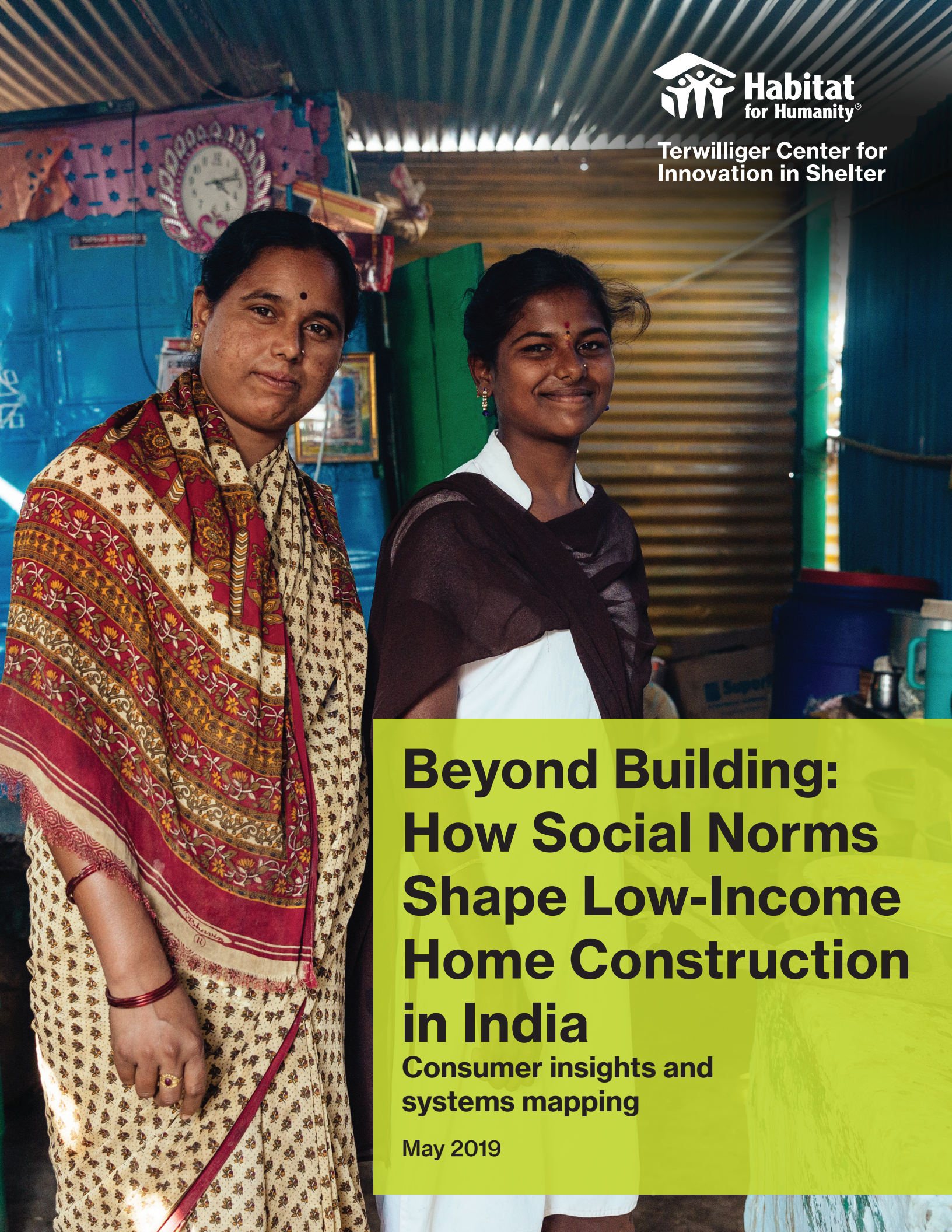




Terwilliger Center for  
Innovation in Shelter



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

Consumer insights and  
systems mapping

May 2019

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# Key abbreviations

<b>Acronym</b>	<b>Meaning</b>
CO	Change objective
FGD	Focus group discussion
KII	Key-informant interview
LIG	Lower-income groups
MFI	Microfinance institution
MSA	MarketShare Associates
PMAY	The Pradhan Mantri Awas Yojana (housing for all scheme by the government of India)
SHG	Self-help group

# 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 India, the research focused on understanding the preferences of and influences on women and masons in two different districts in Tamil Nadu: Kancheepuram, a peri-urban district on the outskirts of the state capital, Chennai, and Cuddalore, a coastal, peri-urban district. These two districts were chosen to allow a geographical comparison within research findings. Kancheepuram was selected as an inland district and hence less likely to be influenced by natural disasters. Cuddalore, being coastal, was selected because of its record of disaster damage.

As part of the research approach outlined in this document (and presented in greater detail in a separate methodology document), **76 interviews and 10 focus groups** were conducted with women and men in low-income households, along with masons and various key influencers such as local retailers, associations, training centers and government officials in Chennai.

The study prioritized finding out how the network of influencers shape the ability of women, households and masons to make decisions during low-income housing design and construction; which social norms play a role during this decision-making process; and why. In particular, the study looked at three key research areas: the factors influencing women's ability to have agency during the housing design and construction process, the factors influencing masons' decisions to use more disaster-resilient construction practices, and the factors influencing masons to change their practices, leading to better services for low-income homebuilders. The key findings are outlined below:

## Women's agency in housing decision-making

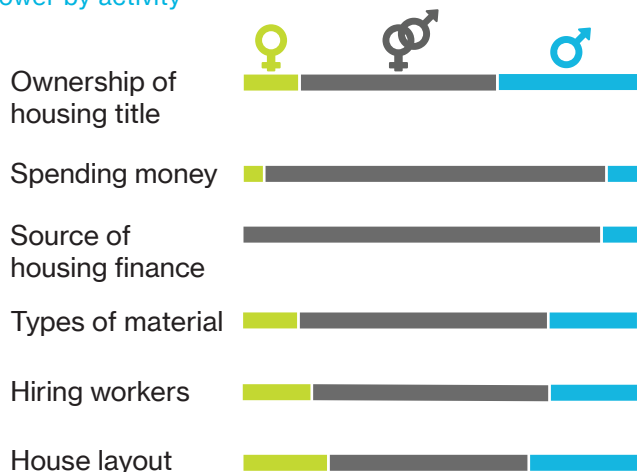
Although the report shows that most activities are broadly seen as a joint decision-making process between a man and a woman, men lead on all decisions more frequently than women, but women are comparatively more involved in housing layout and design decisions. Women generally express the desire to be more involved in housing decisions, particularly during the design process, but men do not see women's involvement as limited.

Key social norms identified as constraining women from increasing their level of agency during the housing design and construction process are:<sup>1</sup>

- Men should not be undermined, as they are the head of the household.
- Men are expected to make final decisions.
- Some aspects of housing are a man's responsibility.
- Vastu (Vastu shastra, a traditional Hindu system of architecture) influences decisions.
- Land titles are passed on to sons.

Interviews with women showed that women's agency is on an upward trajectory, with women playing an increasing role in construction-related decisions. Microfinance institutions and self-help groups have significantly influenced this and have contributed by raising women's confidence and therefore their ability to voice their opinions in the household.

Figure 1: Women and men's decision-making power by activity



### Households' decisions to use more disaster-resilient construction practices

The study has noticed an increase in the overall system's awareness of disaster resilience, especially after the natural disasters that have hit the coast of Tamil Nadu during the past 10 years. A few disaster-resilient practices are commonly adopted by masons and households, including:

- Raising house foundations to 1 foot above road top.
- Inserting more columns and floor beams.
- Raising columns with iron rods.
- Reinforcing cement concrete structures.

<sup>1</sup> All of the listed social norms 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.

The adoption of additional disaster-resilient practices is constrained partly by a general reluctance of the market (both at the household level and the mason level) to test new practices and be the first adopters, and partly by these social norms:<sup>2</sup>

- Defects and construction failures are seen as inevitable.
- Disasters are seen as an inevitable occurrence.
- The quality of finishing is seen as a priority.
- Vastu influences decisions.

The study also noted that the flow of information and knowledge on disaster resilience practices to households and masons is extremely limited, which also constrains innovation and awareness of new disaster-resilient techniques and materials.

### Masons' decisions to change their practices, leading to better services for low-income homebuilders

Overall, the research has shown that masons' interest in learning and providing improved services is weak, although the interest increases with experience. Younger masons generally rely on experienced masons and contractors for knowledge, and more experienced masons tend to acquire new information on techniques and practices by working with engineers. The use of media is limited; masons primarily use Facebook and YouTube as a social media tool, rather than for learning. Construction material companies, however, have been reported as a good source of knowledge on new materials and technologies, especially among more experienced contractors, as masons trust their advice and are more likely to test new practices if they are recommended by the companies.

Social norms identified by the study as constraining the adoption of new practices and technologies include:<sup>3</sup>

- Masons only receive credible training on the job.
- Masons are unwilling to accept knowledge gaps.
- Households are reluctant to share negative feedback.
- The quality of finishing is seen as a priority.

The study also noted that masons have limited incentive to upgrade their services because of the current mason referral system and the dynamic with wealthier households.

<sup>2</sup> All of the listed social norms 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.

<sup>3</sup> All of the listed social norms 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.

Lower-income households tend to have less knowledge about housing construction practices and to be more reliant on the mason to make the most critical construction decisions. Their ability to voice their grievances is limited, however, as masons tend to come from their same community. Masons, therefore, have less incentive to provide improved services to lower-income households. On the other hand, the ability of masons to influence the decisions of higher-income households is limited because those households have more decision-making power during the construction process. This also disincentivizes masons from changing their practices, unless changes are demanded by the households themselves.



# Introduction

Habitat for Humanity's Terwilliger Center for Innovation in Shelter is working to create a vibrant marketplace of housing choices that enable low-income households to improve their shelter options in Peru, Kenya and India. An outcome of this work is that consumers are able to find affordable, high-quality, environmentally friendly products and services designed with their needs in mind. To accomplish this, the Terwilliger Center works with market actors to address housing access challenges among low-income families.

Between May and October 2018, Market Share Associate, or MSA, conducted a study in Peru, Kenya and India to understand the decision-making process influencing households and masons during the low-income housing design and construction process and to learn how social norms constrain low-income households from making more optimal decisions to better their living conditions.

The objectives of the study are:

- To improve the Terwilliger Center's understanding of how key market actors – 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.

- To support the Terwilliger Center in strengthening its programming through improved engagement on behavior change interventions with private- and public-sector players, through designs for interventions and activities that more directly account for and/or target relevant norms, and through recommendations of new intervention priority areas or subsectors.
- To coach the Terwilliger Center's staff on how norms and networks influence decision-making and broader systems, in addition to the capacity to carry out relevant market research in the future.

