semi- to more permanent housing structures.

Key norms identified that affect the level of agency of women during the housing design and construction process include:

- Women have a say, but not the final word, in most housing construction decisions.
- Women are expected to monitor construction progress, not technically direct it.
- Women tend to fulfill the informal community assembly attendance and community-building obligations (*faenas*), until formal title to the property is granted. If a husband participated in lieu of his wife, there is usually a justification given, such as health concerns.

<sup>1</sup> All social norms listed have different degrees of strength, prevalence among the reference groups, and relevance to the research area. These are explored in more depth in the main part of the report.

Interviews with women showed that women's agency is on an upward trajectory, with women expressing increased interest in decisions and increasingly more positive deviations in making decisions. For example, some women were noted as having surprisingly sound technical construction knowledge. There was consensus that, in instances when a woman demonstrates she is confident in her knowledge of construction, masons and male heads of household do not discourage her from sharing her opinion and follow her direction or let her handle purchases and payments. Participation, especially by these women in local community building and, in some cases, the *junta* and local assemblies has played a role in raising women's confidence in their knowledge and, therefore, their ability to voice their opinions in household decisions.

## **2. Masons' decisions to invest in changes to their business practices, leading to higher quality construction for low-income homebuilders.**

Key norms identified that affect the decisions of masons to invest in their business practices include:

- Social recognition is worth more than formal education and training in getting business.
- Masonry is not a permanent gig, until you make it big (not trained well, per se, but paid well).
- There always will be clients, if the price is right (even if the design/construction is not).
- He who pays gets his way: Any precise technical requirement can be trumped with cash.

The market for masonry services for low-income households building their own home incrementally tends to depend on loyalty and reputation, not innovation and long-term durability. Masons tend to select the materials and brands and even the hardware store for household purchasers, based on their previous work experience. Therefore, masons with more experience working with professional architects and engineers on projects outside of informal housing communities tend to know and have more interest in varied practices and products. Local hardware stores sometimes serve as informal lending providers for households but do not regulate the masonry quality like formal lenders. In fact, despite usually having more knowledge of products from suppliers and other media than masons, hardware retailers have an interest in continued referrals from the masons and so will not contradict them or give an alternative viewpoint unless solicited by the referring mason. Masons often have the most influence on household construction decisions, and it is trusted that their advice is based on knowledge. While masonry always requires some

approximation to work within budget and preferences of the client, very few households expect that their construction will not be exact. Unless the clients demand precise techniques or masons find it affecting referrals, there is very little interest in investing beyond what they already know and use.

## **3. Masons' decisions to use more disaster-resilient construction practices.**

While the adoption of additional disaster-resilient practices is partly driven by a general reluctance of the market – at both the household and mason levels – to test new practices and be the first positive deviants, some social norms were identified that are constraining this further:

- A home can be judged from the outside; appearance matters more than structural bones.
- Safe building is about on-the-job approximation, not scientific precision.
- Low-income, informal homebuilders expect risks and find them inevitable.
- Saving face is more important than sincerity between masons and clients.

There is a general awareness that there is a limit to how many floors a base can support and that the thickness of retaining walls, made of concrete with iron or steel reinforced rods, is important. Nevertheless, there is no consistent messaging or understanding among households, or even masons, on the ideal measurements for structural components, especially for multiple stories. The precision that university-trained engineers or architects may recommend for materials to withstand possible earthquakes is not commonly known in low-income, informal housing communities. Some households, particularly women, expressed a sort of fatalism about the fact that suffering in building a home comes with the territory, whereas others said they cannot regulate the actions of their neighbors, and the state will just need to step up at some point to safeguard the self-built communities. Still others explained that, even though they have an idea of the amount of investment the transition to permanent housing might entail, they do not have enough resources for long-term defined plans and do not plan for any adjustments or repairs when initiating the planning process. Additionally, most masons do not hear of the defects in their design from their former clients, who would prefer to save face and contract with someone else rather than confront the mason.

# Introduction

Habitat for Humanity's Terwilliger Center for Innovation in Shelter is working to strengthen a market of housing options that may allow low-income families to gain access and improve their housing options in Peru, Kenya and India. In this context, one of the results expected from its work is that the consumers become able to find environmentally friendly products and services designed to meet their needs and which will be affordable and of high quality. To achieve this, the Terwilliger Center works with the participating parties in the market to help overcome the challenges of access to housing for low-income families.

Between May and October 2018, MarketShare Associates, or MSA, carried out a study in Peru, Kenya and India to understand the decision-making process of the families and the masons who contribute during the design process of housing and its construction, along with the social norms that affect the decision-making to get Type B housing<sup>2</sup> or to initiate

the transition from Type C housing<sup>3</sup> to Type B, thus improving the living conditions of low-income families.

The objectives of this study are to:

- Improve the Terwilliger Center's understanding of how key market actors (namely women, households and masons) make decisions on matters related to house design and construction, what agents play an influencing role, and what social norms influence these decisions.
- Support the Terwilliger Center in strengthening programming through improved engagement on behavior change interventions with private- and public-sector players, designing interventions and activities that more directly account for and/or target relevant norms, and recommending new intervention priority areas or subsectors.
- Coach the Terwilliger Center's staff on how norms and networks influence decision-making and broader systems, and on the capacity to carry out relevant market research in the future.

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<sup>2</sup> A Type B home has a formal title, with formal independent water service, sewerage and electricity. In addition, the first floor has roofs, walls (brick and/or cinder blocks) and floors of solid material.

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<sup>3</sup> A Type C home has only a record of occupation, without formal and independent water service, sewerage and electricity. In addition, the first floor has a tin roof, with wood walls (tongue and groove) and floors.



This report is structured in the following way:

- **Section 3** provides a general vision of the research objectives, the scope, the methodology and sampling framework used, descriptive statistics, and some details about the limitations of the study.
- **Section 4** provides some ideas about the two main groups that are the subject of this study: the families and masons.
- **Section 5** examines the transition process households undergo in moving from Type C to Type B housing.
- **Section 6** offers an analysis of the influencers who have the power to support the transition process of the families and the decisions of the masons, along with the

interactions between these two market-participating parties. This section also offers a general vision of the most prevalent building practices and preferences on the market.

- **Section 7** outlines the current construction practices for Type C and B houses.
- **Section 8** provides a detailed analysis of the norms that have been identified in this study and how they are affecting the change objectives. Some additional factors, which are not norms, also are shared in this section to provide a more thorough vision of the objectives for change.

# 3

## Research scope and methodology

### 3.1. Research methodology

The methodology used in this research was accomplished with the following steps:

**Step 1:** Identification of the change objectives:

- Change Objective 1: Strengthen women's decision-making in housing transition from Type C to Type B housing.
- Change Objective 2: Increase masons' own investments in their business/practices to improve quality of construction services for low-income homebuilders.
- Change Objective 3: Improve the use of disaster-resilient construction techniques during the transition process from Type C to Type B housing.

**Step 2:** Identification of research questions:

To guide the fieldwork and the development of the research tools, more-detailed research questions were developed for each change objective.

**Step 3:** Developing field trips to obtain information.

Data were obtained through interviews, focus groups and observation of the environment and the activities linked to the market system of construction and/or transition from Type C to Type B housing. This step took place in two trips.

**Step 4:** Coordination and work meetings with the Terwilliger Center team.

Meetings were used to identify the need to improve and to validate the information that was gathered.

### 3.2. Research scope

The study is centered on the market segment<sup>4</sup> that includes:

- Women from low-income families who would like to construct a permanent building on the hillside of the

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<sup>4</sup> The characteristics of this segment are based on the results obtained in the ethnographic study and in the surveys done.

Table 1: Research questions

Objective for change	Research questions
<p><b>CO1: Strengthen women’s decision-making in transition from Type C to Type B housing.</b></p>	<ul style="list-style-type: none"> <li>• What are the roles, aspirations and preferences of the men and the women in the different phases of the housing construction process? What are the points on which men and women differ on the issues of housing construction?</li> <li>• What are the short-, medium- and long-term aspirations of the women and men for their housing? Do they have a plan or goals for the achievement of these aspirations? How feasible are these aspirations (of the woman and of the men)? What are the key limitations to fulfilling these aspirations?</li> <li>• How are the decisions made in families regarding the transition process from Type C homes to Type B homes? Who is the main person responsible for making the decisions?</li> <li>• When does the woman have a greater role in the decision-making during the transition from Type C to Type B homes? Who influences the decision-making by the women in the transition process? What are the benchmarks for the decision-making in the transition process?</li> </ul>
<p><b>CO2: Increase masons’ own investments in their business / practices to improve quality of construction services for low-income homebuilders.</b></p>	<ul style="list-style-type: none"> <li>• Who are the key influencers in the process of transitioning from Type C to Type B homes? Where is the location of these influencers? Do the influencers understand their role in decision-making in the transition process?</li> <li>• What social norms affect the decisions of the influencers? How malleable are these norms?</li> <li>• What is the scope of the work of the masons/hardware dealers? Where do they live, and what is their background? Do the masons have a technical education for performing this type of work, or do they have informal training (through others and/or learning practices from their parents)? Are the masons/hardware dealers recognized by the inhabitants? Who are their clients and why? What subcontractors do they work with (if they do) and why?</li> <li>• How do gender roles influence their interactions with clients? Who is the person with whom building and/or sales contracts are signed, and to whom do they give reports on the building process or of progress of the housing (transition from Type C to Type B)?</li> <li>• How do they adapt their models and business practices to low-income families? How and what services do they offer to this group of families?</li> <li>• What products and services do they see as additional opportunities for low-income families? How does it affect the income of the family in the transition process from Type C housing to Type B housing?</li> <li>• What are the key relationships, the influential people and the flows of information that affect the decision-making by the masons concerning their commercial practices and clients?</li> <li>• What social norms influence the decisions of the masons to work with low-income consumers and contractors? How malleable are these norms?</li> </ul>

continued on next page

Table 1: continued

Objective for change	Research questions
<p><b>CO3: Improve the use of disaster-resilient construction techniques during the transition process from Type C to Type B housing.</b></p>	<ul style="list-style-type: none"> <li>• What construction techniques are in the greatest demand or have the widest use on the part of the masons? Are these techniques resistant to the possible disasters identified by the masons? Do the masons know other construction techniques? Do the masons wish to gain access to qualifications or training spaces to learn or to reinforce their expertise and techniques linked to the construction of resilient homes?</li> <li>• Do the masons take into account the identification of possible disasters (natural, physical or others) in their construction process? What actions do they take regarding these disasters in the building process? Is it communicated to their clients?</li> <li>• Do the families demand any type of techniques or technologies with the idea of building housing resistant to disasters? Who is the stakeholder with greater influence, of the family, who demands the best use of building techniques?</li> <li>• What social norms affect the decisions concerning the use of building techniques resistant to disasters? How malleable are these norms?</li> </ul>

mountains<sup>5</sup>. On average, these families have incomes lower than the minimum salary threshold of 930 soles (US\$256), and their homes on average are 90 square meters.<sup>6</sup>

- Masons, who are located in the intervention area and whose services are focused on families whose income usually does not exceed 1,000 soles (US\$302) per month.<sup>7</sup>

The study gave priority to the decision-making processes in the family and on the offer of services from the masons.

### 3.3. Research steps and key activities

The research was carried out during two trips:

**First trip:** The first field trip was made in July 2018 to the Agrupación Vecinal La Florida (La Florida Neighborhood Grouping), over the course of which 30 interviews were done

<sup>5</sup> The concept of “mountain” will be used for this study, since the elevation where the Villa Florida urban settlement is located is over 600 meters high.

<sup>6</sup> Taken from the interviews with the La Florida Governing Committee, the areas were divided into 90 square-meter lots, the same ones that have been assigned to all the neighbors who live in this area.

<sup>7</sup> According to information from the Civil Construction Workers of Peru, the weekly salary of a laborer is 392.69 soles, for an official it is 434.03 soles, and for a worker it is 533.19 soles. Therefore, the weekly salary of a mason from low-income sectors (250 soles) is below the official salary of a laborer (*peón*).

(including with women, men, masons, hardware dealers, influencers and others). The result of this first trip was the identification of some preliminary findings, which helped to identify what would be needed for development of the second trip. The first trip was designed to have a more exploratory nature and to cover all the change objectives. Three different types of sources were used:

1. Interviews with women.
2. Interviews with influencers.
3. Interviews with masons and hardware dealers.

**Second trip:** The second trip took place in September 2018, in which five types of focus groups were delineated with several types of people involved; likewise, observation visits were made to supplier companies of inputs and those linked to housing construction. This trip allowed us to get information on all the research points, and to identify the social norms with greater clarity using a group setting.

The second trip allowed us to examine certain issues in greater depth and explore some possible norms in greater detail. The interview techniques used for the second trip were:

1. Focus group with women.
2. Focus group with men.
3. Focus group with masons and hardware dealers.
4. Observational field guide for hardware stores.

Table 2: Sampling summary

Documents	First trip (July 9-22)	Second trip (Sept. 2-15)	Total
• Interviews with women	14	-	14
• Women's focus group	-	7	7
• Men's focus group	-	6	6
• Interviews with masons	5	-	5
• Interviews with hardware store owners	2	-	2
• Focus group of masons and hardware dealers	-	4	4
• Interview with influencers	7	-	7
• Focus group of influencers	1	8	9
• Remarks concerning hardware stores and housing supplies markets	1	4	5
<b>TOTAL</b>	<b>30</b>	<b>29</b>	<b>59</b>

- 5. Observational field guide for large businesses that sell building materials.

### 3.4. Sampling

After a selective identification process, thirty-four interviews were carried out by the Habitat for Humanity field coordinator, according to the characteristics and quotas established by MSA.

The composition of the sampling was:

- Seventeen interviews conducted with women, family members and/or female heads of household, which represented **50 percent of the interviews.**
- Ten interviews with masons who were residents in the research area and provided building services at least within the past six months, which represents **30 percent of the interviews.**
- Seven interviews with influencers,<sup>8</sup> apart from the masons, who were recognized and referred by the women interviewed; they represented **20 percent of the interviews.**

It is necessary to point out that, after the progress meeting from the first trip to the field, the sampling was reorganized to extend to:

- Tongue-and-groove merchants located in the Jicamarca market, which is the main place where the inhabitants go

<sup>8</sup> The influencers identified were hardware dealers, merchants from Jicamarca, municipal agents, public administrators, community leaders and recognized neighbors.

to buy the material used for the construction of the Type C homes.

- Male heads of household, given the need to validate the information gathered from the women and to identify some indications important for the study.

### 3.5. Limitations of the study

- Given the recent construction of the La Florida “neighborhood,” it does not have access to transportation services, which raises the costs of housing construction, limiting the ability of the families to save money for beginning the transition of their houses and constraining construction. In some cases, that has skewed the sampling.
- The hardware stores present in the study area do not share information and did not agree to give formal interviews.<sup>9</sup>
- Jicamarca merchants did not want to give detailed information about their sales procedures, just as they were reluctant to give any type of interview.<sup>10</sup>

<sup>9</sup> The information collected was taken as a part of the conversations with the owners and merchants and not for interviews with the acceptance of the use of information.

<sup>10</sup> One of the main limitations for these people is the informality of their business. For that reason, they are afraid to give information, because they suspect that it is a way to monitor their income, and it is thought that it will be used to charge taxes, for both the SUNAT (the national Peruvian tax bureau) and the municipality.