This report focuses on the study in India and is structured in the following way:

- **Section 3** provides an overview of the research objectives, scope, methodology and sampling frame used. Some high-level sample descriptive statistics are provided, along with details on some of the study's limitations.
- **Section 4** provides insights into the two main groups that are the subject of this study: households and masons.

- **Section 5** offers an analysis of who has the power to shape the decisions of households and masons (the influencers), and analysis of the interactions between these two market players. Section 5 also offers an overview of the more-prevalent construction practices and preferences in the market.
- **Section 6** digs deeper into the relationship between men and women within the households, the decision-making process within the household, and which factors might influence current levels of women's agency.
- **Sections 7** provides a detailed analysis of the norms that have been identified during this study and how they are affecting the change objectives. Some additional factors that are not norms are also shared in this section to provide a more comprehensive view of the change objectives.
- **Section 8** shows a summary of the draft intervention concepts developed during the human-centered design workshop.



# 3

## Research scope and methodology

### 3.1. Research methodology

The design of the research methodology took the following steps:

#### Step 1: Identification of change objectives

The first step was to identify key program change objectives to guide the focus and design of the research.

Identifying change objectives is essential for research of this type because, to study agents' decision-making processes, it is important to first define what preference/practice the program aims to influence (Option A) and what prospect the Terwilliger Center wants to promote (Option B). Since preference is a "comparative attitude," where agents have to decide how desirable different options are, it is not possible to map out a decision-making process without having this level of detail.

This step is also important because this study should help the Terwilliger Center understand the decision-making processes (and factors influencing these, such as influencers and social norms) that are relevant to what the program plans to achieve. Setting change objectives that are in line with the Terwilliger

Center's strategic goals therefore ensures that the research focus remains relevant.

The following three change objectives were selected to reflect the key strategic goals of the Terwilliger Center in India:

- Change Objective 1: Increase agency for women in housing decision-making.<sup>4</sup>
- Change Objective 2: Persuade households to use more disaster-resilient construction techniques.
- Change Objective 3: Improve masons<sup>5</sup> ability to change their practices, leading to better services for low-income homebuilders.

#### 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. A summary of the key research questions that guided the study can be found in Table 1.

<sup>4</sup> Agency has multiple aspects, but this research will focus on decision-making.

<sup>5</sup> This refers to both daily wage masons and contractors. Masons almost exclusively find work through referrals.

After the first trip, additional research questions were developed to dive deeper into the change objectives and explore research gaps further. These additional research questions are listed in Table 2.

A final validation exercise was carried out in early September 2018, before the final design trip. This consisted of interviewing a small sample of households to validate the following research areas and gaps:

#### Research Area 1

**Finding:** Households primarily select masons through a referral system and by visiting a selection of properties that the mason has built.

**Research gap:**

- When households inspect previous houses built by the masons, it is not clear to what extent they are looking only at the finishing vs. being concerned about the durability and solidity of the structure.
- When households ask for referrals, what are they looking for?

#### Research Area 2:

**Finding:** Several of the interviewed masons seem to take some construction defects for granted, as if they were the norm. This seems to affect their willingness to use certain techniques.

**Research gap:** Is this attitude also present in households?

#### Research Area 3:

**Finding:** Some masons seem to receive negative feedback from households and fix defects at their own cost, while others complain that negative feedback is not shared with them, as households prefer to vent their unhappiness to family members and friends, keeping the masons in the dark.

**Research gap:** Masons primarily find work through referrals, but there seems to be a break in the feedback loop. How does the feedback process actually work? Is only a certain type of negative feedback from households being shared with masons? Are defects and satisfaction treated differently by households?

Table 1: Change objective research questions

Change objective	Research question
CO1: Increase agency for women in housing decision-making	<ul style="list-style-type: none"> <li>• How are decisions made in the households on construction-related matters? Who tend to be the key decision-makers at the household level on selected housing design and construction-related matters? Has there been a change in the past one to two decades? If so, how?</li> <li>• What key factors drive decision-making levels, e.g., microfinance?</li> <li>• What are the key flows of information that women receive? What is the relevance of these information flows for women's role in decision-making?</li> <li>• What trends in information flows have there been over the past five to 10 years? What has driven them?</li> <li>• Who influences women's decision-making in housing design and construction? Who has the incentive to increase women's decision-making?</li> <li>• Which social norms influence women's ability to engage in housing construction decision-making?</li> <li>• How malleable are these norms? What trends have there been over the past five to 10 years? What has driven them?</li> </ul>
CO2: Persuade households to use more disaster-resilient construction techniques	<ul style="list-style-type: none"> <li>• To what degree are households adopting disaster-resilient construction techniques? Has there been a change in the past one to two decades? If so, how?</li> <li>• What are the reasons for or against households' adoption of disaster-resilient construction techniques?</li> <li>• What are the key flows of information affecting household decisions on disaster-resilient construction techniques? How do they impact household decisions?</li> <li>• What trends have there been over the past five to 10 years? What has driven them?</li> <li>• How are decisions made in households? Who tend to be the key decision-makers at the household level related to disaster-resilient construction techniques?</li> </ul>

continued on next page

Table 1: Change objective research questions

Change objective	Research question
	<ul style="list-style-type: none"> <li>• Who are the key influencers? Who has the incentive to increase household use of disaster-resilient construction tools?</li> <li>• Which social norms steer disaster-resilient construction decisions?</li> <li>• How malleable are these norms? What trends have there been over the past five to 10 years? What has driven this?</li> </ul>
CO3: Improve masons' ability to change their practices, leading to better services for low-income homebuilders	<ul style="list-style-type: none"> <li>• How do masons view their target consumers? What do they see as the gender roles in purchasing? Has there been a change in the past one to two decades? If so, how?</li> <li>• What changes have masons made to their business model to provide better services to low-income households? Why have they done this? What products and services do they see as business opportunities for low-income-focused consumers?</li> <li>• What are the key flows of information affecting if and how masons' change their business models to further serve low-income consumers? How do they impact masons' decisions?</li> <li>• What trends have there been over the past five to 10 years? What has driven them?</li> <li>• What motivates masons in their work?</li> <li>• Who are the key influencers on whether masons change their business models? Who has the incentive for masons to change their business model to further serve low-income households?</li> <li>• Which social norms influence masons' decisions to better serve low-income consumers? And women vs. men?</li> <li>• How malleable are these norms? What trends have there been over the past five to 10 years? What has driven this?</li> </ul>

Table 2: Trip 2 research questions

Market actor	Research question	Relevant change objective
Government	What are the key government house-building programs relevant to target beneficiaries? What are entry points to work with these to support change objectives?	CO1, CO2, CO3
	How can government building approval and disaster management processes be amended to support disaster-resilient housing? What are the entry points?	CO2
Influencer/Vastu	Does or could Vastu influence households for or against disaster-resilient practices? How can you use Vastu to influence behaviour?	CO1, CO2, CO3
Households	How do households make decisions on disaster-resilient housing? How accurate is this, and do they underestimate the risk and the cost? How could it be improved?	CO2
	Why are households reluctant to use certain materials or practices, such as M-Sand? Why do they prefer to use certain construction practices (RCC, burnt bricks and many pillars)?	CO2

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Table 2: Trip 2 research questions

Market actor	Research question	Relevant change objective
	Do life and auspicious events influence households' construction decision-making and spending patterns?	CO2
Masons	Are incentives different between masons and contractors? What are their cost structures?	CO3
	Do masons want training? Would they value certification? How do they like to learn? How do they share information and learn within their mason network? Do masons bring back lessons and innovation from urban work to rural areas?	CO3
	What are mason and community views on the (lack of) prestige of being a mason? What impact does this have? Can it be addressed?	CO3
	How do households identify masons? Can households tell if masons have done a good job? Would households want to make more informed decisions around the selection of masons?	CO3

### 3.2. Research scope

- The study focuses on the market segment that includes low-medium-income homebuilders who are aspiring to build a permanent structure. These generally fall in the bracket ranging from 120,000 to 300,000 Indian rupees per year (or 10,000 to 25,000 rupees per month), who are planning to build a home of around 500 square feet at a cost ranging between 500,000 and 1 million rupees (5-10 lakh, US\$7,500-15,000)
- The study is prioritizing the decision-making processes at the household and at the mason levels.

### 3.3. Research steps and key activities

The fieldwork was undertaken in two rounds. A first trip was carried out between May 14 and 24, 2018, and a second trip was carried out between July 16 and 25. The final validation fieldwork was carried out on Sept. 17-18.

The **first trip** was designed to have a more exploratory nature and to cover all change objectives. It was agreed to focus on three types of interviewing techniques:

- Female and male focus group discussions with households.
- Key informant interviews with masons and contractors.

- Key informant interviews with identified first-removed and second-removed influencers.

Focus group discussions with households were deemed necessary, as they felt like the most-appropriate tool to explore the decision-making process within the household and to get a sense of whether the types of influencers and information that affect construction decisions differ between men and women.

The **second trip** allowed the research team to dive deeper into certain issues and explore some possible norms in more detail. The interview techniques used for the second trip were:

- Key informant interviews with masons and contractors.
- Focus group discussions with masons and contractors.
- Key informant interviews with households.
- Key informant interviews with influencers (such as Vastu consultants).
- Key informant interview with government representatives.

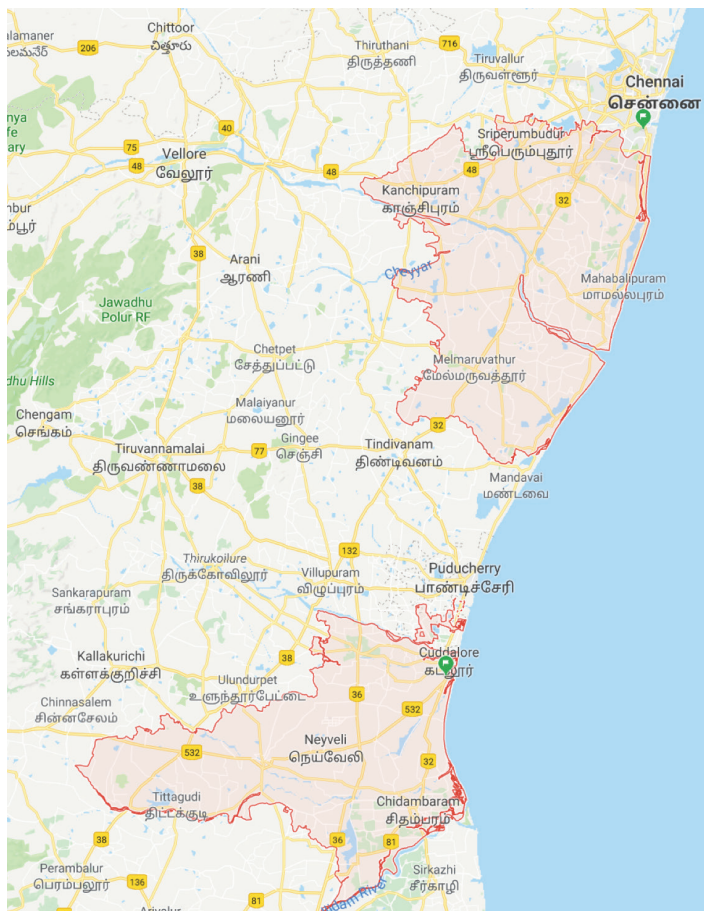
The focus of the second trip shifted slightly away from Change Objective 1 (increase agency for women in housing decision-making), as the research team felt that enough ground had been covered during the first trip. It instead focused more on the other change objectives and, in particular, unpacking the relationship between households and masons

and understanding the incentive system for masons and contractors. For this reason, most interviews carried out during the second trip were with masons, contractors and households, along with one mason focus group discussion per location to dig deeper on mason incentives.

### 3.4. Sampling

Throughout the fieldwork, interviews were largely held in two districts: Kancheepuram (primarily around Kancheepuram city) and the coastal area of Cuddalore. These two districts were chosen to allow a geographical comparison within research findings. Kancheepuram was selected as an inland district and hence one less likely to be influenced by natural disasters. Within Kancheepuram, interviews were focused in Morapakkam village, a rural area, and Chengalpattu, a peri-urban area. Cuddalore is a coastal district and was selected because of its record of disaster damage. Within Cuddalore, interviews were focused in Parangipettai, a rural/peri-urban area, and Salakaria, an urban area. Several additional interviews were held outside of these areas with important market actors or experts on the change objectives, such as both an engineer's association and an architect in Pondicherry.

Figure 2: Fieldwork locations



The sampling approach and identification of interviewees differed between the two trips. During the **first trip**, households were identified primarily through microfinance institutions, while masons were identified through builders associations and contacts that Habitat for Humanity had built over the years. Other influencers were identified through a chain-referral system.

A snowball approach was primarily used during the **second trip**. While masons were once again identified mainly through existing contacts, relationships and the builders association, households instead were identified with a snowball approach, either by asking masons or households themselves.

### 3.5. Limitations of the study

- **Lack of a female facilitator during focus group discussions.** The focus group discussions with women carried out during the first trip were led by a man, without the presence of a female facilitator. Although the discussions were extremely rich, it is possible that some of the women did not speak as openly as they would have, had a woman been facilitating.
- **Second trip household-sampling strategy.** During the first trip, households were identified thanks to the help of microfinance institutions, but during the second trip a snowball-sampling approach was used. Households were therefore identified through referrals from masons, who directed the research team to clients who had recently built a house. Often the mason selected family members or individuals with whom he had developed a particularly strong bond or relationship, which may have led to a positive bias in the response.
- **Definition of disasters when exploring disaster resilience.** To explore the disaster resilience of construction, the research explored the impact that “natural disasters” as a whole have had on households and how households and masons mitigate for “natural disasters.” Households interpreted natural disasters as extreme weather situations such as typhoons, cyclones and tsunamis. Given the extreme nature of natural disasters, this line of questioning has often excluded other less acute weather-related issues, such as monsoon rains, flooding, seepage and leakage.

Table 3: Sample details

Market actors	Kancheepuram			Cuddalore			Total
	Trip 1	Trip 2	Validation	Trip 1	Trip 2	Validation	
Female household focus group discussions	2	-	-	2	-	-	4
Male household focus group discussions	2	-	-	2	-	-	4
Mason focus group discussions	-	1	-	-	1	-	2
Household interviews	-	9	4	-	6	2	21
Mason interviews	3	5	-	4	5	-	17
Contractor interviews	-	5	-	-	5	-	10
Microfinance institution/SHG representatives	1	-	-	2	-	-	3
Microfinance institution recipient	-	-	-	1	-	-	1
Vastu consultant	1	1	-	1	1	-	4
Engineer/builder/ architect	3	-	-	2	-	-	5
Retailers	2	-	-	-	-	-	5
Industry associations	1	-	-	1	-	-	2
Training centers	-	1	-	2	-	-	3
Government representatives	-	3	-	5	-	-	8
Subtotals	15	25	4	22	18	2	86
<b>Total</b>		<b>44</b>			<b>42</b>		<b>86</b>

# 4

## Defining the researched target groups

### 4.1. Households

Descriptive statistics of the sampled household population for the interviews can be seen in Figure 3, Figure 4, and Figure 5. The majority of the households interviewed spent between 7 and 12 lakh (between US\$10,000 and \$16,000) for the construction of their homes, with construction times varying between four and nine months.

Figure 3: Interviewed households' income

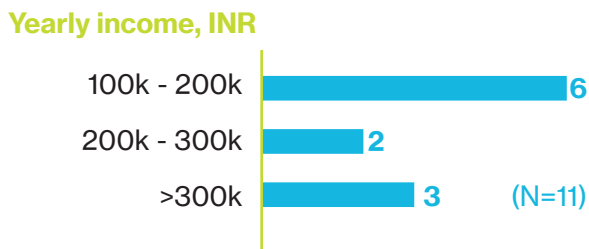


Figure 4: Interviewed households' age range

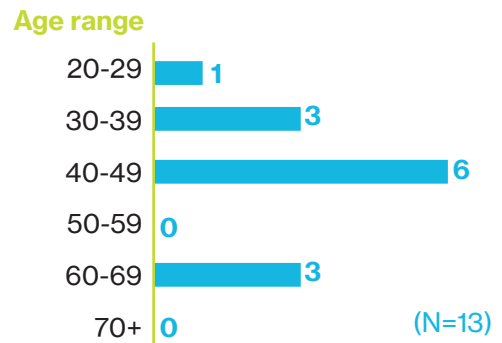
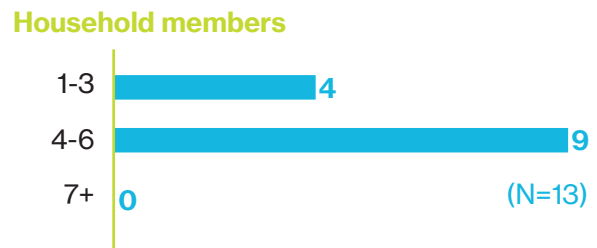


Figure 5: Interviewed households' size

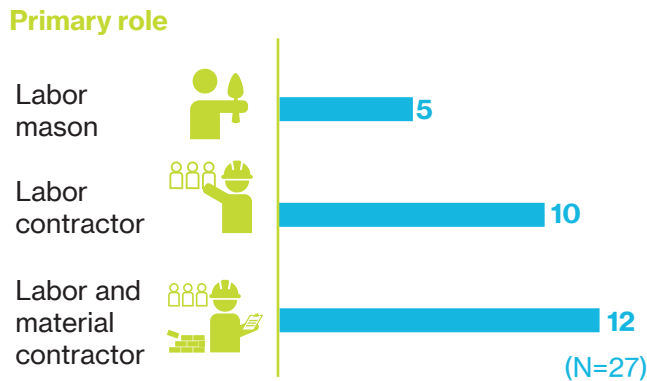


## 4.2. Masons

### 4.2.1. Mason roles

The term “mason” is used throughout this document to describe construction workers, but the study has identified three broad categories of masons who lead construction projects that serve our household target group.

Figure 6: Mason sampled population<sup>a</sup>



<sup>a</sup> If a mason interviewed performed two different masonry roles, the more senior one is being counted.

#### Labor mason/kotthanaar

An experienced mason who generally works under a contractor but also can work independently or managing a small team of masons, assistants and helpers. A kotthanaar undertakes subcontracts under large builders, and individually takes on small contracts and sometimes alteration work. He is hands-on, leading the team on the construction site, and he is always present on the site. He usually takes one job at a time and is paid a daily wage by the client (either the household or a larger contractor).

#### Labor contractor/mestry

Has a team of at least 10 people. A mestry may share part of his work force with other mestrys. He may work as a subcontractor under large contractors or builders. He has the ability to undertake at least two projects simultaneously, and has access to or the ability to raise working capital in order to pay workers and suppliers even when a client has not paid. He also could work as the head or lead mason in large projects and even as labor mason on rare occasions. A mestry presents himself in that construction site where his presence is required most, not specifically limited to one location. Based on the homeowner’s requirements, he will undertake labor or material contracts. Contractors are paid a fixed fee, which they then use to contract laborers, to whom they pay daily wages.

#### Labor and material contractor/mestry

They manage a larger team, between 15 and 30 people. The supervising contractors are rarely hands-on at the construction site. They might not be present at construction sites most of the time, visiting only to check on the work’s progress, take reports, make payments, check inventory and manage any crises. They might not visit the site for a few days if their presence will not add value. They manage the work at the site by delegating through head or lead masons who will keep them updated daily. They have the ability to undertake more than two projects comfortably. They undertake independent projects and supply manpower to other builders or large contractors from their pool of workers. They have reliable access to capital and have the ability to undertake calculated risks. Their contracts always include materials, as well. They may maintain a panel of electricians, plumbers and carpenters to provide additional services to their clients. Labor and material contractors usually undertake multiple projects at the same time. They are paid a fixed fee for the job and manage payments to laborers (to whom they pay daily wages) and to material suppliers, making profit on the difference between the cost of the inputs and the total fee paid by the household.

There are two ways through which someone generally takes up either labor or material contracting: by growing up the ranks as a mestry and building enough capital, or by entering into the profession as a trained civil engineer (degree holder) or diploma civil engineer after some years of work experience as a supervisor or site engineer.

In addition to the types of masons described above, there are junior helpers who support the construction work by carrying out more menial work and hard labor. These are called sithaal (helper) and periyaal (senior helper) and are usually the entry point for the profession.

Although the three different types of mason roles are presented distinctly above, masons often perform different roles depending on what type of work is available, as described in Figure 7. For example, it is not uncommon for a mason who generally works as a labor contractor to also occasionally undertake simpler masonry work under the supervision of another contractor. Contracting work can be irregular, so while masons are looking for the next job, they often keep busy by doing lower-level work.