# 4

## Targeted research groups

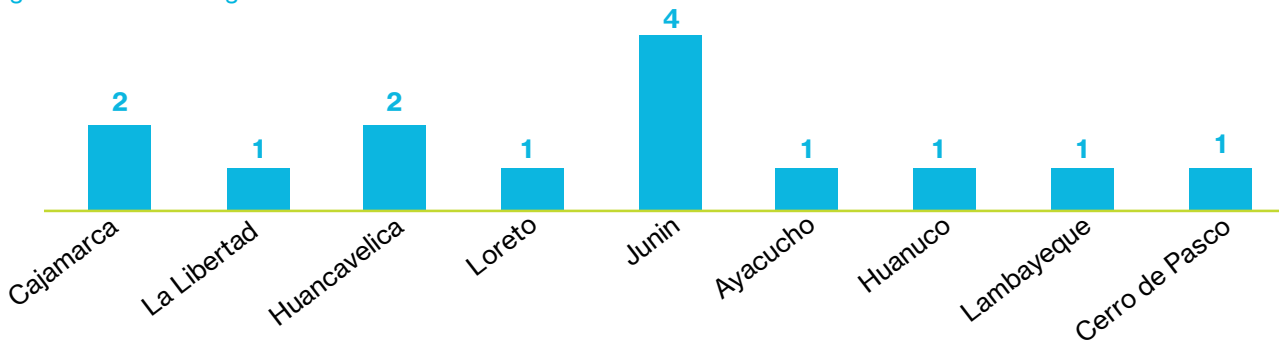
### 4.1. Women from Type C to Type B households

The average age of the women interviewed is around 35 years old, as shown in Table 3 on the next page, which tells us that the population of La Florida is fairly young.<sup>11</sup> This is understandable, since it is a relatively new squatter settlement, in which the children and relatives of the families who live on the lower part of the hillside tried to get their independence because those in the Villa Florida urban development do not

share land. On average, most of the women have two children. An average of four people were living in the houses, the majority of which were nuclear and noncompound families.

Out of all of the interviews conducted, 10 homes are of Type C and four of Type B, and the details regarding these homes are shown in Table 6.

Figure 1: Place of origin of the interviewed women



<sup>11</sup> According to the INEI, a young population is considered to be within the range of 14 to 65 years of age.

- The majority of the women interviewed were from regions near Lima, especially Junín, Huancavelica and Cajamarca, as there is a strong migration of inhabitants from the highlands, as seen in Figure 1 on the previous page.
- It is important to emphasize that, from the data collected, the process of most of the women's migration started in their childhood or adolescence, having as their first home in urban areas of the "flat" part, meaning already consolidated urban developments. After that, at the time of starting to live with their partners, they chose to rent rooms located in the outskirts of the center of the city of Lima, primarily since their jobs are connected with the economic activities linked to those found in the central market, Gamarra and other adjacent markets (Caquetá).
- All the women interviewed were mothers. As shown in Figure 2, there is only one case in which the mother had five children.

industry, moto-taxi, shoe stores, pastry shop staff, among others). It has been observed that, in 42 percent of the cases, the women have jobs, which may be permanent and/or temporary (such as cleaning, handicrafts, informal sales, shoe stores, among others). Similarly, it was observed at the time of the interview, only three women had leadership positions, whether on the governing committee or in another community-based organization.

Table 3: Characteristics of the families of the women interviewed

Characteristics	Average	Maximum	Minimum
Age	35	50	24
Members	4	7	3
Children	2	5	1

Figure 2: Number of children by families

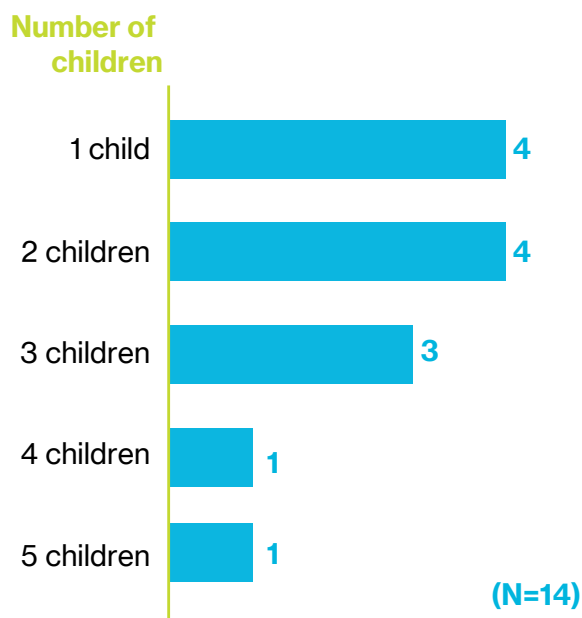


Table 4: Women and leadership positions

Status	They have	They do not have
Women with leadership positions	3	12
Women who have employment	6	8
Women with a husband who works	14	0

- As shown in Table 3, the maximum age of the women interviewed was around 50 years and the minimum was 24, which shows the diversity of the population, as well as that the average number of family members is four people, with two children on average.
- On the other hand, and as shown in Table 4, most of the women interviewed are dependent on their partners for buying food and the payment of their basic services. According to the data collected, most of the husbands are salaried employees or have temporary jobs that might provide regular income (maintenance, safety, electrical

#### 4.2. Masons

The characteristics of the masons interviewed in Table 5 on the next page show that their average age is 37 years old, the maximum age being 44 and the minimum age 31, which emphasizes that this activity is being carried out by young people whose experience often was acquired in the same intervention area and in those adjacent to it.

The masons, when interviewed, indicated that they had different economic activities before starting in their present one. In many of these cases, being a mason is defined as an activity of subsistence and not as an entrepreneurial process, given the need to provide income for the families with limited resources. In only one case was it observed that the man went through a formal training process (apprentice, specialist, mason and journeyman). The interviewed masons assumed that they will work in other economic activities with greater profitability, mainly because the market in La Florida is incipient and requires masons for sporadic jobs, which are usually related to Type C housing or in the initial transition to Type B housing.

Table 5: Characteristics of the masons interviewed

Mason	Place of Origin	Age	Workplace
Mason 1	Cajamarca	31	Nationally
Mason 2	Junín	44	Within the urban housing aggregation
Mason 3	Huancavelica	37	Areas adjacent to the urban housing aggregation
Mason 4	Cajamarca	31	Areas adjacent to the urban housing aggregation
Mason 5	Ayacucho	44	Areas adjacent to the urban housing aggregation

It is important to mention that the families in La Florida prefer to use the services of a mason rather than those of an engineer or an architect, primarily given the cost of their services. The cost is due in part to the fact that mason construction does not necessarily require any or all the formal documentation (property title and building permits from the municipality) that construction specialists would. This is also part of the informality characteristic of these neighborhoods.

On the other hand, it is observed that the masons' places of origin are the same as those of the women interviewed. This is because in many cases the masons live in the same area where they work.

As observed in the table, only one mason offers his services nationally, unlike the four remaining ones who focus their area of work in the area where they live and the adjacent areas.

#### 4.3. Difference between Type C and Type B housing

For the analysis, two types of housing have been identified, which have the following characteristics:<sup>12</sup>

<sup>12</sup> Taken from the Market Systems Qualitative Study housing aimed at the Base of the pyramid in San Juan de Lurigancho – 2018 – *Adjustments developed in accordance with what was collected in the fieldwork.*

Table 6: Characteristics of Type C and Type B housing

Characteristics	Services	Type of housing	
		B	C
<b>Tenure conditions</b>	<b>Certified document</b>	Property title registered in public registries.	Proof of possession or occupation issued by the municipality and/or governing committee.
<b>Access to services within the home</b>	<b>Water and sewers</b>	Self-contained.	Self-contained without sewers.
	<b>Electric lights</b>	Formal.	Informal/formal.
<b>Status of the internal infrastructure of the home</b>	<b>Roofs</b>	Corrugated iron sheets (or tin roofs) nailed on wooden beams.	Corrugated iron sheets (or tin roofs) mounted on wooden beams.
	<b>Walls (inner side and partitions)</b>	Uncoated brick (70%). <sup>a</sup>	Tongue and groove with damage from moths and humidity.
	<b>Floors</b>	Majolica (30%), unpolished concrete (40%) and dirt (10%).	Dirt floor or concrete in some cases.
	<b>Electrical installations</b>	Covered suspended connections.	Covered suspended connections.
<b>Sanitary and safety conditions</b>	<b>Food preparation and storage</b>	Viable.	Insufficient.
	<b>Overcrowding</b>	High.	High.
	<b>Ventilation for the home</b>	Viable.	Insufficient.
<b>Exposure to risks</b>	<b>Faulty construction</b>	Perimeter, walls and columns.	Dry stone wall.
	<b>Awareness of structural safety</b>	Average. <sup>b</sup>	Low.

<sup>a</sup> Taken from the Market Systems Qualitative Study on housing conducted at the “base of the pyramid” in San Juan de Lurigancho, 2018

<sup>b</sup> According to the interviews conducted, the families with Type B homes mention that the brick-and-concrete housing are safer than those of tongue-and-groove type, but that they might not withstand an earthquake.

**Type C housing**



**Type B housing**



# 5

## Transition process from Type C to Type B homes

### 5.1. Desire to build or start the transition

The desire to build is one of the steps on the road toward homeownership that is more strongly influenced by social norms, which arise from the intersection of social and individual factors. These are explored in further detail below.

- **The property “is my land.”** There is a feeling shared by most of the women interviewed that is better to have one’s own home, “even if it is small, for the time being, than to keep living in a space that is not yours.” Most of the people come from situations in which they pay rents between 200 soles and 300 soles, which means that having one’s own paid lot provides comfort and stability to the families.



*“When I had my first son, I thought about getting my own lot — my property — so I came to this area, La Florida. Everything*

*was just a wasteland. There were no people living here. There was no electricity, water, roads, drainage; it was a wasteland. A friend told me that they were squatting on lands around here, so I took a risk. I have been in this area for approximately 22 years. My brother did not want me to stay in the area. He said that it was very dangerous, that I should sell my lot and that I should move to Jicamarca, where he wanted to get a lot for me; when I went to look around the area that he recommended to me I lost my way; I couldn’t get to it. I realized that it was much too far from Lima, so I decided to stay in San Juan de Lurigancho because it was close to the center of Lima and because I had lived on the low part of the hill for a long time. I knew many people.”*

– An Ayacuchana woman

- **The women are the ones who make the decision to move the family to their lot, the main reason being the tranquility and stability of their children.** Their main concern is to meet the immediate needs of their children and to ensure the safety and the tranquility of their family.





*“Little by little, I have been telling my husband about the needs we have with regard to housing. For example, I was afraid that my son would burn himself in the kitchen, because he was sharing space with my room; I told my husband that we had to set up a partition to avoid future accidents, and we bought a second-hand tongue-and-groove one from a neighbor.”*

**– A woman who comes from Celendín-Cajamarca**

1. They have a strong preference for having “space” for their children.
2. It is the woman who decides “to move to the hill” because they want to get a place of their own, where she does not inconvenience her family, nor is she inconvenienced. Given this, they seek safety and peace and quiet, without worrying about any difficulties at the outset. The women indicate that they have the satisfaction of having something made by themselves and that now gives them tranquility, and they can think about better options for the future of their children.
3. One determining factor for people from the provinces and from Lima who were living in rented places is their children’s schooling, indicating that the savings they can make if they don’t have to pay rent can be used to pay for their children’s schooling in public school and at the university stage; and those who come from or used to live in the provinces say that there is no high-quality education in their cities like that which exists in Lima.

**• The men need to be persuaded to participate in moving and the building of a house.**

Some women point out that at the start of the resettlement process, the men did not help in anything. This came later on, when they saw progress in the construction and/or lot enclosure, mainly because they do not want to leave the comforts of living in “flat” places and also because they are not the ones who were having problems with the neighbors, since they were working all day.



*“There were also times when my husband didn’t want to, but I made him for the sake of my children. One of them was very sick. I told my husband that, if he did not buy it (the home), then I was leaving.”* – **A woman from Cajamarca**

**• Expectations** for what a good house is:

1. There is a general idea of what improves housing. It has to do with **having a house of solid material with veneer, plaster and with several floors – two or three**. This is the general idea of all the women; it was noted in some cases that some women have seen this dream house in another location and not in their current area.
2. For the women, the design and especially having **clearly-partitioned rooms** is important. The living room (to welcome guests) must be separated from the kitchen, from the bedroom and from the dining room.
3. Moreover, several of the women said that they thought that, if it were just built of solid material, that this would be enough to guarantee them **safety and permanence**.

**5.2. Ability to build or start the transition**

Although the desire to build is strongly influenced by social norms, the ability to build depends more on material factors (for example, financial resources, access to ownership) and structural factors (for example, land-tenure laws). Therefore, although the approach of this research is the social norms, those factors that influence the ability of the family to progress in the building process of their home, are captured and explored to some extent, since they influence the decision-making, which is the other approach of this study.

- **Land tenure is a complicated process, especially in a squatter settlement.** It is generally accepted that it is necessary to get acknowledgment of their possession and then the title. People who are on the high part of the mountain do not have property title, for the most part; the complete opposite takes place with those from the low part of the mountain, who already have their property titles. This difference limits those who inhabit the high parts of the mountain or who came in a recent squatter settlement in their ability to start the construction process of their housing.



*For the women, the title acquisition process is tedious, and two of the requirements for obtaining this tile acquisition are to have the homesteading certificate for the lot, which is provided by the governing committee, which has a cost, and the title certificate that the same municipality gives you. This step is carried out by the governing committee, which acts as a representative of the community or association.*

The title acquisition process is key for the population, on the basis of its making it “safe” for the families to carry out the necessary processes – to ask for loans from relatives, to hire masons, etc. – to be able to start the construction of their homes of solid material.

- **For stability, the completion of the general technical drawing of the urban housing aggregation with precise measurements of the lot and its final location is required.** The committee has drawn the map again, and, in some cases, it has reassigned lots at least four times over the past five years.
- **Lot reassignment is permitted because of lack of occupation, debt, or injunction from the governing committee or municipality.** In this respect, some of the neighbors have opted for the construction of their homes of solid material, which “according to them” would mean that their property cannot be reassigned and gives the guarantee that they can remain in the place where they made the investment. In this way, the families who do not want their lot to be reassigned, have greater incentives to start the transition of their housing from Type C to Type B.



*“Our lot does not have proof of homesteading nor of title; it is a process that we have not even started, but that we have as a goal for the future. ... I wanted to get a loan, but they will ask me for my proof of property, which is a process that I have to do in the municipality. For that reason I have to have my homesteading certificate that the governing committee would have to give me. I am going verify that, depending on the cost, I will try to get (the homesteading certificate) to see if I can get a loan and make arrangement to get my house.”*

– A woman from Junín/Cerro de Pasco

- **A constant flow of income allows the families to think beyond their immediate needs and start to move toward longer-term ones.** Many of the families have heads of household seeking stable jobs that would allow them to get credit or to get informal loans (from relatives) to be able to initiate the transition process. An unstable or temporary job does not allow the families to plan or have incentives for the transition process.
- **The children are the main promoters of change, motivating the parents to make the decision to start the transition process.** Families with children between

12 and 18 years of age have greater need to enlarge, improve or fix up their homes, because they are seeking their independence and are making greater demands of the parents. This latter element has been key for the parents to start making plans or ideas to start the building process.

- **The housing project<sup>13</sup> takes shape in this transition phase,** primarily because the homes as a group begin the process of seeking land regularization for their properties, so the municipal government is forced to participate and, on the basis of their needs, plans and actions for development appropriate for the area are made, and, by law, the state must provide or install public services (water, drainage, electricity), as well as start to implement projects for educational, health and communications infrastructure necessary for the development of this new urban housing aggregation. Although this process is slow and depends on political decisions as much as on the budgeting ability of every municipality, it has a normative framework that supports this type of process.<sup>14</sup>

### 5.3. Transition process from Type C to Type B homes

- **The transition is developed after the family already has the document or record of homesteading,** approved by the municipality and countersigned by their governing committee. For the majority of these families, this is the start, inasmuch as they are sure that their investments are not going to be lost or transferred to other families (because of loss or change of location).
- **There is a strong need for access to financing or savings.** Some women point out that it is not possible to obtain formal financing without legal documents that endorse their ownership, although a small percentage of women said they were able to get consumer loans (that are usually for any purpose and, if the total is small,

<sup>13</sup> According to R. García Q., J. Miyashiro T., P. Santa Cruz, D. Rubio B., and R. Marces: “The formula adopted by the poor to gain access to a place to live, without any support for years from the State, becomes more complex due to the increasing geographical limitations of rugged areas that suggest existential challenges to the ‘new neighborhoods,’ which arise when looking at the bigger picture via groups of 30 or 40 families by means of ‘ant occupations’ in areas in which it was never imagined that it would be possible to urbanize, due to being very steep, in risk zones or those reserved for different use than those of housing.” Taken from *Development or Urban Growth in Lima: The Case of the Districts of the South*.