Figure 6 provides an overview of the sampled mason population. Since some interviewees perform both contractor and simpler labor masonry roles, depending on the type of work that is available, we have classified masons against

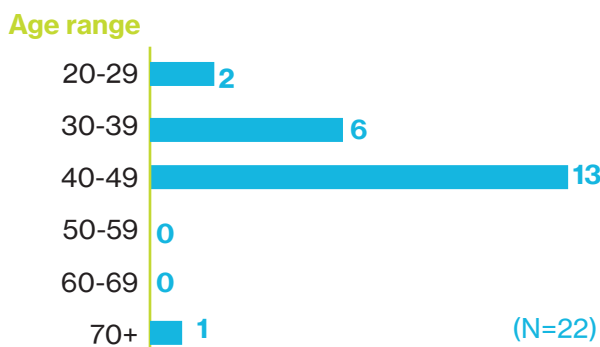


their more senior/primary profession. For example, if a labor contractor occasionally works as a labor mason, that individual has been classified as a contractor.

Figure 7: Masonry market



Figure 8: Age range of interviewed masons



#### 4.2.2. Mason progression and life cycle

Masons generally come from low-income backgrounds, and masonry is widely seen as a profession for those young people who do not have the financial means to go into higher education or to even finish school. Although masonry is seen as tough, labor-intensive work, it is widely seen as a respectable profession. The perception of masons within the community has improved significantly over the past 10 years, in part because masons can now aspire to make a much better living than in the past. While masons' wages were 50 rupees per day only 10-15 years ago, a labor mason can now aspire to make 700-800 rupees per day, therefore up to 15,000 rupees per month. This is in contrast with more-traditional urban jobs, such as working in sales, which often pay as little as 7,000 rupees per month.

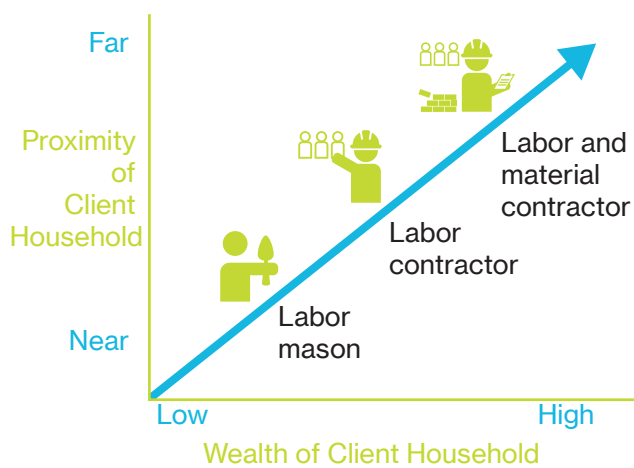
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Masons usually start working at a young age, with the majority of masons leaving school in grades 5-7. Masons start working as laborers, usually under the supervision of more experienced masons or contractors (either labor or labor and material contractors). The main aspiration among masons is to become contractors, as this is perceived as a sign of increased status and is more lucrative, since they are in a position to make margins on other masons' wages and on the cost of material. However, when masons first start operating independently and taking on individual construction contracts, they usually start with households from within their communities, who are more likely to be lower-income, as masons tend to come from more humble backgrounds.

As masons gain experience and obtain more referrals,<sup>6</sup> they strengthen their reputation and find more work, slowly starting to move outside of their community and work with wealthier households on more complex projects. This allows them to start accumulating capital and to transition into contracting work, as shown in Figure 9. However, while masons become more experienced and work with households further removed from their community, they continue carrying out occasional work with their neighborhoods in poorer households, often working pro-bono or at discounted rates.

Figure 9: Masonry market and target customers



<sup>6</sup> Masons almost exclusively find work through referrals.



*“There was a good image in society about masons: no one will raise their voice with them; good respect these days, since they earn well; found work continuously; and was more suitable for less-educated people.”* – **A household working in the area of Kancheepuram**



*“He said it is good for anyone to take up this profession, he would even recommend youth, as there are good opportunities here and abroad as well. Building a house is a good thing. Income is high — why not — he would get my son into it too.”* – **A household working in the area of Kancheepuram**



*“Those days, masons were looked down upon. But now they have risen in social status. Fathers are willing to give their daughters to masons.”* – **A household working in the area of Cuddalore (Parangipettai in particular)**

### **Box 1: Mason interview**

#### **Interview with Venkadesan, a 47-year-old mason working in Pondicherry, Cuddalore**

Venkadesan has been in the field for more than 25 years. He studied until fifth grade. He has a team of five masons, three assistants and five helpers. He does labor, material and building contracts, and also works as mason in his own projects.

Three years after he started working as helper, he became a mason. He spent seven years as a mason under a head mason, then got his first work on a project independently. After that, he developed his own contacts and started doing work independently.

He works mostly in Pondicherry. In the past year, he has done about six buildings. He undertakes both labor and material contracts. The estimate he gives is based on the prices at that point of time. For labor contracts, if the work is stopped in between, the wages for workers will be paid when the project restarts.

He works across the spectrum from low-income group houses to subcontracting for large buildings. He finds clients mostly through referrals. People who visit houses that he had built take his number from the house owners and call him for work. He is not particular about the type of houses he wants to work on. He is more concerned with having work throughout the year. During lean times, he spreads the word that he is available across his known contacts and networks. If there are any house construction projects that need masons, he gets involved.

He does not work as a mason under other contractors. He shares his manpower with other contractors so that the masons have work to do. He recalls them when he gets work. He does not get any commission for supplying manpower.

## Box 2: Mason interview

### Interview with Rajasekar, a 41-year-old mason working in Kancheepuram

Rajasekar is from a poor family. He used to do masonry jobs when in 10th grade during vacations, weekends and holidays to earn some money. After 10th grade, he realized he couldn't continue to study and so started working. He started as a helper (sithaal) for one year and senior helper (periyaal) for three years before he became a mason for the past 15 years.

The reason he chose this profession was the immediate cash that one gets, everyday money for everyday work, unlike other jobs, where wages are given either weekly or monthly.

In his team, he has 30 sithaals (helpers), 15 periyaals (senior helpers) and 15 masons, along with six painters and three electricians. Everyone on the team has learned only on the job; none of them are technically educated.

The team does all kinds of work – even small jobs like building toilets for not-so-well-to-do people. Rajasekar does both material and labor contracts and even works as labor (as a mason) when there is no other work. Material contracts are more profitable as suppliers give him a discount, which will be added profit. He does about 30 buildings per year.

#### 4.2.3. Selection of the type of mason

Different factors come into play when households decide whether to work with labor masons or labor/material contractors.

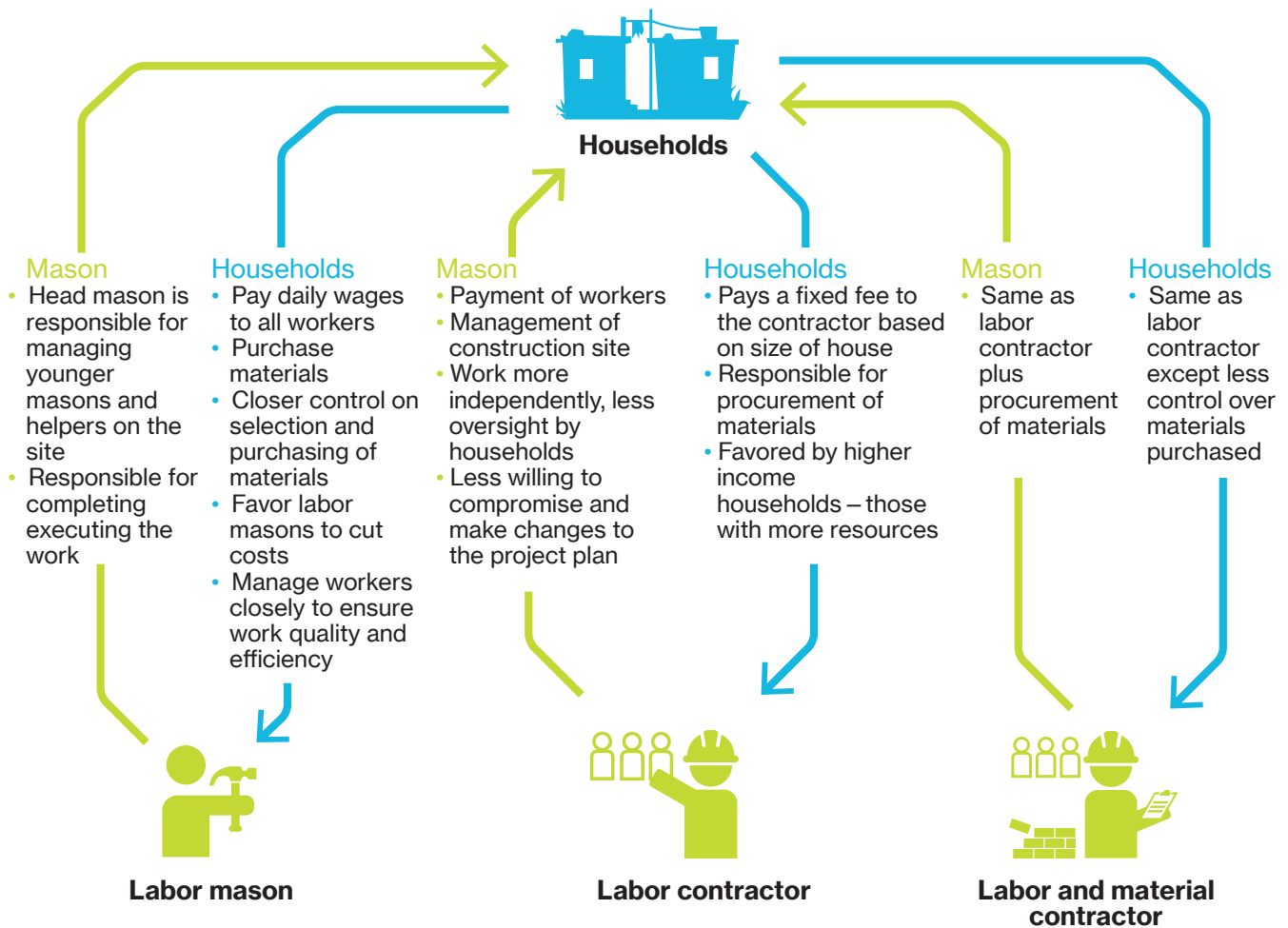
Working with labor masons means that households manage firsthand the work of the masons, paying daily wages to all the workers. A head mason is often selected to manage the younger masons and helpers working on the construction site, but he is not responsible for managing the payment of their wages. The household is responsible for purchasing the material and the masons for executing the work.