<sup>14</sup> Regulation of Territorial Refurbishment and Urban Development – D.S. N° 004-2011-HOUSING and Organic Laws of Municipalities N.º 27972, in its chapter on Territorial Plans – Provincial Territorial Refurbishment Plan (Art. 9)

guaranteed by one or two guarantors, and a property title is not required) of up to 15,000 soles.

- To begin a housing transition process, most of the women point out that they **must obtain loans**. Relatives usually help out with this, so that they do not have to pay high interest to the banks and because, under the current conditions, they cannot gain access to the financial system because they do not have all the documents that the banks ask for to give housing credit.
- In this transition process, it has been noted that some families save and turn to a bank loan to get the money needed to have the construction done; in other cases they save little by little to build their home piecemeal; others make deposits in some hardware stores, even getting the entire amount needed to pay for the materials that they will need to start building.
- In general, it was stressed that a **savings scheme was key**. Some of the women spoke of how they started to buy the materials themselves, from their occasional jobs. That way, they would not be “tempted” to use the money for other things.
- From the interviews it was learned that the families were able to invest more in their housing from January to March, inasmuch as in this period their children do not attend school, so what they were able to save from their not being in school could be invested in their housing.

### 5.3.1. Design and materials

- The design is a joint process between two partners, yet it has a strong component of “views” from the mason, since the families start with one idea and end up with another. That is mainly because the design processes are verbal and do not take shape in plans or written documents, under the assumption that this is not important.
- The design of the housing, including the materials used, often depends on the cost. Although a few people can pay for permanent materials, especially bricks or stones for the walls, the rest of the materials such as the wiring and means of transporting the materials depend on the market cost for their purchase and storage. The families who build are sensitive regarding prices, mainly because they do not have a steady source of income, so they hope to optimize their resources in the purchasing of materials.
- The families do not take into account the resilience of the materials of which their homes are made when faced with natural forces or events of force majeure. Tongue-and-groove housing is likely to be damaged by the elements (natural and artificial, the latter referring to those damages produced by human beings).










- The decisions about location and type of housing structure are analyzed jointly, but the man usually has the last word as the head of household. Some women point out that even when the tongue-and-groove housing was selected and was fitted out, the men tended to direct the design and construction of the house. They would often consult the women about the design, but the women were rarely in charge of the process.
- The selection of materials is customarily made by the man, although women may be assigned to pick up the materials and pay the hardware store.
- The masons are the ones who put together the list of materials needed and the instructions on where to buy them, and the families will generally follow their instructions. Some families have their own points of view concerning the price, the quality and the brands they are familiar with.
- Some masons said that in general they think that the men know a little more about the materials that should be used in the building process. (It is good to remember that almost one-third of those interviewed had relatives working as masons). In one interview, the husband was a mason but was postponing the building of their home until the wife put pressure on him, and so it was progressing “little by little.”
- It was observed that some women have knowledge of the materials and work necessary for appropriate construction of the housing; these cases are important both for the masons and for the rest of the women, since it is important to teach women about the building processes so that they can make good decisions.


### 5.3.2. The roles of men and women


Most of the decisions related to housing were discussed by both partners. Nevertheless, the men tend to make more decisions and have “the last word.” The important distinctions in the decision-making also arise among tasks or steps in the construction of housing, as shown in Figure 3 on the next page.


- **The woman is the one who has a future vision of what the home will be like, but the decision-making to begin the construction of this dream is made by the male partner.**
- In the cases where there is no dialogue between the partners, the woman does not share her dream with her partner, and she is limited to being only a **beneficiary of the process led by the man**.

Figure 3: Roles of women and men in the transition process.

Actions Taken	Responsible Party
Instigating decision to start building	
Ownership of title/homesteading certificate	
Financing	
Material selection	
Design/layout	
Interior decoration	
Selecting masons	
Supervising masons/construction	
Repairs	

 = joint/highly discussed households

 = predominantly men

 = predominantly women

- Even strong women who have led their moving process toward the mountainside hill felt ashamed and unwilling to share their vision for the future construction of their homes. When they were sharing it, they focused more on appearance and not on utility, except for their emphasis on allocation of space for the children and that they needed to be cleared of debris (the “*pampear*” process).
- **The decisions about spending and saving were also seen to a great extent as a joint decision, although income and savings tend to come from the man’s work.**

- In general, when **the women did not provide funds for the construction, the decisions were likely to be directed by men. When the women provided some of the funds, it was more likely that the decisions were made jointly between the men and the women.**
- Some women **know the estimated costs of building their homes** (because they have asked the masons) and the amounts of saving and expenses related to the building process.
- Some women tend **to know the total amount of the loan** but not the amount of the payments on the loan and payment dates, inasmuch as the responsibility for the payment falls on the husband.



“My father-in-law and my husband’s friend have made us a loan to be able to pay for the lot below, and we are paying a monthly rate, but I do not know how much it is. My husband takes care of that. The lot above cost us 300 new soles when the squatting began.” – **A Huancavelica woman**

- **The women were the most involved in the design and decoration of the home interiors.** This usually is because it is thought that the women spend more time inside the house and have a more important role in the management and maintenance of the home. They organize the space inside their homes.
- The women point out that there is dialogue between them and their partners with regard to decisions as to **improvements or changes inside the home.** It has been seen that, in some cases, these responsibilities fall on the women since they are the ones who spend more time in the homes. **The role of the woman is to contribute ideas and to implement them within the home.** There are few cases in which the woman does not contribute her ideas and accept everything that the man decides.
- The women who have made **improvements in their homes have done so because of triggers like accidents involving either their children or their neighbors,** and this is the main reason for them to seek the improvement of their home.
- In other cases, the aging of their children and the birth of new children creates a desire for the modification of the homes. **Some women indicate that they prioritize the needs of their children (children and adolescents) who want privacy,** especially the adolescents. As such, the parents make decisions for the comfort of their children, and in some cases the mothers decide to take a job and save to

begin some remodeling to accommodate their children.

- **The women feel – and see themselves as – more involved in monitoring the construction of their housing.** This may be because it is more likely that the woman is at home and it makes sense that she should keep an eye on it. But several of those interviewed emphasized that what they do is not “supervision.”

#### 5.4. Importance of the masons in the transition process

- Those interviewed indicated there are not actually construction procedures for homeowners undertaking their own construction in Type B homes, inasmuch as a mason is always needed to accomplish this type of construction. The opposite is true in Type C homes, where independent construction is a standard practice, considering the seasonality and lack of need for the participation of a mason, because “all of them can build dry stone walls.”
- Being a **mason is a noncertified apprenticeship**, which has been the case since before the masons migrated in some cases and because of necessity in others. The masons tend to have a minimum of four years of experience in construction, and many of them **started as apprentices when young**. These apprenticeships took place in their places of origin and/or the region where they previously lived.
- **The recognition of their work** as a mason is based on their number of building jobs or clients. For them, recognition **is related to demand**, and the latter is important for expanding their client base.
- **Recommendation serves as social validation** that they need. They feel that if they are recommended, then they are recognized by the inhabitants of the area.
- In most cases, their experience and jobs are carried out in the same area where they live. In only one case has great mobility been seen on the part of the mason, and he participates in large-scale construction work (highways and bridges).
- Construction of Type B homes depends to a great extent on the type of mason with whom the contract is made and the conditions of the homes. At a lower price, it is very likely that the mason will not be able to meet the expectations of the owners and that there may be serious problems in finishing their homes.
- A mason who has greater social recognition also is in greater demand, and many masons will sometimes do construction work in a parallel way, subcontracting “other masons.” Since the contract is made directly with

them, their participation in these jobs is very short, but they try to satisfy their clients.

#### 5.5. Selection of masons

- Selection of masons is mainly done by the man. In most cases, men are the ones who finance the entire construction process, so they are responsible for finding a mason according to their needs and financial resources.
- During the selection process, men ask for recommendations from their neighbors, friends or relatives who have had experience with this mason, along with family members who have seen the homes that were built by them (albeit only the exterior). **The norms concerning the selection of masons in urban areas are based on aesthetics.** The owners usually explored the local community where they are planning to build their housing, then asked the owner for the contact information for that mason and his recommendations.
- They make use of very short opportunities for conversation to ask about the masons. These opportunities occur during recreation (soccer) for the men and during social encounters (market purchases and popular restaurants) for the women.
- Only in a few cases was it observed that the hardware store owners are the ones who influence or provide recommendations for hiring the masons, inasmuch as these two groups respect their self-reliance. The hardware dealer has an interest in having a greater number of masons as clients, since they depend on the owners for the purchase of materials.
- It has not been observed – nor did those interviewed indicate – that technical design proposals were made during the selection process, since the masons’ offers considered only the initial budget for the housing.
- During the selection process, no contracts are signed, because any agreement (even the design) is made verbally and is based on a process of trust due to the recommendations received.

##### 5.5.1. Relationship management between masons and clients

- Although the man pays the mason, in most cases, the woman is the one who “supervises” the construction during the week, but since she does not have knowledge on the subject there is no direct coordination. Only in a few cases do the women know about construction, and it is necessary to pay attention



to them in these cases, because they are the clients. In the opinion of the masons, most of the women have limited knowledge of construction processes, and for that reason the women do not give their opinions very much.

- There are cases in which there is direct coordination with the women who are heads of household, since they know a little more about the construction process.
- No preference has been observed as to working with women or men, primarily because the masons are focused on the payment for their services.
- In some cases, the masons point out that the women give their opinion without knowledge, and that is why it is better not to pay attention to them.
- The woman participates in the finishing touches and in the distribution of rooms among the family members, but for reference purposes, modifications or progress are made with the head of household.
- Most of the masons point out that there is little supervision of their work, since the clients “trust” their work and have no time to supervise.
- Overall, the masons feel that the construction processes respond more to the needs of the clients than to what is deemed technical and valid for the area.

#### 5.6. Principal risks present in the transition

- It is believed that **being located on a rocky mountain is a guarantee of safety**.
- Neighbors' structures have poor stability, given that the construction of dry-stone walls is carried out for the most part informally and without support from masons who have experience in this area; in addition, in some cases it was observed that there is **self-construction of dry-stone wall**.
- Construction of retention walls is limited, since this affects access to water and sewer services and to the boundaries of the lots. Many of those interviewed indicated **that they will begin the transition process from Type C housing to Type B housing when there is a retention wall that will provide stability and safety to the homes in their block**.
- **Low-cost materials** are sought **that are not resilient against the elements or events of force majeure**, as the tongue-and-groove wood is not safe for all eventualities and not appropriate for the humid climate, which can cause respiratory illnesses and additional expenses to the families.

#### 5.7. Use of resilient materials in the transition process from Type C to Type B homes

- There is an adaptation process to new technologies linked with the construction process of Type B and Type A homes (generally, a multi-level permanent homes).

- The hardware store owners point out that within their offer of services there is material that may improve the housing of the inhabitants (anti-salt peter cement).
- People do not want to pay for the new technologies or for more effective materials, since they are more expensive than the conventional ones. For that reason, the hardware store owners have few incentives to stock these products.
- The hardware stores mention that when they offer new technology, techniques or products to a client from the area, most of them are interested in the price, which is a determining factor in whether they will consider or invest in it.
- Poor families cannot pay for a good mason, because he charges more. They pay what they can, and the masons they can afford do not necessarily have much experience.
- The majority of masons who work with poor families are apprentices, and that is why they charge little.
- Few influencers have identified “other technologies” of construction or materials. Only the Jicamarca merchants knew about other technologies (such as drywall), and they do not recommend it for the external part of the housing, but rather for partitions inside the housing.
- None of those interviewed have used another type of material or construction technique, because they do not know about them or do not see the need to learn, given that there is only demand for what is traditional.
- None of the masons indicated that they know any firm that works with poor families, especially on the issues of dry-stone walls and construction on rocky hillsides.
- The inhabitants are just starting their adaptation process to the conditions of the mountain and its geography, which often require the use of explosives and adaptation of the housing construction processes if they are to be resistant to disasters.
- The hardware store owners have not changed or adapted their business model; on the contrary, they specifically focus their business model on construction of Type B and Type A housing.
- In the study area, the burgeoning community of La Florida, there are no hardware stores of any particular type; that is to say, neither micro- nor small hardware stores.
- The hardware stores present on the lower part of the hillside have focused on the sale of materials and rental of machinery for construction.

#### 5.8. Use of disaster-resilient construction techniques

- The construction of the homes depends on the payment ability of the families, more so than the woman's empowerment. According to the influencers, only the cases

in which there is machismo does the house not progress quickly, because the man spends the money for what he wants.

1. In addition, the influencers believe that the men are more easily influenced on issues related to the quality of their products since they are the ones who pay for the product or are connected more to the company involved. On the other hand, women are easily influenced by the finish of the products (Jicamarca case).
  2. Most of the influencers point out that the men are the ones who make the decisions with regard to the construction of the housing.
  3. The closest group (nearby friends and relatives) are the most influential for both women and men, mainly because the group of neighbors has not been there long and friendships are just beginning.
- According to the influencers, if the women increase their knowledge on this subject and get involved a little more in these construction processes, it could result in savings for the family, as they could monitor the spending and the quality of the masons' work better. These controls also could prevent the need to make improvements later.
  - The influencers point out that women should participate more in these issues, since they are the direct beneficiaries, and in some places, the leadership of women already has been seen.
  - The entire construction housing process is vital, especially the issues concerning costing and purchasing calculations, where the women should know more, since they stay at home and thus could better supervise what the masons do.

### 5.9. Challenges related to housing construction



*The area in which the study is carried out has a key characteristic: It is on a rocky mountain with very steep slopes and with tremendous rocks lodged in the ground. For that reason, families start by smoothing the ground, dynamiting the rocks, making the dry-stone wall and fencing the lot. Then, as soon as they start to build within the project budget, the material that is going to be used is chosen. There is no order, classification or phases in the construction; it is always in accordance with the economic situation (without having money or design, only with a basic budget). Some advance by rooms,*

*others only live in tongue-and-groove housing, and others develop the construction with solid material immediately.<sup>15</sup>*

- **There is very little planning.** Some women have informal consultations to get a quote and then begin saving money and buying materials. Most of the women start to work themselves to construct their dry-stone wall and then to make the purchase of tongue-and-groove housing on the Jicamarca market, **without considering the need for maintenance or how long they are going to live in the tongue-and-groove wood home.**
- The families with greater resources prefer to make investment directly in the construction of a Type B home and not get Type C housing; it has been observed that the families with high incomes (merchants) preferred that only one of their family members – in this case the father – or the mason be the one to do the construction and direct the entire organization process for starting the construction, while they continue living in their “rooms” until the house is built, or at least one finished room.



*“The people in this area do not get much information; on the other hand, in other places, such as Puente Piedra, Los Olivos, the people do get information about the quality of the material, the type of construction, the techniques and other things that have to be taken into account for good construction. These informed people use the internet to get information. The majority in this area are extremely poor; they do not have basic services. You can see that there are few houses of solid material in the area. Those who have money, like the owner of this house, pay for my services; he’s building a home for his daughter. She will not have to start in a tongue-and-groove house.”*

– A mason from outside the area

- **Accessibility is an issue.** The access to the homes in La Florida is via stairs, which are in poor condition, or by informal roads that are not kept repaired.
1. **The construction of the stairs takes place through community work,** in which mainly the women participate and there is a neighbor who directs the construction – the same one who has or should have experience in construction.

<sup>15</sup> This process differs from what is shown in the ethnographic study, where it is indicated that there is a life cycle of one BdP home (the base of pyramid housing) built autonomously and by managing one's own resources.

2. **The cost of transporting materials and the amount of physical effort required of the owners are high.** Living on the high part of the hillside requires great effort in the housing construction process, mainly because of the poor condition of the existing roads.
3. The elderly cannot move around easily, and there is a risk of accidents. Poor accessibility to the housing is a problem, and it will be a major problem when the inhabitants get older or suffer from accidents that limit their mobility.



*“We get used to and adapt to things here over time. It was pretty sad when we arrived here. I have fallen down so many times carrying water. If I remember everything, I start crying. But, well, now I am accustomed to it; my children are also used to it. We are trying to adapt to the place.”* – **A woman from Cajamarca**

# Low-income housing construction, influencers, and current practices and preferences

## 6.1. Value network analysis maps of influencers

The diagrams of Figure 4 on the next page show the network of influence and sources of information that are affecting the families and masons in the decisions related to the home.

The black arrows represent the strength of the influence of the different participating parties and information source. The red arrows represent where there is an exchange of goods or services, either with the family or the masons.

These two diagrams provide information about the level of influence that different actors exert in the two types of families, depending on where they are in the building process. Therefore, the two diagrams show the information flows of influential people who affect the lower-income groups and the higher-income groups separately. The lower-income groups are defined broadly in addition to their current housing as the families with an average income lower than the minimum living wage of 800 soles, while the higher-income groups get wages greater than 850 soles and less than 2,000 soles. Nevertheless, it is important to point out that these two diagrams are not binary conditions, in which one is applied strictly to one type of housing, and the other to another type. These diagrams must be seen as

a spectrum of changes in the relationships, flows of information and participating parties as a family moves toward increasing their income and housing situation.

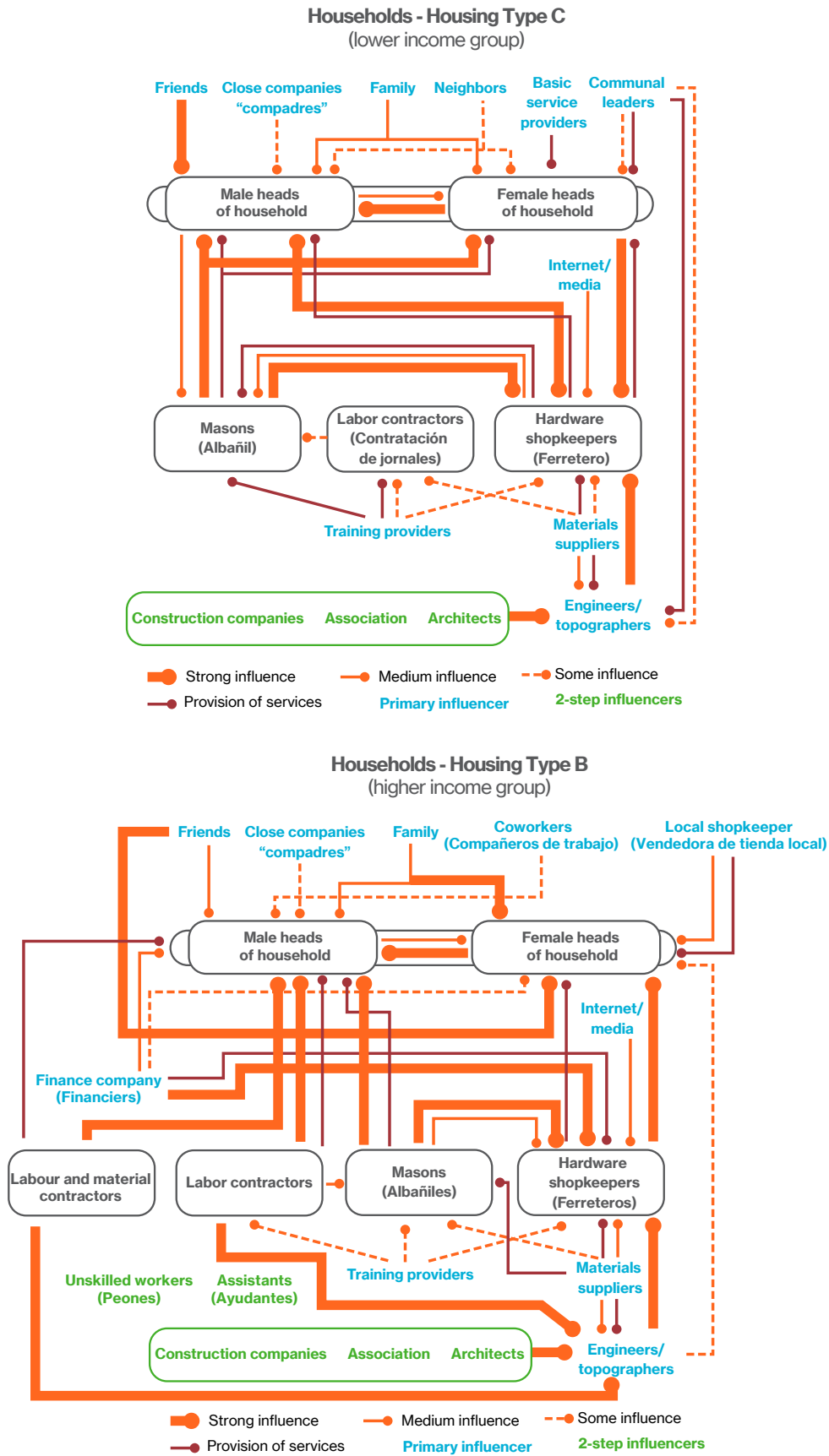
Additionally, the flows of influence are key for identifying the actors with whom to work (either from the marketing standpoint or from a development activity perspective) or with whom to co-create activities in order to influence the decision-making by the families, especially of the women, as they seek to improve their living conditions in the transition from a Type C to a Type B home.<sup>16</sup> Lastly, the new theories have demonstrated that the final user is not always the individual who actually decides to buy or makes the purchase.

**In short**, we identified the following key considerations in reviewing the influences on Type C and B homebuilders:

***Both Type C and Type B homebuilders seek advice from friends and relatives.*** The construction decisions concerning housing are mainly made within the family's

<sup>16</sup> Taken from <https://www.linkedin.com/pulse/los-6-roles-en-la-decisi%C3%B3n-de-compra-mariano-men%C3%A9ndez/>

Figure 4: Value network analysis maps of influencers in the construction of Type C and Type B homes for families





household, with limited external influence. The households seek the advice of relatives and friends, but ultimately, the decisions are made within the couple, and the man tends to make many of the decisions linked to construction issues for the housing or the transition process.

**For both Type C and B homebuilding families, the influencing role of the woman toward her husband, the principal decision-maker, is important.** Given that the woman may assume some roles and leadership in the absence of her partner, who is not in the home because of work, an internal family dynamic is created wherein the participation of the woman and her opinion are valued during the construction process.

The higher income families (Type B) get access to more information sources – and more diverse sources – than the low-income families (Type C), mainly because of economic issues. This allows them to increase their demand for specific products and services, especially those provided by the masons and hardware store owners. Although the families with Type B housing have income greater than those of Type C, they still cannot afford to access the services of engineers, architects or other parties specializing in construction. Nevertheless, these families, especially the younger ones, do access the internet, which facilitates access to more information (images, data and in some few cases housing videos) that may help the decision-making on improvements or changes to be made to their housing.

**The masons recognize the requirements of each of these types of housing (Type C and Type B), which allows them to clearly identify their market segment.** The offer of services from the masons is different for every type of housing; in the first case (Type C homes) the services offered are linked to the construction of dry-stone walls, installation of prefabricated tongue-and-groove wood houses and floor screeds. In the second case (Type B homes) the offer of services is more linked to housing construction with solid material (brick and cement), and to processes of expansion and improvements in the housing infrastructure.

**With higher-income families, there is an increased likelihood of connections with other market actors and access to financial services.** Families in Type B homes tend to have regular income, even if not from formal productive activities; this improvement in their income flow allows them to gain access to the financial system with greater ease and very possibly to opt for financing. Despite finance access, no interviewed party has had formal assistance from an engineer or an architect; a few

pointed out that one of these professionals has reviewed their plans, but not the construction itself.

**The mason always plays a key role in the decisions made during the construction process itself and not so much in the decision to initiate the transition process.** In most cases, the mason directly influences modifications, changes and use of materials.

**In starting the transition process, families make decisions based on the influences of the actors closest to the home.** In other words, the decisions about how to build a more permanent structure are influenced by extended family members, neighbors, close companions, friends and other participating parties. This is true both for the families with Type C and Type B homes. Later, they request the services of the mason.

**The companies, which provide construction materials, offer training services for masons of both types of housing.** Our research indicated that even when a company offers training services linked to new technologies, construction techniques and materials, the masons have little incentive to participate, since they consider training is on-the-job and not in a classroom, as they point out in the interviews. Furthermore, masons indicated they are not willing to pay anything for these types of training, since their market segment of homeowners is perceived to neither value training certificates nor be willing to pay more for certified or trained masons.

## 6.2. Findings on the influencers of housing

### 6.2.1. Influence flows in Type C homes<sup>17</sup>

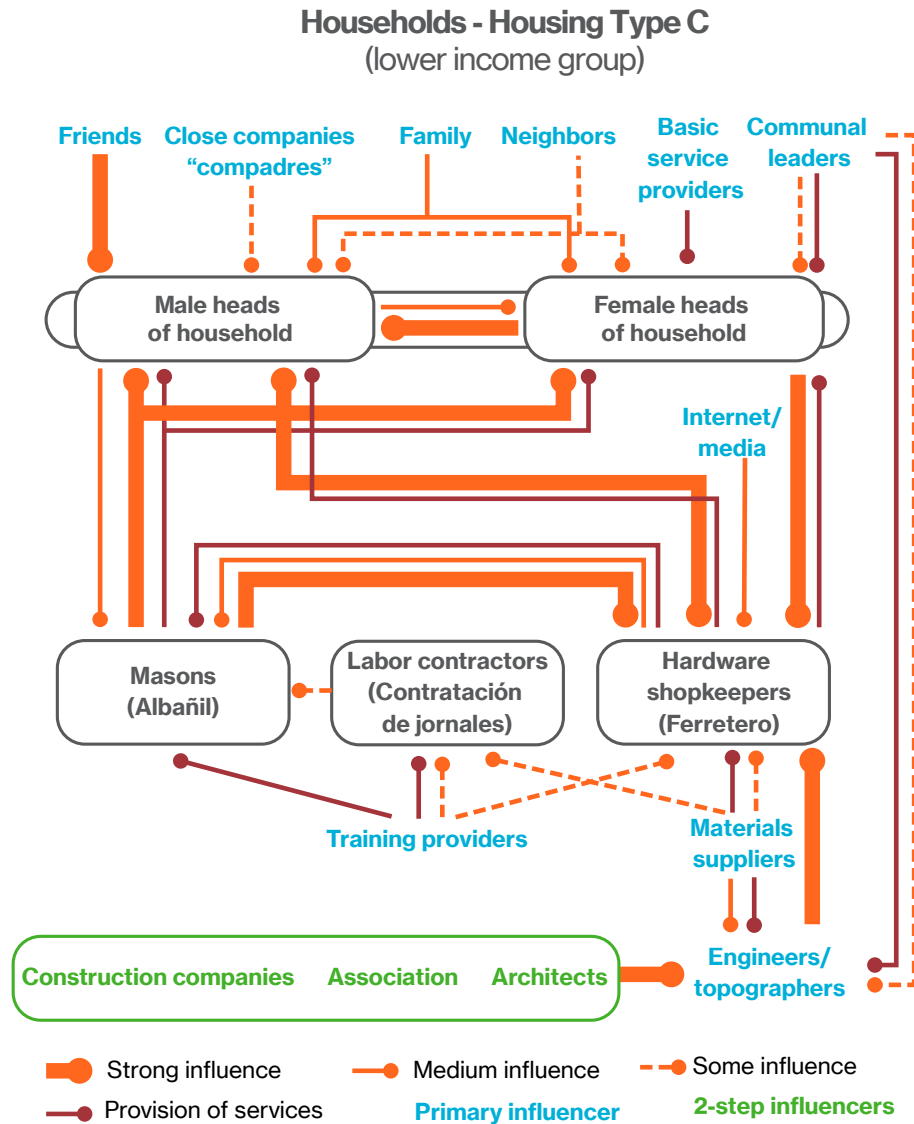
As observed in Figure 5 on the next page, there are two levels of influence on the family: friends, close companions,<sup>18</sup> community leaders,<sup>19</sup> neighbors and providers of basic

<sup>17</sup> To develop a greater analysis of the flows of information, the roles of women and men have been differentiated (both in their capacity as heads of household). This is because it has been observed in the field interviews that the families are nuclear. In the case of these families, the leadership of the family belongs to the man. But it has been observed that the woman exercises this role when the husband or man is not present.

<sup>18</sup> “Close companion,” or *com padre*, derives from *com*, or with, a meeting, cooperation or aggregation and *padre*, or father. Therefore, etymologically, it would mean “the one who cooperates with the father.” Within the religious relationship systems of Catholicism, a *compadre* is the designated godfather to the child with regard to the parents of this child. It is also used in events such as marriage and other religious events.

<sup>19</sup> From the information gathered in the field, it has been observed that the owners refer to their community leaders as their representatives, and without making use of the word “governing committee,” since they continue with the community logic that comes from their Andean roots.

Figure 5: Influence flows in Type C homes



services<sup>20</sup> who live in the same neighborhood and exercise a slight influence, and the extended family, who exercise moderate influence with regard to the construction decision-making or transition process from Type C to Type B housing.

<sup>20</sup> From the information gathered in field, it is possible to infer that the Type C housing present in the study area is dependent on the use of the main basic services, given that the area does not yet offer these public services.

In comparison, friends<sup>21</sup> and a man's wife<sup>22</sup> are the main influencers on the decision-making by a head of household.

<sup>21</sup> Understood as friends, those who live in the areas where the home constructors used to live, this is because these families have spent less than five years living in the study area, and they've just recently created bonds of friendship with their new neighbors, yet their old friends are in the areas where they previously lived, and they are the main influencers and information providers for this group of families.

<sup>22</sup> From the fieldwork, it has been observed that few families have an inflexible machista culture; a greater participation of the woman has been observed in the decision-making in the housing construction processes, since it is the man who is absent more than 70 percent of the time, and it is the woman who assumes these roles and leadership in the construction process

In the case of a woman, her family and her husband tend to influence her role in the transition process from Type C to Type B housing.

**The community leaders provide information regarding the basic land regularization of the property**, but their influence on the decision-making to start the housing transition process is slight, given that their main function is limited to the legal issues and to the certification of every lot. An example is in the regulation of the access to water for human consumption, since this service is offered when the homes do not have it, which allows the committee to assume greater power over decision-making and control in the area.

**The masons and the hardware store owners strongly influence the decision to start the housing transition or construction processes.** The man is influenced more directly at the time of making the contract and the purchases, and the woman is influenced at the time of monitoring the housing construction. The mason and the hardware dealer are both service providers to these families; as such, their influence is related to price information for housing construction and for manual labor to start the process.

**There is a strong influence between the head of the household and the hardware dealer.** This is mainly because in the study area they are the ones who make the decisions about the purchases of the main construction materials.

**The mason is an actor who provides information as much to the man, at the time of drawing up the contract, and to the woman, at the time of the construction of the housing.** It is the man who has a moderate level of influence on the mason, in part because the masons who offer services to the low-income homebuilders are few. At the same time, each mason has his “ways of building,” which correspond to his own training experiences and practice, not necessarily to the technical and design requirements required by construction guidelines. These masons may attend the training services provided by the material providers, but only if offered at no cost and if they have time on their hands.