Working with contractors means that households delegate the payment and management of the construction site to the contractor himself, paying a fixed fee for the construction of the house, which is determined by the size of the house. Builders tend to charge between 1.5 and 1.75 lakh per 100 square feet, inclusive of all material. The two levels of contracting mean that some contractors are in charge of both paying and managing laborers and procuring materials, and others are in charge of only the payment and management of laborers, while the household takes care of the materials.

Working with labor masons is often preferred by lower-income households that operate on a tighter budget. Keeping a closer control on the selection and purchase of materials gives households more flexibility and the ability to cut costs. Removing the middleman also means that households save on costs, as contractors don't make a margin on the purchase of the materials. However, working with labor masons means that households need to manage the workers closely, as they have less incentive to work harder or to finish the work on time, since they are paid a daily wage.

Working with contractors is generally preferred by households that have the means to spend more. Contractors operate more independently, requiring less oversight, and they take care of hiring laborers and purchasing materials, taking some of the burden off the households. However, working with contractors means that households have less control on the materials purchased. Contractors can also be more uncompromising and unwilling to make changes to the project plan after the work has started, unless more money is paid.

Figure 10: Responsibilities of households and masons



“The perception with contractors is that they will not accommodate changes to the plan and they will be strict about the agreement. They lack flexibility, which is available with masons. Masons are willing to accommodate changes as long as their wage is ensured. Contractors may charge extra for every additional work, and hence contractors are not preferred. One of the respondents said that they will have to negotiate with the masons and contractors and then decide. Another respondent had earlier employed a contractor, and they were not happy with the work and hence have now hired masons to complete the first floor.”

– Women’s focus group discussion in Chengalpattu

# 5

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

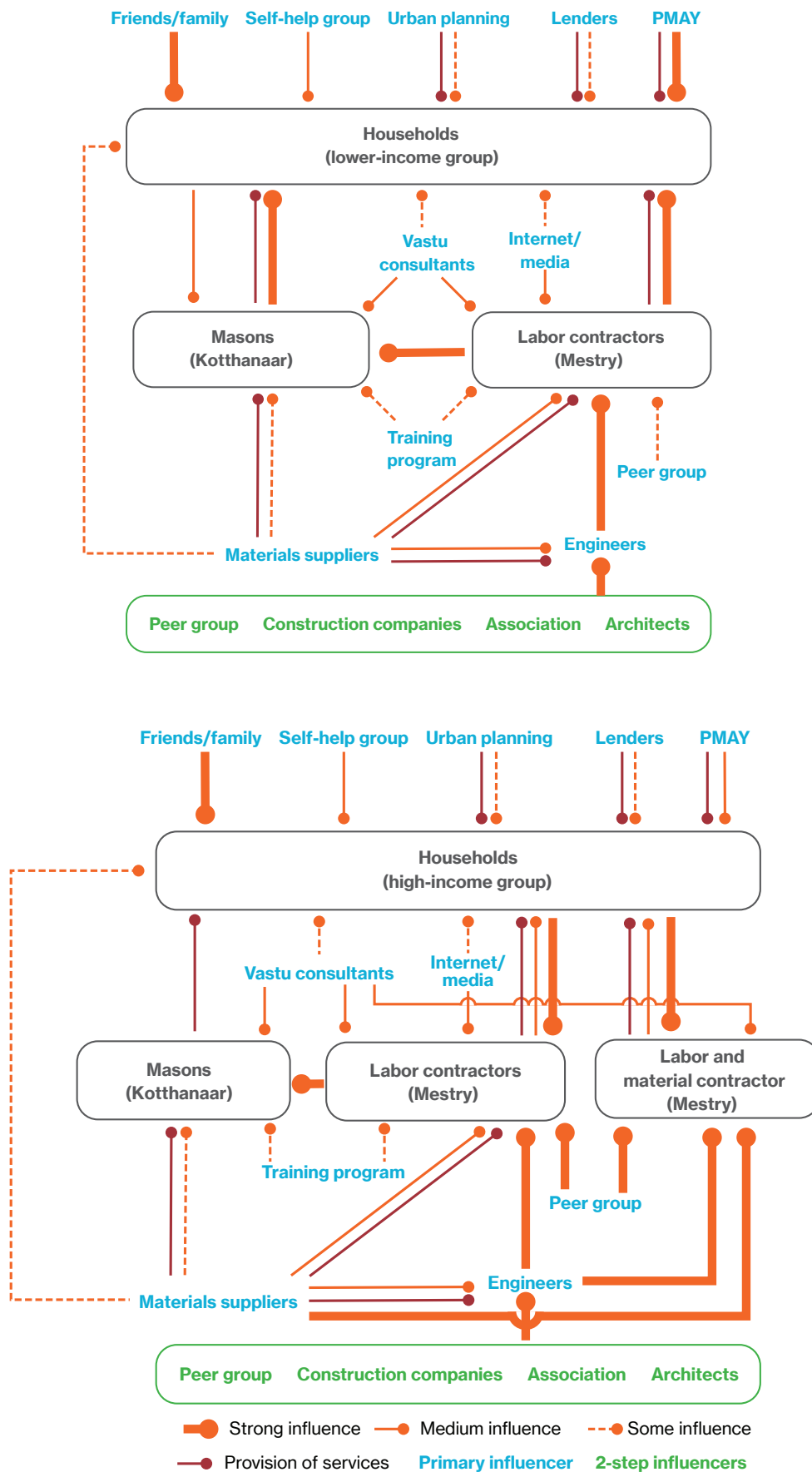
### 5.1. Influencers

The diagrams in Figure 11 show the network of influencers and information sources that affect the housing-related decisions of households and masons. The black arrows represent the strength of the influence of different actors and information sources. The red arrows represent where there is an exchange of services or goods with either the household or the masons.

Two different diagrams are provided, as the research team noticed that the level of influence that different actors exert on households depends on households' wealth levels, even within the wealth parameters of this research. The two diagrams,

therefore, display the network of information of influencers that affect lower-income groups and higher-income groups separately. Lower-income groups are broadly defined as households with an average income ranging between 100,000 and 200,000 rupees, while higher-income groups have incomes between 200,000 and 300,000 rupees. It is important to note that these two diagrams are not binary conditions and that one applies strictly to one subincome group and one to the other. These diagrams should be seen as a spectrum, whereby the wealthier a household becomes, the more likely that the levels of influence change and become closer to the flows represented in Figure 11.

Figure 11: Information flow and influencers



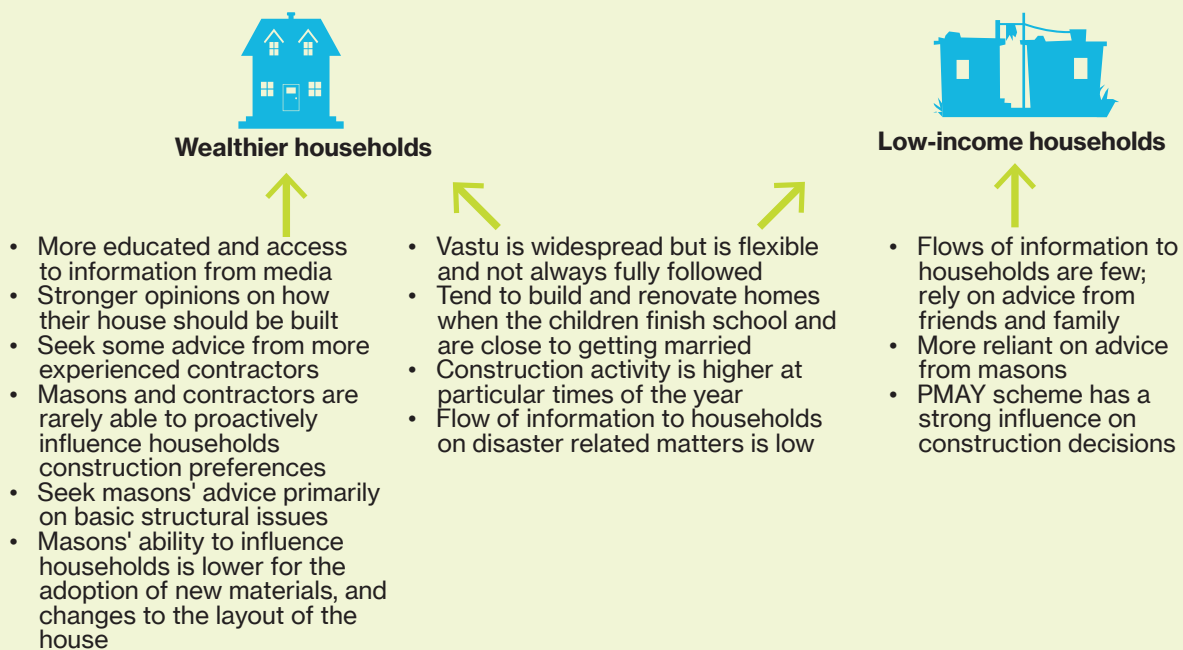
**5.1.1. Detailed findings – influencing households’ preferences**  
**Flows of information to households are few, and while masons have some influence on low-income households, households primarily rely on advice from friends and family members.** House construction decisions are primarily

made within the households, with limited external influence. Households seek the advice of family and friends, but ultimately, decisions are made jointly between a husband and wife (see more on this in Section 6).

**Key findings:**

- Flows of information to households are few, and while masons also have a strong influence on low-income households, most households primarily rely on advice from friends and family members.
- Lower-income groups are more reliant on advice from masons.
- Higher-income groups have stronger opinions on how their house should be built but tend to seek some advice from more experienced contractors and engineers.
- Unless the household seeks this advice directly, masons and contractors are rarely able to proactively influence households’ construction preferences.
- Households tend to seek masons’ advice primarily on basic structural issues, such as the number and the width of columns. The ability of masons to influence households is lower for the adoption of new materials and changes with the layout of the house.
- The Pradhan Mantri Awas Yojana, or PMAY, scheme has a strong influence on lower-income groups’ construction decisions.
- Vastu is widespread across most Hindu communities but is flexible and not always fully followed.
- Families tend to build and renovate homes when the children finish school and are close to getting married.
- Construction activity is higher at particular times of the year.
- Flow of information to households on disaster-related matters is low.

Figure 12: Summary of factors influencing households’ preferences



“Was originally planning a simple single-bedroom house with cement flooring, etc., but later on decided to expand and build a better and larger two-bedroom house for 900 square feet. This was influenced by discussions within the family. ... He therefore took a housing loan for this purpose, which has now been paid off.” – **A household living in Kancheepuram (average household income 35,000 rupees per month or 420,000 per year)**

**Lower-income groups rely more on advice from masons**, as the relationship between households and masons is particularly strong within lower-income groups. A variety of factors could be causing this, such as:

- As explained in Section 4.2.2, masons start their careers by working within their communities (which tend to be lower-income) and continue to work with them even after they transition into contracting work. The trust between a household and a mason is greater in these circumstances, as they both come from the same community, and it is more likely that households will be willing to delegate decisions to masons.
- Low-income households tend to be less informed and knowledgeable about construction than higher-income households, who are more educated and tend to have more access to information from media.



“This mason was a friend out of his network, so the homeowner took all the inputs he gave. His wife, however, felt that one could not fully trust anyone and that one had to supervise if they wanted to see work properly done without unnecessary delays (which masons were prone to doing), and if materials were to be used judiciously. People were, however, willing to take the technical inputs of the mason and follow them; both of them felt that.” – **From an interview with a household in Kancheepuram (average household income of 15,000 rupees per month, or 180,000 per year)**

“They are building a small house, and the contractor is advising them on everything. The landlord of the rented place they are living in currently is also a good friend of the contractor, and he too recommended the contractor. The contractor also built the neighbor’s house, and they were happy with the work done and decided to use his services. They trust him totally.”

– **From an interview with a household in Kancheepuram (petty shop owners, lower income group)**



“Most of the times the clients from (lower-income groups) do not have a good idea about what how they want to go about the house. They consult an astrologer-Vastu consultant and come to him. They tell him about the plot size and location. They tell him about the lot of land, their basic requirements and the budgets. When clients approach him, he consults an engineer and gets a plan drawing. Then he finalizes the plan with the homeowner.”

– **From an interview with Mutlu Balachander, material and labor contractor in the Cuddalore area**

“Usually in the (lower-income groups) and middle segment, people generally have low awareness, and they will mostly go by what we say. People with more awareness generally tend to be particular about what they want and want the masonry to do it as per their requirement.” – **From an interview with Venkadesan, material and labor contractor in the Cuddalore area**

**Higher-income groups have stronger opinions on how their house should be built but tend to seek some advice from more experienced contractors and engineers.**

“The mason didn’t have much say in the design and construction of the houses; it was the homeowner who got the house constructed according to their requirement. He sought the contractor’s advice on technical issues like how many pillars were required for the house, how big each pillar should be, etc.”

– **From an interview with a household in Kancheepuram (average income of 350,000 rupees per year)**

“On the power to negotiate with clients, he feels that he has to finally deliver according to clients’ needs. They wield more power during negotiation, as they are becoming more aware.”

– **From an interview with Velmurugan, a labor and material contractor in the Cuddalore area**

**Unless the household seeks this advice directly, masons and contractors are rarely able to proactively influence households’ construction preferences.** Masons have little incentive to influence households or to push for the adoption of new practices, unless the structure of the house is severely affected by the design.





“Q: Are you willing to promote a new material?

A: Yes, if it is good and if I am satisfied with quality. However, the customer has to accept it first. If the customer is not interested, I will go with the customer’s preference rather than promote a new material even if it’s good, cost-effective, more profitable, etc.

Also there is no need to educate and convince a customer on new material, etc., these days. They have access to cell phones and internet, and they easily find out the price, quality of materials. In some cases they advise me on what to do.”

– From an interview with Rakasekar, who is working as a building contractor in the Kancheepuram area

“If the house owners are willing to try new things and allow us to use new material and assess how good they are, only then will there be changes.” – Mason focus group discussion in Cuddalore

“We are unable to negotiate with them, as they are the ones who will live in the house and they are not willing to compromise on how they want the house. Many times, they ignore our advice. ... But we need to ensure that the basic structure of the house is strong, and hence there won’t be any structural issues. Everything else we will have to do according to the houseowner.” – Mutlur Balachandar, a labor and material contractor working in the Cuddalore area

**Households tend to seek masons’ advice primarily on basic structural issues, such as the number and the width of columns. The ability of masons to influence households is lower for the adoption of new materials and changes to the layout of the house.** Households feel particularly strong about the materials to be used as it has a very direct impact on cost, while layout is due to personal preferences and style.

### Box 3: PMAY

The Pradhan Mantri Awas Yojana (PMAY) scheme is an initiative by the Government of India in which affordable housing will be provided to the urban poor with a target of building 20 million affordable houses by 31 March 2022. The PMAY scheme provides subsidies to low income groups of up to 210,000 INR towards the construction of the house, released in four installments of 50k, 50k, 50k and 60k as the house is constructed.

**The PMAY scheme has a strong influence on lower-income groups’ construction decisions.** The subsidy that households receive under the PMAY scheme makes a significant difference in households’ ability to build a house, especially at the lower segment of the economic group, since the construction of homes generally ranges between 500,000 and 1 million rupees, a subsidy of 210,000 is a significant contribution, and affordability is a much-greater challenge. However, the four installments of the PMAY are structured so that the construction has to be completed within one year, or the households lose the right to any unclaimed installments. The inability of households to often budget (especially at the lower income group) means that households often commit to building structures that are unaffordable, leading to a large number of uncompleted homes.



“They started the construction six months ago after they received approval for support under the PMAY scheme. The house stands incomplete because they ran out of money to complete the house. They were relying on the PMAY scheme to partly finance the house. But they have not been able to mobilize sufficient funds and the cost has gone above the budget. Hence the house is incomplete.” – From an interview with Vasantha and Dharmarajan (average household income 8,000-10,000 rupees per month or 100,000 to 120,000 per year)

### Box 4: Vastu

Vastu shastra is a traditional Hindu system of architecture that provides guidance on housing layout and design based partly on astrology and individual horoscopes. Households visit and pay Vastu consultants to make recommendations on certain housing features, such as where different rooms should be in the house, location of the entrance, and what date construction should start.

**Vastu is widespread across most Hindu communities but is flexible and not always fully followed.** Participants in several focus groups noted that most households visit Vastu consultants for guidance during the development of construction plans. Indeed, there appear to be strong community pressures to do so. An engineer in Kancheepuram noted, “Generally, Vastu is followed by almost all people who build houses. Even if someone builds a room, they see Vastu

consultants, as consumers mostly believe that their well-being, health, family relations, etc., are dependent on Vastu of where they live.” However, many interviewees noted that, after households receive Vastu advice, this is often overruled either by household preference or masons’ recommendations, in case Vastu requirements are not fully compatible with the size and orientation of the plot.

**Families tend to build and renovate homes when the children finish school and are close to getting married.** Although the timing of house construction and renovation is very much dependent on families’ finances, a strong proportion of the households reported that house upgrades or renovation often happens when the children finish school. This is because of two main factors. First of all, as children finish school and become more independent, families have more disposable income to dedicate to construction. Secondly, houses are generally passed on from generation to generation, and it is the responsibility of the parents to ensure that their children (the son, in particular) have a home for when they get married. Many construction decisions are therefore driven by this.



“After retirement from work, he decided to build his house, and his son had helped him with funding.” – **From an interview with the Thanigachalam household in the Kancheepuram area**

“She wants to construct the house before her son’s marriage. She said that the house is mainly for her son as also for her daughters when they come to stay with her.” – **From an interview with the Indira household in the Cuddalore area**

“They wanted to build the house to accommodate the expanding family after their son had a child.” – **From an interview with the Vasantha Vadakutthurai household in the Cuddalore area**

“He wants to add another room before he marries off his other daughter. He already constructed one room after the marriage of his first daughter.” – **From an interview with the Nonankuppan Gopinath household in the Cuddalore area**

### **Construction activity is higher at particular times of the year.**

As Girja Lobanathan, a household in Kancheepuram reported, July-September are the auspicious months, and people don’t generally start construction during aadi, purattasi, ani, maasi (lunar calendar). Other interviews (both households and masons) also confirmed that little construction happens during the rainy season.

### **The flow of information to households on disaster-related matters is low.**



“Apart from their immediate circle, no other agency outside household influences any decisions pertaining to disaster resilience.” – **Women’s focus group discussion, Parangipettai**

“Most of the people in Parangipettai would go by what the engineers/masons say with regard to disaster-resilient construction.” – **Men’s focus group discussion, Parangipettai**

#### **5.1.2. Detailed findings – influencing masons’ practices**

**Although some of the more experienced contractors make use of media, overall reliance on media for information and learning is low.** Overall, masons’ interest in learning is particularly weak (this is explored further in Section 7.3), which is in part why the uptake of social media and other online knowledge sources is limited. However, out of the four masons interviewed who have reported using YouTube and Facebook for learning, all four are material contractors, suggesting that as masons become more experienced, their eagerness to learn improves.

#### **Labor masons and junior labor contractors rely on more experienced masons and contractors for knowledge.**

Experienced masons are a strong source of knowledge for junior masons, and their advice is sometimes valued even more than that of engineers or architects.

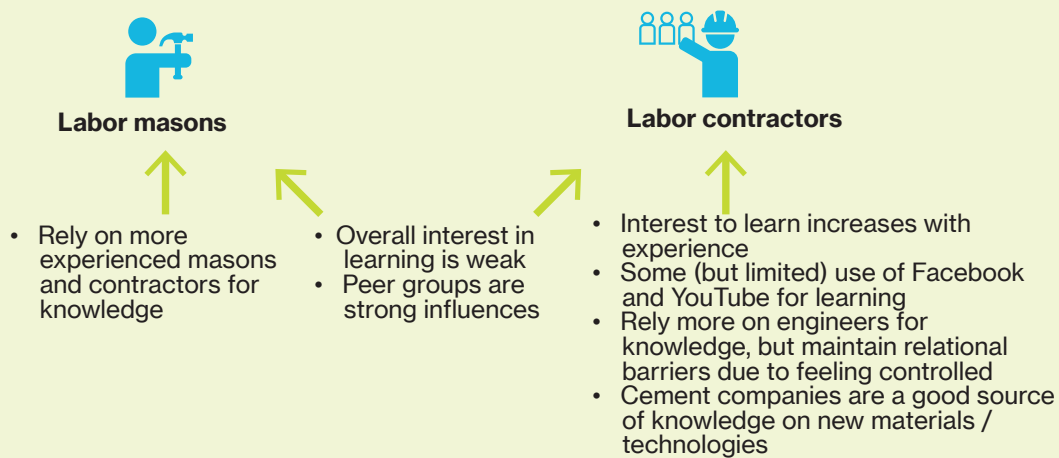


“He also learns from masons who are more experienced. He feels the learning from experienced masons is more valuable than that from engineers.” – **From an interview with Jambulingam, who works as a labor contractor in the Cuddalore area**

### Key findings:

- Although some of the more experienced contractors make use of media, overall reliance on media for information and learning is low.
- Labor masons and junior labor contractors rely on more experienced masons and contractors for knowledge.
- Peer groups within masons, especially within contractors, are strong.
- Engineers have a strong influence on masons, particularly on more experienced contractors.
- Peer groups within masons, especially within contractors, are strong.
- Cement companies are a good source of knowledge on new materials and technologies for most masons and contractors.