**There is also an important influencing flow from the mason to the hardware dealer.** The hardware dealers understand the logic and importance of relying on market information from the masons and use this to determine their offer of products.

**Only in the case of the hardware dealer is there notable use and access to Internet information or media.** This stems from a new business model for the hardware store owners, who seek affiliation schemes and customer allegiance of the masons with whom they work. To gain this, hardware store owners find it advantageous to get access to new technical information and in this way to clarify and/or to validate the information that is requested by the masons at the time of offering their services to the public.

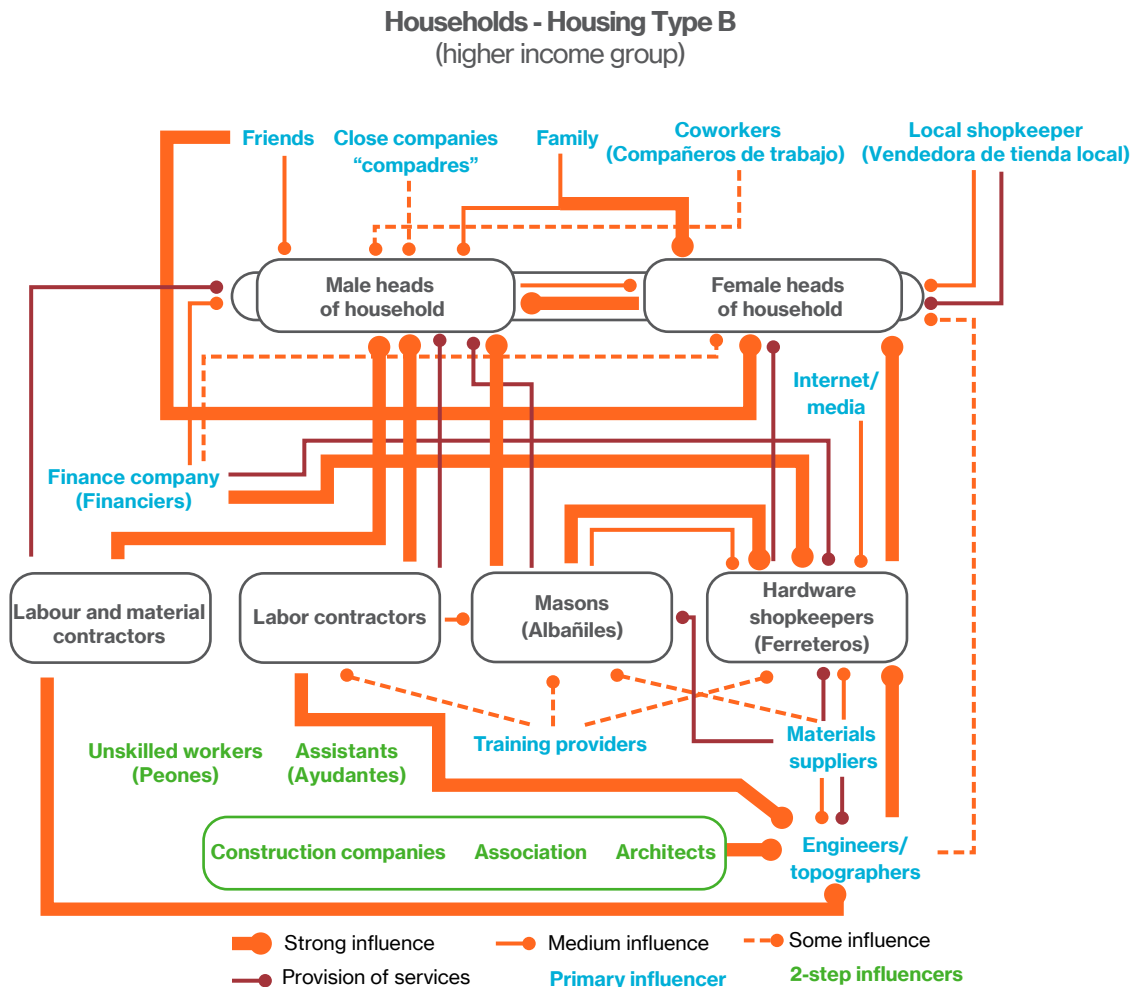
**The information that is provided by the hardware store owners to the masons is considered relevant but not vital** (such as the prices, types of material, new technologies and/or techniques, etc.), mainly because the market for the masons’ services is defined by issues of customer allegiance and reputation, without regard to additional or innovative services that they may provide to the families building these types of homes. The masons are the ones who request services from hardware store owners and the rest of the input supplier construction companies.

**Families with Type C homes focus their requests on construction services or materials that are “necessary” and low-cost**, since they are focused on making small repairs in the family home, dry stonewall construction, digging sufficiently for retention walls, and making basic floors for setting up tongue-and-groove wood housing.

**In this type of housing, the masons focus their service offerings on the lot and not on the house structure as such**, inasmuch as they focus on the construction of dry-stone walls, expanding and leveling of the lot and on making small improvements in tongue-and-groove wood housing with corrugated iron roofs. As such, their influence is focused on these preparatory services and not necessarily on the housing construction.

**Engineers or topographers seldom exchange much information with Type C families**, and their level of influence on the family is weak, since they provide information more to community leaders, especially in the provision of services linked to the implementation of road infrastructure projects (streets, terracing, paths, among others), prevention projects (retention walls) and land regularization for the lots.

Figure 6: Influence flows in Type B homes



### 6.2.2. Influence flows in Type B homes

In the case of Type B homes, as seen in Figure 6, new actors appear, such as co-workers,<sup>23</sup> store owners<sup>24</sup> and financial service lenders.<sup>25</sup> These new participating parties provide

differentiated information to men and women. For men, their friends, extended family and financial service lenders exercise moderate influence on their decision-making, but it is the woman who has a much stronger influence over the man.

<sup>23</sup> Co-workers do not necessarily live in the neighborhood. They become important to the extent that the male and female heads of household in the family find steady work; namely, they are provided with jobs (formal or informal) with a duration greater than two years.

<sup>24</sup> From the information obtained in the field, it has been observed that the shops represent neighbors with greater purchasing power. In the study area, the store owners are those who have the “better homes” (more than two floors of construction and of solid material). Likewise, they are the main sources of information linked to the general situation of the area.

<sup>25</sup> According to the ethnographic study, the family starts to seek access to formal credit at the time of wanting to begin the transition to a Type B home. This also requires that the family may already have a legally regularized plot with potential to enter the financial market. These conditions are necessary to entice financial companies with aspirations to offer financial services in line with the “needs” of these families.

**In the case of women, it is their partner, their friends and nearby relatives who influence information they receive, while little influence from close companions or neighbors is seen.** There is a slight flow of information between the financial service lenders and the women. In fact, a similar kind of influence is found between the engineer and/or topographer and the women. The engineers and topographers interact with women because Type B housing is more prevalent in urban areas that have already acquired legal possession and where the municipal government has had to provide or install the public services and to implement infrastructure projects (educational, health and communications). During the municipal project development, some influence occurs

### Case Study 1: The congenial hardware store

I have been a hardware dealer for approximately three years. I was encouraged to set up my hardware store by the bank, which gave me a loan of 60,000 new soles; I bought myself a motorcycle with that to make deliveries, and I began my business. Part of what encouraged me to set up my business came from the masons, whom I know and really appreciate, since they are a source of revenue in my business. The clients always come to consult with me, or I recommend certain improvements in their purchase, in product quality and guarantee. Some of them take my advice into consideration, some not. When women come, they first tell me that they are going to consult with their husbands, since it always costs more when they want to buy quality products.

I am a provider of domestic cement. I also work with the masons, offer them technical training on the type of cement, mix, quantities, qualities, form-work, anti-salt peter cement, lime use in the construction, types of floors, types of cement and which to use in accordance with the climate, among other specifications. These training sessions take place every four months; we manage to train in a hut that I set up outside my business for 30 to 40 masons who come from all parts of the area and per the invitations that are delivered to them based on their previous purchases.

This service, plus the personalized treatment that I offer them, have helped to keep me in the market; they all know me. I work with the masons, since they encourage clients to buy in my hardware store, and I recommend them when those persons are looking for a mason. Having a worker-employee type relationship, I treat them well. I celebrate with them on worker's day, Christmas ... I offer them a meal and do whatever I can to help them.

The people always prefer that I help them. When I have someone else help them, it does not work, because people want me to personally help them. This is one of the skills I have that has kept me in business.

### Case Study 2: The “not so friendly” traditional hardware store

With approximately 20 years in the hardware store business, he has a good business and is recognized in the area, as he provides an interesting selection of products. He has mason friends and clients who have known him for more than 20 years. He claims to know everyone in the area, and that ensures that they buy from him. He does not try to be nice to anyone; if they want to buy from him, they can, and if they do not, they do not. He sells to people from the lower part (of the hill), those who already have their homes built and want to expand more, for their children, adding floors above their present homes. Those from the higher part (of the hill) he doesn't care about, since they are poor, and furthermore they do not know how to build. They ask for little, and it is necessary to explain everything to them; in fact, he points out that “they are crazy” to build on the mountain, but if they do, well, there's nothing to be done about it. Just the same, there are masons who refer him. He does not try to innovate or to do anything (different from business as usual), since he already has a reputation and sells with no problem.

between the engineer and/or topographer and the female heads of household, who participate as community “volunteers” in such projects.

**In Type B housing, the flows of information between couples are much stronger**, given the needed planning processes for the housing improvements, and the fact that they have survived the initial construction process, which allows them to identify the kinds of information they discuss for quality housing, consistent with their needs.

**In this type of housing, the local meeting participation requirements are minimized**, mainly because in this phase of the construction process, their role and actions are limited to detailed issues such as the management of new infrastructure projects with regard to the municipality. In this phase, the committee stops being crucial for the neighborhood since the subdivision and legal recognition of lots, which is a motivating factor toward permanent home construction with solid materials, has likely been achieved.

**Other actors also influence men more than women**, such as labor and material contractors, general contractors and masons. This is mainly because men are recognized as the provider of the family income, and so the masons and contractors identify men as the potential users of their services.

**The influence of financial institutions and the hardware dealers are key, especially the latter, for their role in the housing life cycle.** The local hardware dealer often serves as the credit adviser, as he knows about home improvement proposals and what potential there may be for expanding home construction. This is a newer potential market for the hardware dealer. Two hardware dealer types have been observed: the traditional ones and the innovators. The latter have dramatically increased their sales in the past five-year period, given their possibilities of adaptation to new markets, use of customer allegiance, the additional service, and their approach to services for families with limited resources.

**In the case of the hardware dealer, their information is accessed via the Internet/networks and communications with engineers present in the area** or those who provide them with materials or with consumer goods for their businesses.

### 6.3. Findings on the influencers of the masons

#### 6.3.1. Influencers of the masons and the hardware dealers

- **The masons are the main influencers of the hardware dealers and of each other.** In the case of hardware dealers, the masons are the ones who determine the use of the materials and the brands, given their recommendations to the owners and their little ability to select their clients, because of the absence of technical information on the part of the owners. There is competition among the masons, which is reflected in the prices and demonstrates that the actions of one have a positive or negative influence on the offer of services.

- **The contact between the masons and the families occurs mainly by means of the recommendation of another family.** The recommendation of the nearest circle who are the relatives and close friends is especially important.
- **The masons who live in the study area cannot be selective in accepting work**, since work is limited and temporary. But they point out that they would like to work on larger projects, such as community retention walls or medium- and long-term public works.
- **Some masons also indicate that they can do all kinds of work** related to housing construction – putting up drywall, tongue-and-groove wood, among other activities – **even if they have no experience on these areas.**

#### 6.3.2. Other factors that influence the improvements of masons' investments

- **The services that masons offer to the families of Type C housing are more concentrated on the building of dry-stone walls and the conversion of the rocky mountainside into flat lots.** Given the little availability and financial ability of the families to change housing in the short term, the masons think that there is still no need to change the way homes are built.
- Most of the masons point out that the **construction processes are self-financed** and that few families seek housing credit, especially because the areas at this time do not permit them to do so, since they have no documents. Consumer credit is sometimes used for housing improvements, but not for a construction process or general transition.
- **Adaptation to the clients' needs comes from their own experience**, since they all (except one) have lived or are living through the construction processes underway on the mountainside: namely from the conversion of flat lots through housing construction. Based on that experience, they “know” how to offer the service to the inhabitants.





# Type B and Type C housing construction practices

To understand the practices and preferences of this transition process from Type C to Type B housing, it is necessary to understand the actual construction process for each.

## 7.1. Type C housing

The start of this phase is directly related to the decision by the head of household to permanently settle down in the area. The decision to start the transition toward Type C housing is made by taking four factors into consideration:<sup>26</sup>

- Need for a larger space for the family.
- Completed preparations of the land, for the total area of the property plot.
- Gradual deterioration of Type D<sup>27</sup> housing, which increases their perception of vulnerability to theft and

<sup>26</sup> Per Habitat's in-depth qualitative *Study of the Consumer near the Pyramid Base de San Juan de Lurigancho*, 2018.

<sup>27</sup> Type D housing is carried out at the beginning of the squatter settlement process. It consists of basic material like mats, low-quality pinewood and plastic that are used to create basic housing, without any type of basic services, per Habitat's in-depth qualitative *Study of the Consumer near the Pyramid Base de San Juan de Lurigancho*, 2018.

repairs, involving continuous expenditures.

- Increase in the possibilities of the head of household to mobilize a greater quantity of financial resources and access to loans.

Erecting Type C housing involves the complete razing of the previous building, and therefore, it is ideally completed in the shortest possible time. The construction process, as per the in-depth *Qualitative Study of the Consumer near the Pyramid Base de San Juan de Lurigancho*, takes between seven and 10 days, depending on its size and complexity. The process involves:

- One day for laying the water pipes and drainage inside the home.
- Three to four days to cover the dirt floor with cement, create the floor and let it dry.
- One to two days for assembling the prefabricated material.
- One day for the installation of the corrugated iron roof.
- One to two days for the installation of electrical connections inside the home.

The investment necessary to erect Type C housing is approximately 5,000 soles, according to information from the aforementioned study, for an area of 72 square meters of prefabricated material (without design and without internal partitions). This total will include the following items:



- 3,500 soles for the purchase of tongue-and-groove wood material and assembling the structure.
- 330 soles for 15 bags of cement.
- 100 soles for the transfer of material to the construction area (hillside area).
- 700 soles for the bath and piping installation.
- 370 soles for the cost of wood for beams, corrugated iron for the roof, electrical facilities and overall expenses.

The average life span of the tongue-and-groove material is around 10 years, according to information from the merchants of the Jicamarca market. This length of time is extended as long as the home is given continuous treatment with mothproof coating, which raises the cost of maintenance for the family.

On the other hand, from the information obtained in the study area, the existence of a secondhand tongue-and-groove wood home market has been verified. The secondhand market has been on the rise in the past two years, primarily because, on the middle part of the hillside, construction of concrete housing has begun, and the tongue-and-groove housing is sold to the new inhabitants of the higher parts or to those families who want to “enlarge” their Type C housing.

From the information gathered, access to informal credit is the main financing source, wherein family relatives and close companions offer informal credit support in this first phase. Cases of saving or access to formal credit are limited during the start of the construction of Type C housing.

## 7.2. Type B housing<sup>28</sup>

The decision to go from a prefabricated home (Type C) to initial construction with solid material (Type B) is made based on the gradually increasing needs for space, privacy and safety, especially as the family grows.

A planning process is needed to optimize the the substantial investment that this construction requires, which fluctuates between 15,000 and 30,000 soles,<sup>29</sup> and the duration of construction, which takes around a month and a half, according to the estimates of the participants in the study based on bids and the experience of those they know well.