Figure 13: Summary of factors influencing masons' preferences



**Peer groups within masons, especially within contractors, are strong.** Conversations with masons have shown that collaboration within the construction community is strong. Contractors seem to share information on prices, how to manage conflict with clients, and best practices and technologies.



*"We share information about the type of houses we are working on, our interaction with the house owners, exchange notes on rates and prices, feasibility of a certain construction technique/design, etc. We don't discuss such things with engineers. They don't discuss such things."* – **Mason focus group discussion in Kancheepuram**

**Engineers have a strong influence on masons, particularly on more-experienced contractors.** Labor masons tend to learn from head masons and contractors, while contractors have

communicated that many of the new practices they have learned have been from engineers. Some masons, however, have said that, although they learn from engineers, they don't feel 100 percent confident working with them, as they feel controlled.



*"He says he learns more when he works with engineers. Otherwise, he feels there is nothing new to learn, as he has been doing the same thing since he became a mason. All his learning, he says, happened between when he started out as a helper till he became a contractor."* – **From an interview with Venkadesan, who works as a material contractor in the Cuddalore area**

*"Engineers are a key source, as they update them on the construction techniques and products."* – **Labor contractor working in the Kancheepuram area**



“He gets to learn new things when working with engineers, especially the finishing and dimensions and measurements. He also learns from masons who are more experienced. He feels the learning from experienced masons is more valuable than that from engineers.” – **From an interview with Jambulingam, who works as a labor contractor in the Cuddalore area**

“He is interested in learning new things, especially designs and materials. He is following an engineer near Sethiathope who has been experimenting with alternate materials, especially for packing. He feels it can reduce the cost for the clients.”

– **From an interview with Velmurugan, who works as a labor contractor in the Cuddalore area**

**Cement companies are a good source of knowledge on new materials and technologies for most masons and contractors.** This seems to be especially the case for more-experienced masons and contractors, such as labor and material contractors, who have the flexibility to test products before using them with clients. Some biases and reluctance to adopt new practices seem to be present with regards to waterproofing, as masons are not convinced on the effectiveness and value of waterproofing products and are happy to rely just on more traditional practices.



“Has learned about materials in cement company meetings. He will go along with the supervisor, doing as they say will work. Builders don’t like materials being wasted, so good to learn and do it right.” – **From an interview with Selvakumar, who works as a labor contractor in the Kancheepuram area**

“He learned about new techniques at a property exhibition at the Chennai Trade Centre once. He learned about ready-made concrete walls — prefab. They could finish a 40-foot wall in one day — with machinery. It came as panels. Since brickwork is taken out, you can go straight to plastering.” – **From an interview with Hari Krishnan, who works as a labor and material contractor in the Kancheepuram area**



“He goes to the meetings conducted by cement companies — they are useful. They will talk about different quality of cements, setting time, etc. He has learned about quick-setting cement that can help when used during rainy season so that the concrete sets fast, and based on this knowledge he can advise customers properly.” – **From an interview with Sitaraman, who works as a labor and material contractor in the Kancheepuram area**

“He will definitely get to know when something new comes to the market, as retailers call us and explain the material. ... In the case of waterproofing (i.e., Dr. Fixit), however, he doesn’t make use of them, as he doesn’t believe in chemicals. So far, his buildings do not leak. If he does a good job in the construction of an RCC house, applying the right mix of ingredients and making sure that the concrete is pressed down properly, there will be no problems, no water leak. We test by storing water and observe for few days.” – **From an interview with Rakasekar, who works as a building contractor in the Kancheepuram area**

## 5.2. Low-income housing construction practices and preferences

### 5.2.1. Adoption of disaster-resilient practices

#### Key findings:

- Most households and masons interviewed rely on the same disaster-resilient techniques: raising the foundations of the house to at least 1 foot above the top of the road, making heavier use of columns and floor beams and reinforcing columns with iron rods.
- Reinforced cement concrete, or RCC, structures are seen as “best practice” in disaster resilience and strong enough to withstand any weather-related disaster.

**Most households and masons interviewed rely on the same disaster-resilient techniques: raising the foundations of the house to at least 1 foot above the top of the road, making heavier use of columns and floor beams and reinforcing columns with iron rods.** Some focus groups with men have also shown that there is awareness around the height of the ceilings and where to place windows to avoid damage from strong winds.



“Houses that are in low-lying areas are built with the bases elevated. The windows are arranged in order to ensure airflow that will cause the least damage, and the ceilings are low in order to minimize damage from strong winds — the main reason being the experiences from previous cyclones and the tsunami.”

– Men’s focus group discussion in Cuddalore

“But some practices have changed after the recent floods. People have started constructing houses with columns and floor beams. Earlier days they used to have stone-based cement foundations. Now all of them are opting for framed constructions consisting of column and beam.

The compound wall of one of the houses had been constructed with columns but did not have the flooring beams or footing. The house suffered damage as the columns started leaning and walls began cracking up. So now they have the columns with floor-level beams and footing for the columns so that the house is not damaged in the floods. Now there won’t be any problem even if the floods come.” – Men’s focus group discussion in Morakappan, Kancheepuram district

“He has raised the base of the house by about 4 feet in order to avoid floodwater entering into the house. This is his way of disaster-proofing his house.” – Interview with Noor Muhammad, who lives in the Cuddalore area and earns 12,000 rupees per month or 144,000 rupees per year

**RCC structures are seen as “best practice” in disaster resilience and strong enough to withstand any weather-related disaster.**



“Those who have cement sheets have now started using hooks to screw down the roof. But some others replied that even when their roofs were clamped using hooks, the wind just took the whole roof away, along with the frame rods. So RCC roof is the only proper roof. A few participants said that their houses are prepared, as they now have RCC roofs.” – Focus group discussion with women in Cuddalore



“RCC-framed structures were opined to be the best disaster-resilient design, because they withstand strong winds.”

– Focus group discussion with men in Cuddalore

“A brick-walled, RCC-framed structures is considered very strong. In the Thane cyclone where wind speeds went up to 150 kmph, only tiled, sheet and thatch roof were affected. The RCC-roofed structures did not suffer any damage. One of the participants mentioned that he and his co-workers were asleep in a building when the cyclone hit and a very large tree had fallen on the building. But the building did not suffer any damage. This reinforced their understanding of RCC-framed structures.”

– Focus group discussion with men in Cuddalore

“The current RCC-framed structures are good enough to face any disaster — only thing is to ensure that the quality of the material is good.” – Velmurugan, a labor and material contractor working in the Cuddalore area

### 5.2.2. Adoption of new materials and techniques

#### Key findings:

- Households are reluctant to try new materials or technologies first. They are risk-averse and have little trust in alternative methods, often waiting for an early adopter to make the first move.
- Most masons trust only what they can try firsthand and would be willing to push harder for the introduction of new techniques and technologies to clients if they had the ability to test them first.
- While retailers seem to notice an increase in demand for waterproofing products, there are conflicting opinions around the use of waterproofing in low-income housing construction.
- Hollow blocks are very rarely used by masons, as there is a perception that hollow blocks are mainly needed for larger constructions.
- Although some masons have started using M-Sand, especially mixing it with river sand, the adoption of M-Sand is extremely low across the low-income housing construction market.

**Households are reluctant to try new materials or technologies first. They are risk-averse and have little trust in alternative methods, often waiting for an early adopter to make the first move.**



*“Lack of availability and knowledge is the greatest challenge; homeowners are apprehensive because they are not sure about the nature of the new material or technology after having invested huge capital.”* – **Mini focus group discussion among masons in Cuddalore**

*“New material or technology can also be a failure. For example, there was a trial of a prefabricated housing structure, but it started developing cracks in less than six months, and now they have stopped the project. So people are wary of new material and technology. They want to adopt only proven and successful technologies and material. They do not want to try anything new without knowing its nature and characteristics.”*

– **Mini focus group discussion among masons in Cuddalore**

*“They usually see how their friend or relative constructs, and then they ask for reference of the mistry, and then they want it to be constructed in the same manner that their friend’s/relative’s house has been constructed. ... If one person tries and shows, then other people will also try, because people look at other people’s houses and take references and construct. So someone needs to take it up initially.”* – **Mason focus group discussion in Cuddalore**

**Most masons trust only what they can try firsthand and would be willing to push harder for the introduction of new techniques and technologies to clients if they had the ability to test them first.** Although masons are exposed to a lot of information on new techniques and technologies from a variety of different sources, such as advertisement, construction companies and discussions within their peer groups, their reliance on old techniques is very strong. They are rarely willing to trust new ways of constructing, unless they were in a position to test it themselves first.



*“One aspect he wants is the experience to work with new materials like M-Sand, hollow cement block, etc. He feels he*

*cannot experiment on a client and hence would like a chance to experiment with new materials. He feels there is no scope for this as of now.”* – **From an interview with Venkadesan, who works as a building contractor in the Cuddalore area**

*“If, for example, he wanted to try a new type of cement, he would buy a small amount of the new cement, build a test construction, and then destroy it after 15 days to test the strength of the cement. Cement companies often try to introduce new products to the masons that they have been promoting, such as Dr. Fixit. However, he doesn’t trust them unless he is satisfied with a product and he’s had the chance to test it.”* – **From an interview with Rakasekar, who works as a building contractor in the Kancheepuram area**

*“He would like to get an opportunity to handle the M-Sand and hollow cement blocks. Which is why he doesn’t recommend. Many homeowners have asked for alternative material, but he does not recommend as he does not know the nature of material.”* – **From an interview with Jambulingam, a labor and material contractor working in the Cuddalore area**

**Although retailers seem to notice an increase in demand for waterproofing products, there are conflicting opinions around the use of waterproofing in low-income housing construction.** Many of the interviewed households seem to prefer the use of waterproofing products such as Dr. Fixit, but several of the interviewed masons and even engineers prefer to rely on alternative, more traditional methods. In general, masons seem to believe that if concrete is laid out using the right techniques and avoiding the creation of air pockets, leaking will not happen.