Based on the interviews conducted of both women and masons regarding the construction process, the following material estimates are available for building a home with only one floor – without internal partitions, finishings or a roof – in an area of 90 square meters:

- 75 bags of cement.
- 100 half-inch corrugated round steel rods.
- 1 tipper for concrete.
- 2 tippers for coarse sand.
- 4,000 bricks
- 1 tipper for crushed stone.

In this phase, the subject of financing is key for the construction process, regardless of the total of the investment. This explains why, in this phase of the construction, the heads of household enter the formal financial system with the goal of seeking financing consistent with their needs.

Although it is likely in this phase that the families do not yet have all the formal property documents of their home, such as the property title registered in the SUNARP, they are not prevented from starting their housing construction process.

However, in cases in which the head of household does not have job security, access to formal credit is minimal, which limits and restricts the construction process. In these cases, it has been observed that layaway savings plans have been arranged with some hardware stores near the study location. This scheme has allowed many of the heads of household to advance toward the desired home construction, even though it is a basic one for their needs.

<sup>28</sup> Per Habitat's in-depth qualitative *Study of the Consumer near the Pyramid Base de San Juan de Lurigancho*, 2018.

<sup>29</sup> This amount has been referenced by those interviewed on the first trip of this research by MSA.

On the other hand, it is in this phase that the relationship with the masons present in the area becomes stronger, creating a greater dynamic and flows of information in accordance with the needs of each of the families. Likewise, the construction materials market is invigorated and relations become stronger with the “hardware store owners” since that is where they

go to make the purchases. It is important to mention that in this phase, the purchases continue being made at the small hardware stores in the area, as purchases are not made in big stores like Maestro or Home Center because of their location and the market segment of consumers they currently cater to.



# Social norms mapping

## 8.1. Social norms defined

People base their decisions not solely on information, but also on what they believe is expected of them. Norms are defined as the informal rules that govern collective behaviors and expectations.<sup>30</sup> In other words, social norms define what is considered “normal” and appropriate behavior for that group.

**Influencing social norms can thus be a powerful strategy for catalyzing systemic or large-scale change. A change in norms can lead to changes in common behavior and practices.**

Common norms that vary across societies include:<sup>31</sup>

- Gender segregation of sectors and tasks, and perceived appropriate types of work between women and men (traditional versus nontraditional sectors, tasks, etc.).
- Gendered division of decision-making spheres and capabilities (in the household, workplace, community, public sphere).

- Use (or lack thereof) of birth control.
- Ways of saving and storing money (e.g., in a bank account, in cash, as livestock, as home equity).
- Restrictions on mobility, often linked to issues around women’s “security,” and social norms around men’s responsibility/burden to keep families (and women) safe.
- Typical age at marriage, parents’ ages at first childbirth, number of children.

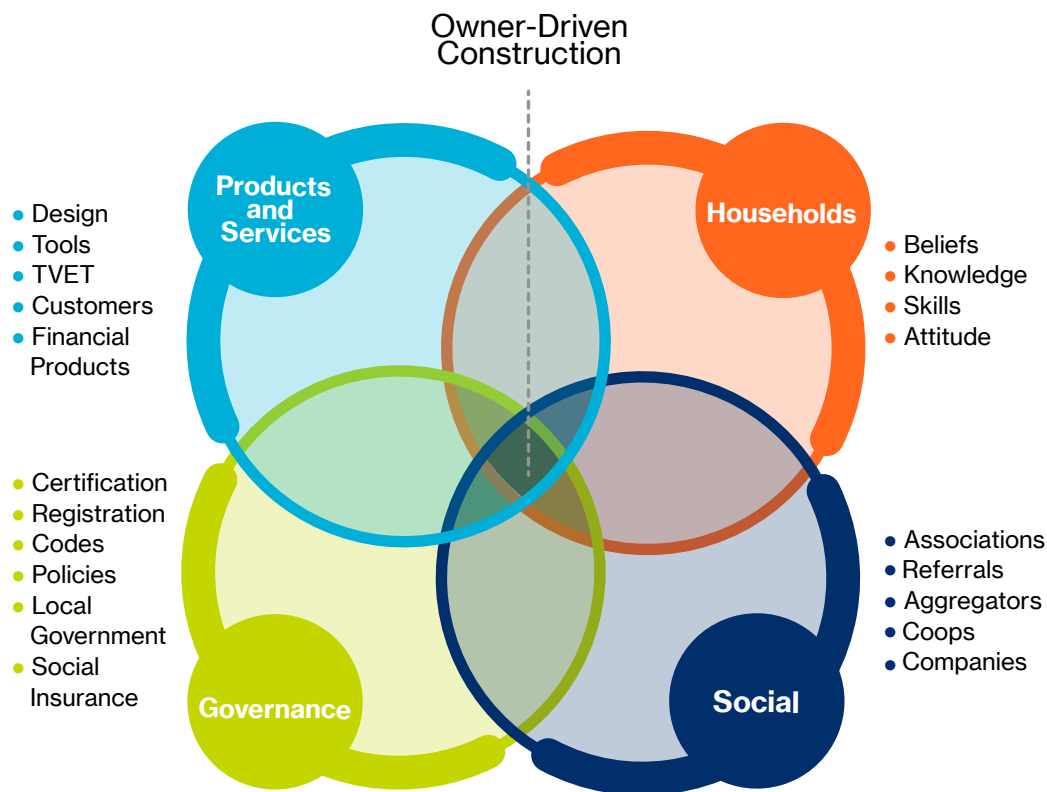
It is important to note that **behaviors and decisions are not driven only by norms**. Rather, they are influenced by a multitude of factors, as the “flower” framework developed by Cislighi and Heise (2017), which the Terwilliger Center has adapted below for housing.<sup>32</sup> The four domains depicted in the figure intersect to influence people’s choices and actions. The household domain includes factors specific to the person: biological conditions, knowledge and psychological characteristics. The social domain includes factors such as whether there are positive deviants within the group, the degree of gender or racial heterogeneity, and the configuration of

<sup>30</sup> <http://marketshareassociates.com/disrupting-system-dynamics-a-framework-for-understanding-systemic-changes/>

<sup>31</sup> *The Social Norms Factor: How Gendered Social Norms Influence How We Empower Women in Market Systems Development*. BEAM Exchange. 2016.

<sup>32</sup> Cislighi and Heise. 2017. *Measuring Social Norms: A Learning Report*. London: LSHTM.

Figure 7: Adapted from Cislighi and Heise framework for understanding determinants of behavior



existing social networks. Factors in the products and services domain include material resources such as access to money, land, services, etc. The governance domain includes formal rules and regulations (laws, policies or religious rules). **Social norms – expectations and beliefs about others’ behaviors – are found in the intersection between the individual and social domains.**<sup>33</sup>

The flower framework also helps to explain why **people can and do break norms** – when other factors within the framework exert a stronger, opposing influence to a norm. For example, even in societies where women are expected to not work in paid jobs (a norm), families who lack material means to survive without a dual income may allow and even push the woman to acquire such work. Likewise, an individual’s education or upbringing may lead her to hold the attitude that paid work is a woman’s right. As another example, norms may allow and even encourage women to use birth control, but if these products are not available and easily accessible in certain geographies, women cannot use them.

<sup>33</sup> Ibid

### 8.1.1. Identifying the reference group

Since different groups subscribe to different rules, it’s essential to specify which reference group or groups each identified social norm refers to. For example, even in a small town or village, two different ethnic groups may coexist, with different norms applying within the two groups. People in each group would comply with the norms that exist within their own group but would know that others outside their group behave differently and approve of different things, adapting their actions when they meet them. Similarly, reference groups may change based on age, gender, income, etc.

Throughout this report, as social norms are presented, the relevant reference groups also are identified, especially in regard to gender, ethnicity/community of origin, and urban versus rural context.

### 8.1.2. Social norms attributes

Norms and the ability to influence them can be measured against three attributes: prevalence, strength and relevance.

**Prevalence** refers to the **extent to which the norm is present and common across the reference group**, which is therefore the extent to which it is held at the collective level. Because not

all norms are held by all people within a reference group, the extent to which the norm could be considered an obstacle or enabler for change depends on its prevalence.

**Strength** refers to **the extent to which the social norm influences behavior**, and how difficult it is to break away from it. In some situations (and especially with respect to gender norms), **a key determinant of the strength of a social norm are the “sanctions” or punishments that an individual would face in breaking the norm.** For example, if a household decided to use a new construction material that, although more efficient and durable, is perceived as “cheap” by the community and would result in judgment or shame, the household would be strongly discouraged from using it. Another well-known, extremely rooted social norm related to house construction is the lack of sanitation facilities built inside homes, and the shame that going against this norm brings among certain communities. The potential for sanctions and dependence on collective uptake make these behaviors harder to change and less reliant on simpler, smaller-scale interventions that are based on access to information.

**Relevance** describes **the extent to which the social norm hinders the achievement of a programming or behavioral change objective.**

### 8.2. Change Objective 1: Strengthen women’s decision-making in transition from Type C to Type B housing

Several norms have been identified that influence the decision-making power of women in the transition process of their housing. As seen in Figure 8, five of these norms have been identified as impacting the transition from Type C to Type B housing.

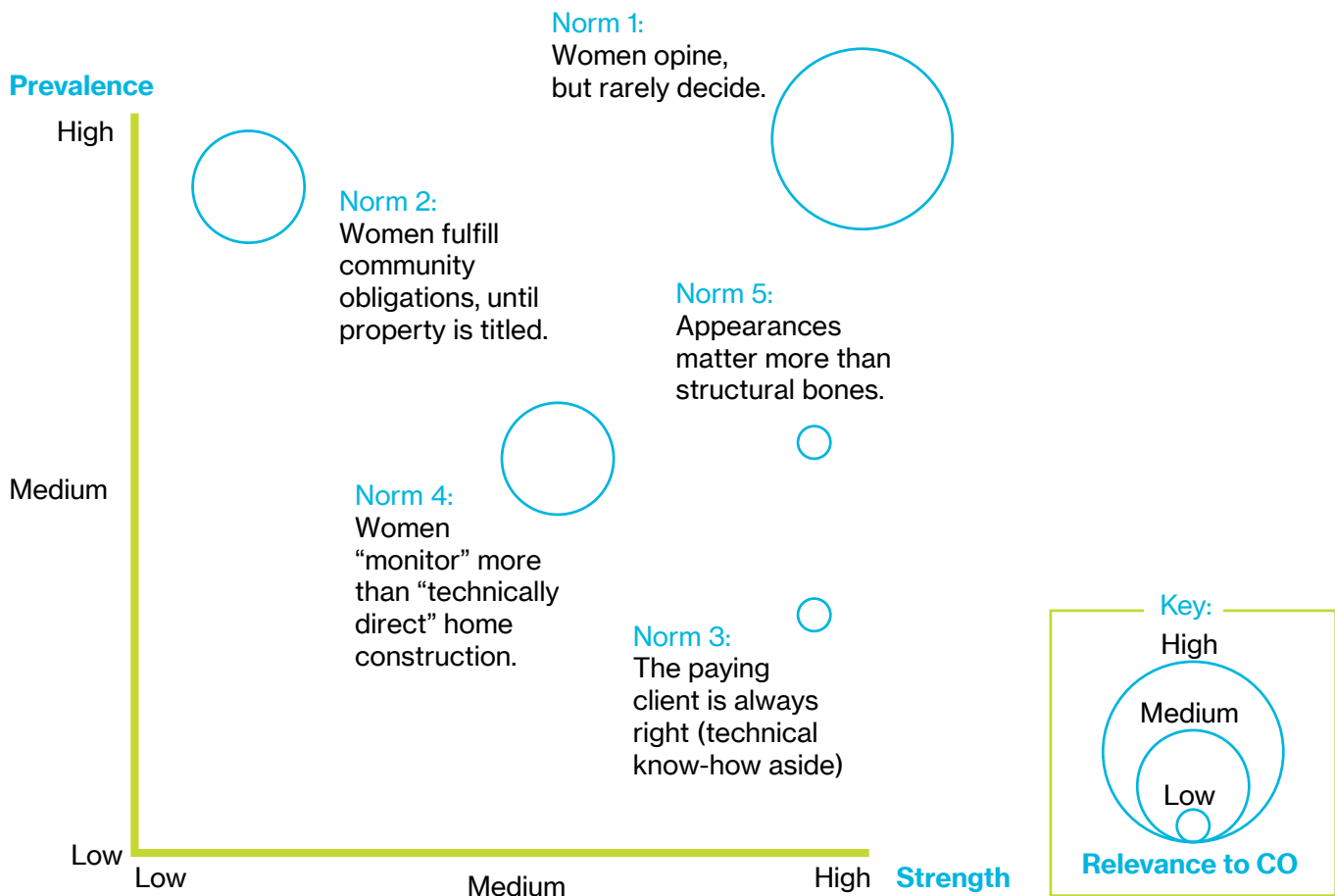
The norms identified linked to this change objective are:

#### Norm 1: Women opine, but rarely decide.

○ Prevalence: High  
 Strength: High  
 Relevance: High

Those interviewed concurred that the woman’s opinion is important in the decision-making and point out that the woman is often

Figure 8: Norms that influence CO1





“the nudge” that influences the heads of household to decide to start improving their living conditions. Although the man leads the decision-making, there is strong consensus building with their partners before these decisions are made, and more so if the women are involved in the construction processes. The relevance of this norm is crucial for decision-making by the women, since they feel listened to and this can reinforce their current decision-making processes to start the transition from a Type C to a Type B home.



“In some cases, we share information with my wife, since it is a decision for both of us. We come to an agreement about what is lacking, and decisions are made about that. The decisions are made after prioritizing. It matters a lot what the woman says, but the one who works and the one who pays is the one who will decide what to spend the money on.” – **A male leader from the upper area of the hillside, in a focus group**



“If the man makes good decisions, such as the construction of a wall or construction of the house, I support him in his decision, but if he asks me, of course, we are going to chat and prioritize the expenses that we had pending.” – **A female leader from the upper area of the hill, in the focus group**



“For the women, expenses are always prioritized as for health and education for the family, because babies often get sick. The husband makes the decisions about construction issues.” – **A woman among the focus group leaders**

**Norm 2: Women fulfill community obligations until property is titled.**



Prevalence: High  
Strength: Low  
Relevance: Medium

The interviewees point out that participation in neighborhood activities led by the governing committee lessens once the owners have their paperwork for the lot. As such, community work on the construction of terraces, retention walls, stairways, cleaning of pathways and other related actions count on high

participation by the owners to the extent that they have not yet regularized and obtained official title for the lot.<sup>34</sup>



“That committee does exist; what does not exist is the population. When they have the title of their property, the people stop going to the meeting and go away.”

– **A head of household in the men’s focus group**



“It is an issue in Villa Florida. I experienced that problem firsthand. When we began, we were all united, opening a way forward, breaking up the rocky mountainside, expanding lots, helping each other. When there was a call for a meeting, we would all come — everyone — and it was discussed, it was done, and it was scheduled. But like you say, once we had the basic services, once we had our property title, once the little house was put up and they call the meeting, how many people come? Out of the 50, of the 100 who used to come, 10, 15 (would) come. I would call those neighbors conformists; they are satisfied with what they have, although they are seeing that the community is lacking many things, but that’s how they are.”

– **An ex-leader in the focus group of men**

**Norm 3: The paying client is always right (technical know-how aside).**



Prevalence: Low  
Strength: High  
Relevance: Low

Those interviewed pointed out that the person who has the ability to pay can build and modify their housing design per their needs and preferences, even if their desires are not technically viable and are against construction logic. This reasoning is applied to men and women, since the masons adapt themselves and the housing to the needs of this kind of families. In many cases, they build without bearing a technical argument in mind. This norm is slightly relevant in the woman’s decision to begin the transition process from a Type C to a Type B home, as typically the man is the paying client.

<sup>34</sup> It can be gathered from the interviews that an owner may shift the property lot more than four times, in accordance with the availability of plots of land and with approval, which may be needed by the governing committee.



*“It has been said to the neighbors: ‘Neighbor, look, the fact that your front wall is very small, that is going to cause problems for you over time.’ Yet, they say, ‘It’s my problem, right, that is how I work.’ That’s why there are things which we cannot interfere in too much. That’s the life of each of them.*

– A focus group participant

#### Norm 4: Women “monitor” more than “technically direct” home construction.



Prevalence: Medium  
Strength: Medium  
Relevance: Medium

From the interviews, it is obvious that the women are 100 percent responsible for seeing how the construction of their housing progresses. They are the ones who are at home during the entire construction process, primarily because they fulfill the roles of a housewife and in some cases work producing goods within their home. This allows them to keep up with the construction process, which is important for guaranteeing that the aforesaid construction is taking place in accordance with the needs of the family and taking into consideration the couple’s agreements. In this process, however, women tend not to have any technical information, and their “supervision” process depends on what the neighbors, friends, relatives and other participating parties may say. In many cases, their “opinions” do not contribute to the technical aspect of the construction and are not adapted to the reality of the construction location (on a steep slope).



*“Also, the issue of the spaces — the kitchen, the bedrooms, the living room — are spaces that the woman has already thought out and identified. In most cases, this process occurs, since the woman is the one who organizes and administers the house, or, if she is a single mom, she builds at her discretion. The women are, for the most part, the ones who keep up with the building process of their houses, since they are the ones who stay at home doing their chores.”* – A mason from outside the area

It is important to indicate at this point that, for the masons, the “supervision” of the women is a mere action of observation, inasmuch as they do not have training or technical information regarding these issues.

#### Norm 5: Appearances matter more than structural bones.



Prevalence: Medium  
Strength: High  
Relevance: Low

The interviewees indicated that women are the ones who give special attention to the interior finish of their homes being “higher quality,” primarily because they are the ones who have “visits” from their friends and relatives. They want the money spent on the construction process to pay off more in the final finish of the interior of the homes. The opposite happens with the men, who say that for them the essential thing is the exterior finish, since it is their “neighbors and friends” who “observe the (external) finish of their homes.” This latter creates status for them with their “neighbors,” so more money is spent on the exterior finish than on the actual construction of the housing, in some cases.



*“One proposes the work that he wants to have done, but if the client tells me that he wants their idea to be put into effect, you have to do everything possible. People always want lower prices. This is what they most demand, although there are a few who ask you for quality with regard to materials and product.”*

– A mason from the area

### 8.3. Change Objective 2: Increase masons’ investments in their business and practices to improve the quality of construction services for low-income homebuilders

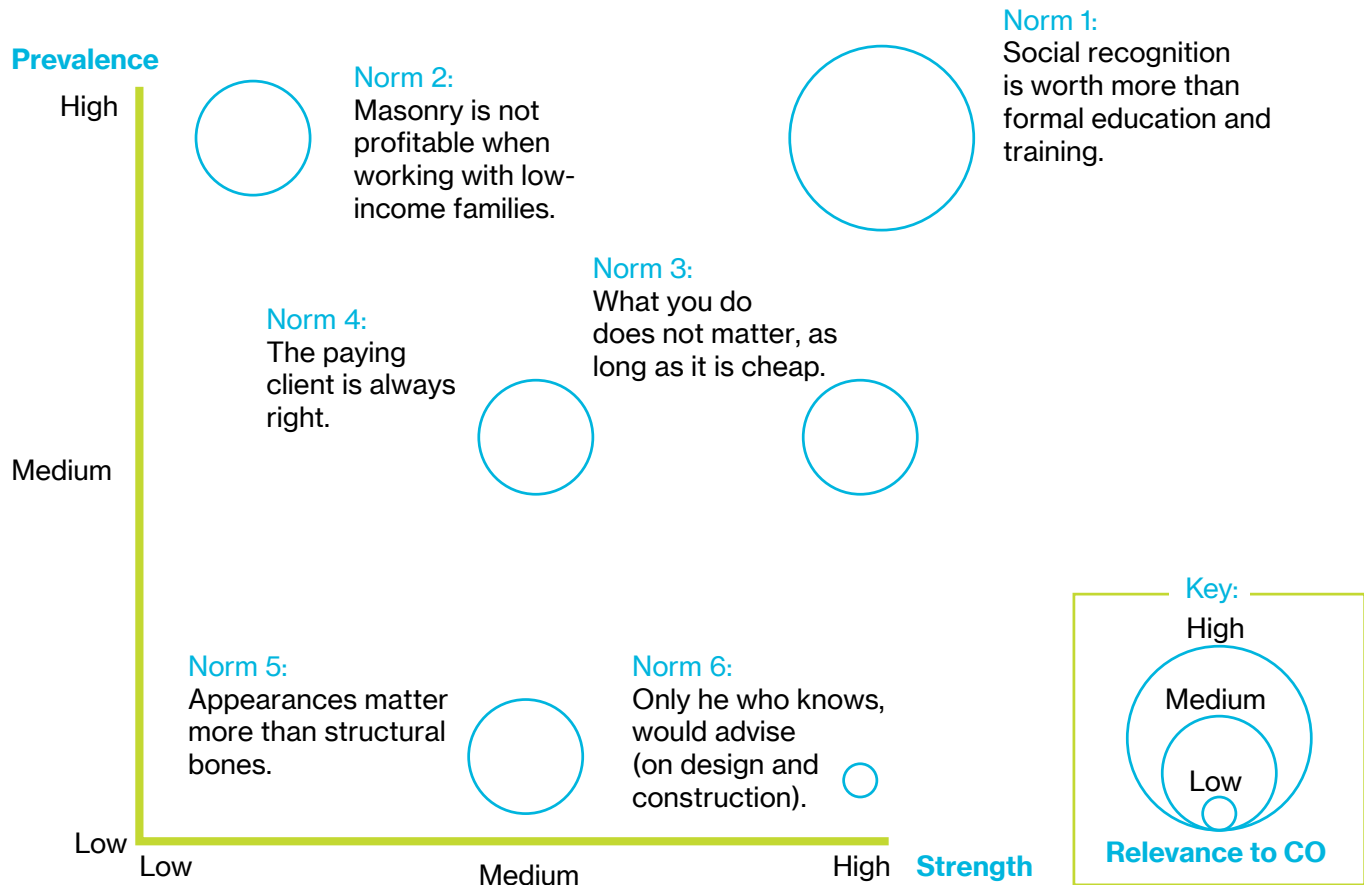
Several norms have been identified that have an influence on the masons<sup>35</sup> wanting to change their practices, to improve their investment<sup>36</sup> in changing their practices,<sup>37</sup> and thereby to improve their provision of services for low-income homebuilders. In Figure 8

<sup>35</sup> A mason is understood to be a person who is trained in their trade and who has the necessary technical skills to work in the construction industry. The masons can get involved in the work of constructing a house but also work to restore it or to renovate it. Beyond family housing, a mason can contribute his expertise in the development of industrial infrastructure (such as the construction of a plant or factory).

<sup>36</sup> “Improvement of the investment” refers to any injection of capital that may seek to extend the expertise of the masons and/or improve their capabilities.

<sup>37</sup> The practices of the masons are linked to the provision of services to the local market, where there are not only technical practices but also access to the market and relations with new clients. In some cases, the provision of services has been observed outside the scope of the mason’s typical interventions; this is mainly because of his experience and reputation.

Figure 9: Norms that influence CO2



on Page 40, six rooms have been identified as playing a part in the decision of the families to transition from Type C to Type B housing.

The identified norms linked to this change objective are:

**Norm 1: Social recognition is worth more than formal education and training.**

○ Prevalence: High  
○ Strength: High  
○ Relevance: High

Based on the interviews conducted, families value whether the mason has experience in the construction of housing near their home and whether this construction process has been deemed “good” by the owners. Emphasis also is placed on whether the owners considered the mason’s work to be “honest” and “punctual.” In the same vein, going through training sessions

or formal courses that may require payment is not an incentive for the masons, given that no owner will ask the mason for a documented résumé. The masons also said, “Training only helps you when you are employed in big companies and not for family housing.” For that, the interviewed masons point out that it is better to learn from other masons or journeymen and not spend money on training, since “nobody values it.”



“If you are a mason, the quality of your work and the experience that you show is a determining factor for this type of work. I know architects — women — who do quality work. That does interest people. For example, the construction foreman, Urbano, he does good work; that is why he is known in the area and has several projects that are testimony to his work.”

– A head of household from Junín

### Case Study 3: The temporary mason

"I have been working as a mason for four years. Before that, I was a baker. I changed because I was working more than 12 hours (per day). I decided to look for another sector to improve my situation, so I accepted a job as construction assistant. At present, I am a workman, and not long ago I worked at a formal company. The neighbors know that I work in construction, but they have never asked me about anything regarding this or asked me for any recommendation, although people do give their opinion. Nobody from around here has offered me work, but if they were to offer me some, I would do it with no problem. At present, my contract with the company I was working with has ended, and I have a contract to work as an independent painter. I would like to have a pastry shop, if I have the opportunity to start my business."



*"I have never been trained by any institute or gone to any workshop. I learned by observing, empirically. But people appreciate my work, because they always come to ask me for advice or ask me to build their houses, walls, dry-stone walls and all kinds of work concerning construction."*

– A mason from the area

### Norm 2: Masonry is not profitable when working with low-income families.



Prevalence: High  
Strength: Low  
Relevance: Medium

In the interviews conducted with the masons and among the focus groups, there were comments that being a mason is not 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, and in many cases they lower the costs by working themselves and asking their relatives to help in the construction process as unqualified manual labor. They also pointed out that the market of the families who are just starting to set up squatter settlements is not profitable because their main goal is the construction of dry-stone walls they build themselves instead of using a mason. On the other hand, these services and small construction work (stairs, dry-stone walls with concrete floors and bases for the tongue-and-groove wood housing) can be done by an apprentice or an assistant.

### Norm 3: What you do does not matter, as long as it is cheap.



Prevalence: Medium  
Strength: High  
Relevance: Medium

The interviewed masons said that the payment offered by owners is often below the market value. If a mason offers a lower quote, there is more certainty that he will get the work, even if he does not have the best reputation. This is why the masons say the owners tend not to complain, as long as the prices are low. This quote will then affect the selection of materials, which for the owners must be adequate, but at low prices. It means that the quality/price relationship is not a determining factor in planning the budget, because many of the construction materials are sought based on price more than quality or durability. Therefore, the masons do not have the incentive necessary to build appropriate construction, when their fees do not cover their needs and requirements.



*"When the money that the client has budgeted is not enough to complete the construction of their house, they offer me less money for the same work. The investment in materials is lowered. He uses fewer steel rods (rebar) and fewer columns are built, among other details that can be left out so that the construction may cost less."*

– A mason from the area



*"The masons have to adapt their construction work to what the clients demand, especially the people who live up above on the hill. They want to lower the costs. The end product does not matter very much for them. The more money you may have, the greater probability that your construction will be good due to the materials."*

– A hardware dealer from the area



*"I have to adjust myself to the materials and ideas of the women that they have for the work, and I build what they ask of me, although there are some details that are advised. That's why a standard form is offered to them so that the client may choose what he wants. Lowering costs is always a problem for the end-product of the work. ... It happens with the house, they give you an idea and some materials that cannot meet the expectations of the clients. It is for that reason that it is advisable to do work where the charge may be relatively cheap."*

– A mason from outside the area

**Norm 4: The paying client is always right.**



Prevalence: Medium  
Strength: Medium  
Relevance: Medium

From the interviews conducted with masons, we found that regardless of sex, the client who can pay can contribute, advise and demand whatever he or she wants, given that he or she can assume the cost of the budget modification. These modifications can be in accordance with technical parameters or not, but since they are demanded by the clients and "the expense" can be assumed, the masons say it is "better to do it and to have no problems."



*"When I do a project, I try to do the most agreeable thing for the client with regard to money, design, partitions and materials that were to be used in the dimension of the lot. They listen to the construction foreman when it is necessary to change the number of partitions that the house is going to have, but there are people who tell you that they want something specific and there's no turning back, especially the women. When the client asks you for something specific, you have to do it, no matter what may happen later. ... If you do not do it, they say that you are an expert who's not that good at his craft or that you can't do it."* – A mason from the area



*"Those who have money, like the one paying for my services to build a house for his daughter, invest by building houses in this type of areas for their possible sale in the future."*

– A mason from outside the area

**Norm 5: Appearance matters more than structural bones.**



Prevalence: Low  
Strength: Medium  
Relevance: Medium

For masons and the female and male homebuilders who were interviewed, the finishings and appearance are essential. Therefore, the masons say it is better to focus their strengths and abilities on "managing quality finishes," even at the price of the infrastructure having "some flaws" that are not visible "when there is a good finish." Therefore, making the final touches of the housing (inside as well as out) is much more motivating for the mason than building structures that can guarantee durability and safety.



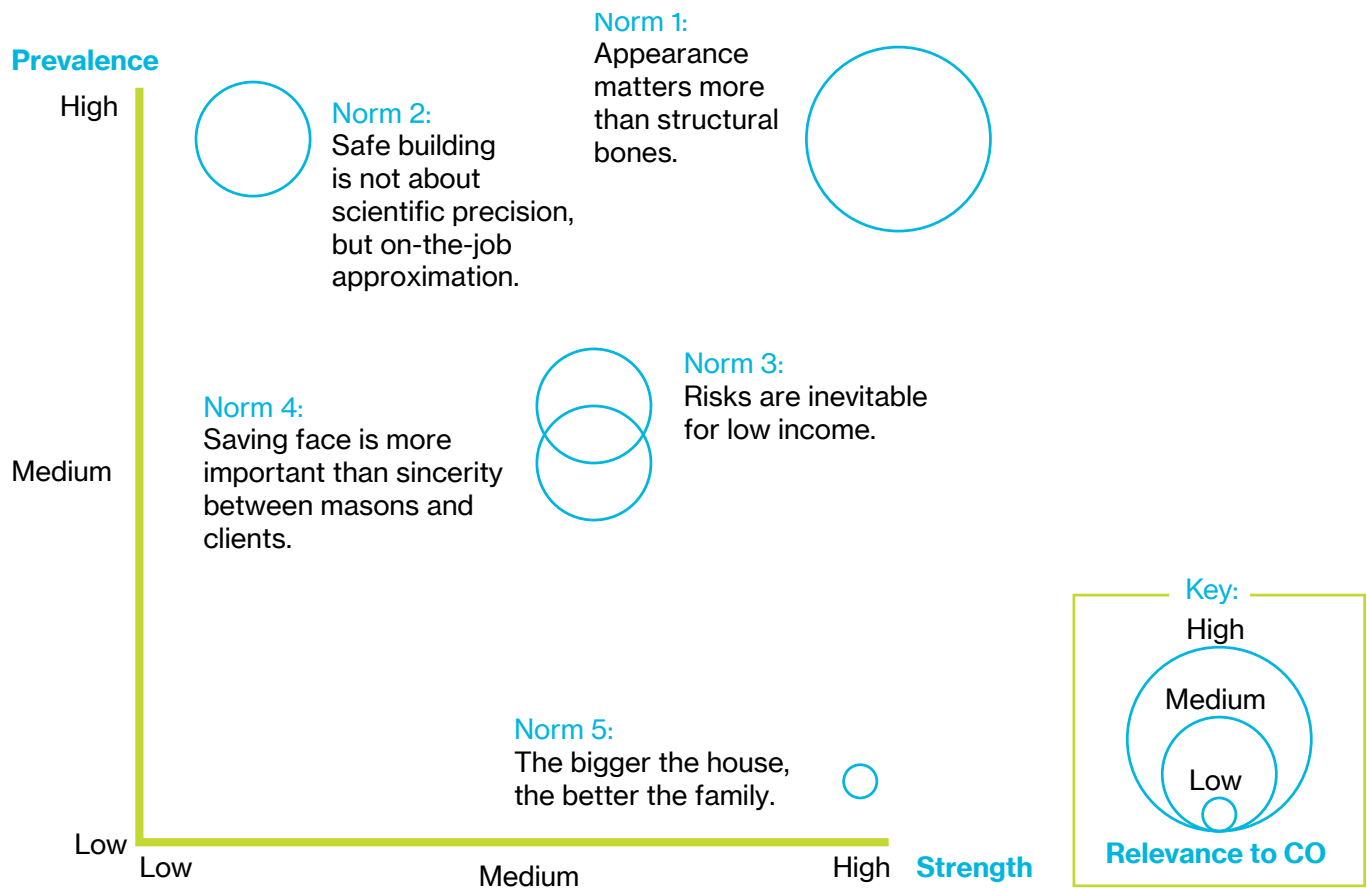
*"It is easier to work with men because they make decisions more quickly. On the other hand, the women worry about the cost. They worry about the cost of the materials, unlike the men, who get the money needed from somewhere to finish or to do the construction correctly."* – A mason from the area



*"The fact is that they have to be to our liking. For example, in my case, my husband wanted bedrooms, and he wanted a tiny living room, so I say to him: 'But if it is a tiny room, what should I do? Because we are going to have visits from my family, so the room is tiny, no, I want my living room bigger.' It is each to his own taste. ... What I am saying is I have fought for my living room."*

– A woman from the focus group

Figure 10: Norms that influence CO3



**Norm 6: Only he who knows would advise (on design and construction).**

Prevalence: Low  
Strength: High  
Relevance: Low

From the interviews and focus groups conducted with masons, it may be concluded that sincerity is not one of the key qualifications for expanding their market. This is because, as was pointed out, when a service is requested in which the mason has neither experience nor knowledge (such as majolica tiling), the masons will not say “I cannot” or “I don’t know how.” On the contrary, the answer will always be “Yes, the service can be done.” The masons think that, with access to social networks and training videos, any training is simple. They also point out that they always know someone who DOES know the skill. All masons purport to have experience in all kinds of construction processes, even when this is not validated or confirmed by any document and is not verifiable.



“Masons adapt to and lower the quality of the end product. There used to be two types of cement; now there is one for every need. So that’s why they blame the cement when construction work doesn’t last, but it isn’t the fault of the cement but rather the application.” – **A hardware dealer from the area**



“Money is always fundamental for building. Some build and make progress with what they have. I did my house little by little, but finally didn’t do the tiling and the stuccoing. The mason did the stuccoing, but my wife says that he did it badly. I did the tiling by looking on the Internet, and I bought the machine to cut the tiles and I did it. The idea is always to lower the cost of materials and manual labor.” – **A mason from the area**



#### 8.4. Change Objective 3: Improve the use of disaster-resilient construction techniques during the transition from Type C to Type B housing

##### Norm 1: Appearance matters more than structural bones.

 Prevalence: High  
Strength: High  
Relevance: High

From the interviews, we found that the need demonstrate visually that housing construction (from an internal and external view) has take place trumps any quality assurance process. For the owners, the appearance of comfort is more attractive than safety. Their judgment of quality is linked with the end-product's visual presentation, without knowing if it will be high-quality and safe.



*"Most people are more interested in savings than the quality and durability of the product, although there are people who are ready to pay so that their houses may have greater durability. For that reason, I have all kinds of materials. Cement from 20 soles to 23 soles for the bags — they vary according to the use that you are going to give them, to the time to dry and the additional components that the product has, among other details. The same happens with the iron; I have the cheap ones that are not as strong. In all the products that I handle, I have ones affordable for everyone." — A hardware dealer from the area*



*"Some people ... do not want to invest in the materials needed for lasting and quality construction. The people are not that poor; most of them work and have the resources to do quality construction, except they don't want to invest in it." — A mason from the area*

##### Norm 2: Safe building is not about scientific precision, but on-the-job approximation.

 Prevalence: High  
Strength: Low  
Relevance: Medium

From the interviews, both the family owner and the mason consider "knowledge"<sup>38</sup> to be an additional cost for which they are not willing to pay. For the mason, the construction process is similar in any place, and safety is not a guarantee that must be offered, given that this is the responsibility of the owner. In this context, there are no incentives for the masons to expand and reinforce their technical expertise, nor for the owners to demand such expertise.

*Approximation is the basis for planning and construction for this type of mason, inasmuch as he must adapt to the changes in budgets, clients' tastes, terms, materials and use of personnel. This determines the mason's ability to generate profitability in this context, prioritizing their profit rather than the safety of the housing. Precision, on the other hand, requires planning and clarity for the building of stable and strong structures.*



*"I have been working in construction as an assistant since I was 15. I was not trained; I got my experience in an empirical way. I've learned that, when it concerns construction work for a higher amount of money, specialists, architect and permits are required. To pay quotas, machinery, security to fight crime — among other details that I learned working in construction." — A mason and executive of urban development*



*"I have never been trained in any institute or received any workshop. I learned by observing, empirically. But people appreciate my work, because they always come to ask me for advice or call me to build their houses, walls, dry-stone walls, and all the work that they want me to do regarding construction."*

##### Norm 3: Risks are inevitable for low-income households.

 Prevalence: Medium  
Strength: Medium  
Relevance: Medium

<sup>38</sup> Knowledge is understood as the result of the vocational training processes, study, training or specialized experience that the mason would go through to increase their expertise in construction and handling of information to provide quality services in the housing construction process.

From the interviews, we found that families who have higher incomes take some “precautions into consideration”<sup>39</sup> when constructing their house, either from recommendation of their masons or from suggestions of their friends and relatives. These precautions do not take into consideration recommendations from specialists in matters of risk, since for the inhabitants, issues of risk are exaggerations and defend that “we are on solid rock and nothing is going to happen to us.”



*“I normally work with people who have money to invest in materials and to pay for the manual labor. Although around here, they couldn't pay for my work.”* – **A mason from outside the area, who is building a house of solid material with two floors.**

**Norm 4: Saving face is more important than sincerity between masons and clients.**



Prevalence: Medium  
Strength: Medium  
Relevance: Medium

From the interviews, we found that both the families and the masons do not show their true annoyance with what they see. In particular, the owners – especially the women – say that a friendly relationship with the masons is essential so that they will do good work. Similarly, the masons point out that it is better not showing or talking about the bad decisions that are made by the owners, because these can be interpreted badly and generate conflict with the owners.



*“There are clients of all kinds. People always look to save (money). Sometimes, they do not build dry-stone walls properly by lowering their costs, damaging their houses. Some of them follow the advice that is given to them; others if they ask you for a construction model and demand that it be the way, they want it, and the mason always has to say yes.”*

– **A mason from the area**

<sup>39</sup> From the interviews, it may be gathered that precautions include having retention walls and deep bases for the columns and using building materials such as cement.

**Norm 5: The bigger the house, the better the family.**



Prevalence: Low  
Strength: High  
Relevance: Low

All those interviewed concur that their long-term vision is to build more than three floors or the same number of floors as they have children, since this generates safety and tranquility for their families. In this way, the families with more floors are the ones who are idealized as the best families of the neighborhood; therefore, they are an example to be followed. This vision of vertical growth does not take into consideration the limiting factors and the risks of having these types of construction on hillsides and mountains with steep slopes.



*“I would like it to be of cement, to have my kitchen, my table, dining room, floors and other items. This can be achieved working and saving little by little. I would like my house to be made of brick in the future. My husband does not really want to build, but when I express my ideas and the concern for improving our house, he supports me. We want to keep building to improve our house.”* – **A Cajamarquina woman**

*“For the time being, we want to make improvements, but with a tongue-and-groove wood house, to do it with several floors as we have seen — on the other hand, to put in rooms for my children, to make a kitchen, a living room, since it is the most economical and viable thing for our budget. Our main challenge for the time being is the responsibility for our children.”*



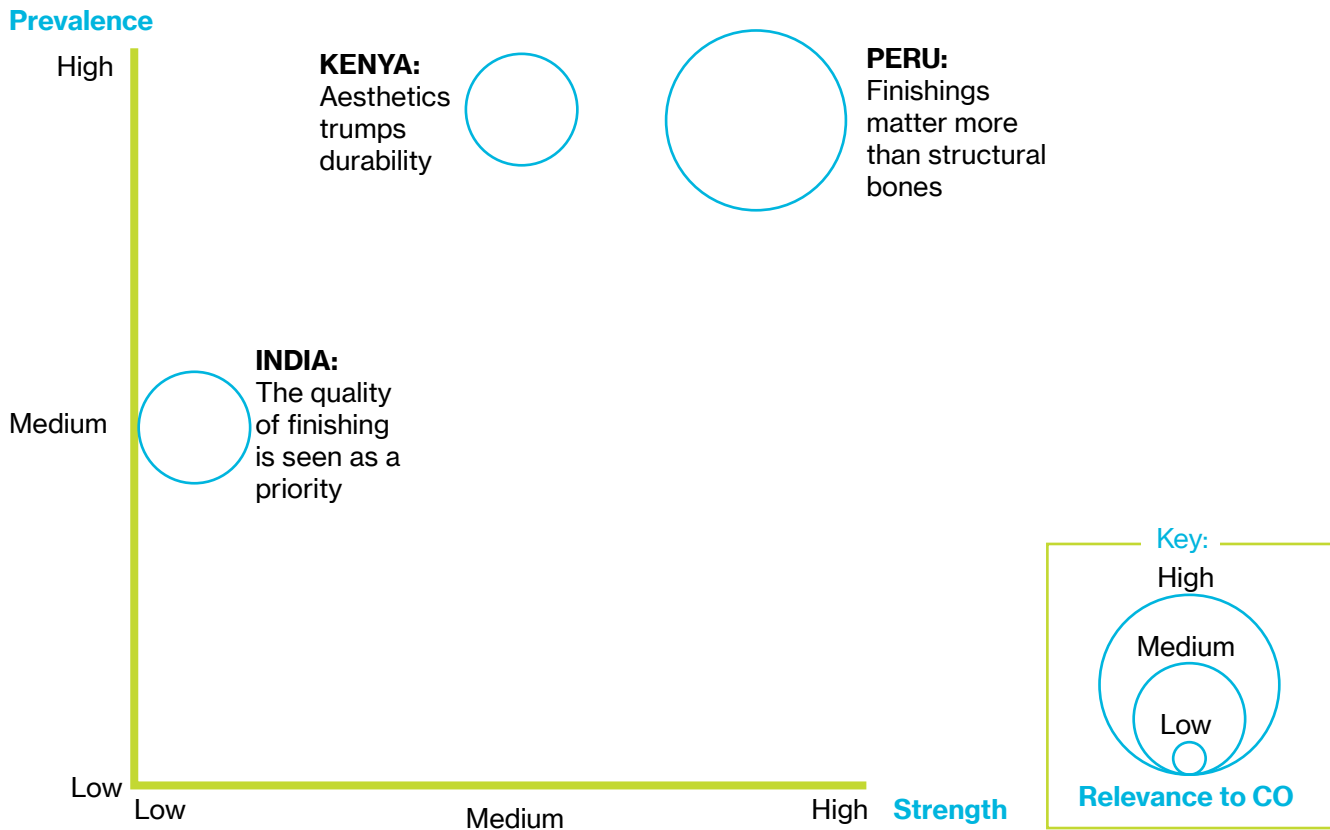
*“We want to improve the house, but my husband takes charge of that. Although I like a small tongue-and-groove wood house that I have seen up above, a big small house with three nice and spacious rooms. My husband works, and he is in charge of building as he wishes, at his discretion. My husband wants the retention wall. If I could choose, I would want to make an iron framework and put in tongue-and-groove or wood on top of one or three floors.”* – **A woman from Huancavelica**

# Making sense of the research

This study has attempted to strike a balance between broad-based, formative research and narrow, product- or service-specific research on the norms driving decision-making in the low-income housing market. As such, it holds potential to serve multiple purposes:

1. It allows practitioners to have a deeper understanding of the factors that drive the decisions that low-income households make regarding home construction. For example, seemingly irrational decisions such as the choice to invest in appearances at the cost of durability makes sense when one understands the norms prioritizing quality of finishing and the inevitability of construction failures.
2. It identifies major roadblocks to systemic change in the low-income housing market that would otherwise be invisible to practitioners who default to interventions for material constraints – training for masons who lack adequate skills – without taking into account the unwritten norms – “on-the-job training is the only way to learn!” – that will derail the intervention.
3. Firms and market actors with housing solutions that can improve the low-income homebuilding process will be able to better devise marketing and distribution plans that take these invisible networks and unwritten rules into account. For example, a firm with a new construction material that benefits low-income households could more effectively target first-level influencers like masons with a marketing campaign that shows benefits to masons and the households they are advising – a win-win situation for the mason.
4. It helps change-makers to determine whether a specific norm is susceptible to change through direct intervention or whether it represents an immovable mental roadblock that must be worked around. This will determine the strategy for future programming. An example is given below, where the strength and prevalence of the same norm affecting durability of home construction in India, Kenya and Peru is compared. Because the norm is not as strong or prevalent in India, a light touch messaging intervention to prioritize safety, which directly targets the norm, could hold promise of improving durability. In

Figure 11: Comparison of norms affecting durability of house structure



Kenya, where the norm is somewhat stronger and more prevalent, a more-intensive intervention that rewards durable techniques and practices to facilitate recognition of durability might be necessary. And in Peru, where the strength and durability of this norm is high, a disruptive approach that works “around” the norm by subsidizing a durable product that also looks “nice” may be necessary to ensure adoption by households and improve durability of home construction.

One of the most practical applications of this research is incorporating these findings into a human-centered design process for intervention design. The Terwilliger Center strives to introduce housing solutions in the market that respond to the needs of low-income households. Products and services that do not incorporate people’s input in their design are

destined to fail. Because human-centered design is rooted in empathy and requires a thorough understanding of our end-users’ behaviors, the team has found the combination of human-centered design and social norms research that identifies underlying reasons for user’s decisions to be fruitful. This application of human-centered design in the affordable housing space is certainly novel, and our team’s use of this approach potentially represents a first for the sector globally.

Following this research in Peru and building on the findings described in this report, a human-centered design workshop was facilitated to design draft intervention concepts for quick field validation.

Table 7 on the next page lists the opportunities explored during the workshop:

Table 7: Human-centered design workshop outputs

Opportunity areas	Possible entry points/ideas
How can we ensure that women are empowered to contribute to housing decisions?	Radio spots and programs with construction process tips and lessons learned in household experiences.
How can we encourage women to access information through technology and other channels?	Social spaces, like local shopkeepers or local gathering places, displaying promotional materials with tips on materials and techniques.
How we make use of social support to strengthen women's decision-making and gain access to better knowledge?	Increased marketing toward this market segment.
How can we improve the perception of masons' work as something more than a temporary "job," but rather a profession worth investing in?	Integration with university professionals through practicums for students in informal communities.
How can we increase the demand from households for better construction services and more innovative practices?	Promotion of appropriate materials and techniques toward households by construction material suppliers and hardware stores.
How can we create more awareness about future risk and the impact of disasters?	Recognition for quality, self-directed construction by professionals or governmental bodies.
How can we incentivize households to invest a little more to improve the longevity and quality of their home?	"Construction Mobile"-like book mobile truck to showcase quality, earthquake resistant materials in informal low-income housing communities.

This report was prepared in Spanish for Habitat for Humanity's Terwilliger Center for Innovation in Shelter by Nadya Villaviciencio of MarketShare Associates and reviewed by Meghan Bolden and Adriano Scarampi of MarketShare Associates and Gema Stratico, Juan Carlos Rodríguez, Norma Rosas, Suzette Yucra and Sheldon Yoder of Habitat for Humanity. In addition, Terwilliger Center country personnel and consultants in Peru dedicated themselves wholeheartedly to carrying out the research summarized in this report. The English translation was completed by Apex Translations with revisions from Meghan Bolden.



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### **About 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](http://habitat.org/tcis).





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