*“Now even the cement companies are entering into the waterproofing market, as there has been tremendous growth in this segment. The major companies are Pidilite, Fosroc with new entrants such as CICO, apart from many brands. Consumers are well-aware of the waterproofing benefits, and they are insisting on using them.”* – **Ethiraj, a retailer working in the Kancheepuram area**

*“Most constructions add Dr. Fixit for waterproofing. In addition to mixing it with the cement, Dr. Fixit is also mixed with wall putty before painting.”* – **Men’s focus group discussion in Cuddalore**



“As far as water leakage is concerned ... We now mix the waterproofing chemicals in all roof and RCC applications. In spite of RCC and water proofing, there is seepage of water during storms.” – **Men’s focus group discussion in Parangipettai**

“He would also do waterproofing by mixing waterproofing materials in the concrete used. These are done commonly in areas where there are issues. However, that is not needed if the concrete is good. Leakage and seeping will arise only if there is improper mixing or packing, which will lead to voids.” – **From an interview with Kumaresan, a mason working in Kancheepuram**

“He still uses the traditional method of waterproofing, and the method is still preferred by consumers. He used jaggery, kadukkai (Haritaki in English—it’s a fruit), slaked lime and other ingredients—preparation for waterproofing on the roofs. According to him, this method is foolproof and has been used in temples in Kancheepuram.” – **From an interview with Thamavani, an engineer working in the Kancheepuram area**

“According to him, waterproofing is required only when there is failure of concrete. He knows some tips that can be used to avoid leakage, which he uses as a preventive measure. So far in the constructions he has done, there were no leakage issues, and he has not used any waterproofing chemicals.” – **From an interview with Hari Krishnan, a building contractor in the Kancheepuram area**

**Hollow blocks are very rarely used by masons, as there is a perception that hollow blocks are mainly needed for larger constructions.** Some masons would also rather avoid hollow blocks because if plastering is not completed in time, hollow blocks become damp and cause water seepage.



“A: As far as bricks are concerned, one can’t see houses being constructed using hollow blocks in Kancheepuram area. They prefer only bricks. They may even use M-Sand, but they will never use hollow block.

Q: Why is this? What happens if a houseowner insists on hollow block?

A: Perspective 1: We will tell them that we haven’t worked using it, and we will tell them that it does not have strength.

A: Perspective 2: In large apartment complexes like those being constructed in Chennai, they have thick and strong pillars and beams. There they just need to fill the gap between the columns and beams to make it a room. Then they use the hollow block. From the foundation itself, substantial amount of concrete is used. It doesn’t make a difference if the gaps are filled with cardboard or with a wall. So that is why they use hollow block.”

– **Mason focus group discussion in Kancheepuram**

“When we use hollow block, the water seeps in and the inside of the brick becomes damp. But with brick the water flows down. It is not retained. When the blocks are framed, it is framed along with the pores so water gets into it easily. Sometimes there are houses where only the insides are plastered and the outsides are not plastered. In that case, if left for a few months, water seeps inside the walls. And it will damage the walls in the long term. With the bricks, even if we don’t plaster, it will not allow water to seep in. But with the hollow blocks, it allows water to seep in.”

– **Mason focus group discussion in Kancheepuram**

“Hollow blocks are not preferred, as it absorbs and retains water. It is felt that in the long term it is not safe, as it will weaken the walls. But we don’t know why it retains water like that.” – **Mason focus group discussion in Cuddalore**

“Nothing is stronger than bricks; households prefer it. Often people don’t use framed structures — just want brick work done. So bricks are the best and strongest for wall-bearing structures. Blocks are better for large buildings or for promoters who build and sell — HHs may not know what it is built of.”

– **Sitaraman, a labor contractor working in the Kancheepuram area**

“Hollow blocks are not available everywhere and are mainly used in Chennai. Hollow blocks are good for large buildings where the quality and strength of columns and beams needed is higher. There is nothing wrong in using hollow block, but we have been using the bricks always ... so there is no need for new material when the existing material is able to give the same quality at similar cost.” – **Mason focus group discussion in Cuddalore**



“Even if he explains to people that with columns, blocks could be used, they won’t agree. They might borrow somewhere (if they couldn’t afford it) and still insist on having brick walls. They will be worried that the walls won’t hold.” – **From an interview with George, a contractor working in the Kancheepuram area**

**Although some masons have started using manufactured sand, or M-sand, especially mixing it with river sand, the adoption of M-Sand is extremely low across the low-income housing construction market.** A wide range of reasons are stopping both masons and households from using M-Sand, despite the fact that it’s a cheaper alternative to traditional river sand.

The main concerns that people seem to have about the use of M-Sand are:

- **Concerns about the strength of the construction.**



“Sitaraman is the contractor building this house, and he advised them to use Ultratech cement, as it was stronger than others. They’re using river sand, because they think it would be stronger; the contractor said so. No one uses M-Sand here.” – **From an interview with the Muniaswamy household in the Kancheepuram area**

“When he was asked about river sand vs M-Sand, he turned around and asked the contractor what would be better. ... [The contractor] felt that in terms of strength when tested, M-Sand had only 60 percent strength as opposed to river sand, which had 90 percent strength.” – **From an interview with the Ramdas household in the Kancheepuram area**

“According to him, M-Sand is a material that is broken from rocks, so it comes out in different shapes compared to river sand, where the shape of each particle is more homogenous. However, when probed that there are tests done by IIT Madras that has proven that M-Sand is stronger, he replied that he did not do testing of M-Sand so far nor read the report. What he says is from his practical experience, as plastering falls off easily with M-Sand and he thinks it is due to the shape of the particles.” – **From an interview with Arumugam, building contractor working in the Kancheepuram area**



“Recently has worked with M-Sand. He had used it for plastering and RCC mixing. He is aware of the water washing and air washing techniques. But he is not satisfied with M-Sand, as he felt that it does not bond as good as river sand. The river sand cement mix strengthens in less than two weeks’ curation, but even after four weeks, the M-Sand cement mix does not curate 100 percent. If rubbed hard with a finger, the M-Sand granules fall away from the plastered surface, whereas it doesn’t happen with river sand.” – **Mason mini focus group discussion in the Cuddalore area**

“The M-Sand available is of poorer quality — it used to be called crusher dust. They filter it and sell it as M-Sand. However, so far no accidents because of quality or anything.” – **George, contractor working in the Kancheepuram area**

- **Concerns that M-Sand retains heat.**



“He did not want M-Sand, as it was made from a type of granite and it would retain heat inside the house when used for construction. He said this was common knowledge — this is what people said.” – **From an interview with the Thanigachalam household in the Kancheepuram area**

- **Inconsistency in the quality of M-Sand on the market.**



“He has been using M-Sand for the last six months for packing primarily. The quality seems to vary; it is sometimes mixed with crusher dust. There are factories which offer good quality M-Sand, too, which is priced higher than what is there in the market, so I would prefer to send the vehicle to quarry and get that quality M-Sand. Consistency of quality in market is not there. Some days it is very good, and sometimes quality is not good — mixed with dust.” – **From an interview with Sitaraman, who works as a labor and material contractor in the Kancheepuram area**





*“He is not sure if the quality of M-Sand is good, as it’s difficult to find if crusher dust is mixed with M-Sand. He is aware of two types of M-Sand — white and grey — and then there is crusher dust (which is only for filling and not suitable for construction work). It’s all mixed up — hard to tell the grade of the M-Sand, so he doesn’t prefer to use.”*

– **From an interview with Rakasekar, a building contractor working in Kancheepuram**

- **Difficulty in using M-Sand effectively.**



*“It is also difficult to work with, especially when plastering. When the mix is applied [thrown] on the wall with the trowel, many times it doesn’t stick to the wall and it falls off. Then it has to be again mixed properly and reapplied. It increases workload and time.”*

– **Mason mini focus group discussion in the Cuddalore area**



*“With M-Sand, it is hard to gauge the right proportion because it looks grey. With sand, one could tell if it was the right proportion looking at the color of the mixture. People might mix more or less cement, and one can’t tell.”*

– **George, a contractor working in the Kancheepuram area**

- **Other concerns, such as health effects.**



*“He fears when M-Sand is used (and because it retains more heat inside house — it is made from rocks — it might lead to jaundice. He knew one case where it happened. It will dry more quickly, but there will be issues.”*

– **From an interview with the Dayalan household in the Kancheepuram area**

# 6

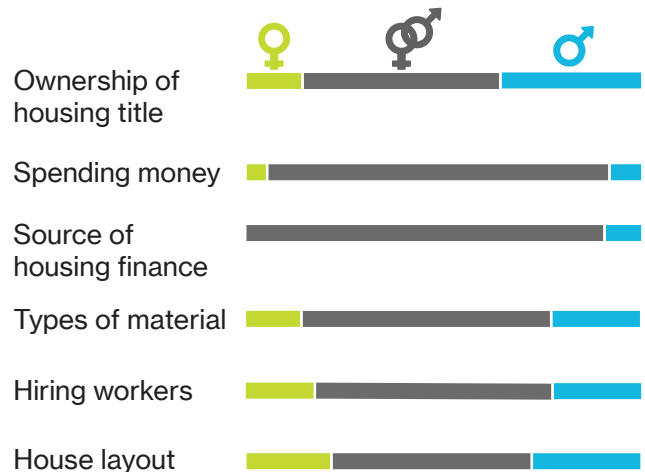
## In-house decision-making process and women's agency

Focus groups explored decision-making levels across various housing design and construction-related matters, namely housing design/layout, hiring workers, purchasing materials, accessing finance to fund building, making purchases, and land titling. Figure 14 displays the most common responses on the balance of decision-making between a husband and wife in a household.<sup>7</sup>

**All activities were broadly seen as joint decision-making,** with on average 62 percent of respondents believing that men and women made decisions together – with at least 50 percent believing this for each activity.

**Men are leading on all decisions more frequently than women.** Nearly one-third of respondents (30 percent) saw men as leading on decisions, as opposed to 7 percent who saw women as leading on decisions. More importantly, interviewees

Figure 14: Women and men's decision-making power by activity



noted that when there was a disagreement, men would make the final decision.

**Important distinctions in decision-making-levels emerge between tasks.** For instance, though men lead on decision-

<sup>7</sup> As focus groups had different numbers of attendants, the percentage of respondents for each answer was calculated for each focus group. These numbers have then been averaged across focus groups for individual activities, and across focus groups and activities for overall figures.

## Key findings:

- All activities were broadly seen as a joint decision between men and women.
- Men are leading on all decisions more frequently than women.
- Women are comparatively more involved in housing layout and design decisions.
- There are more influencers on layout/design decisions than other activities.
- Masons are generally selected by reaching out to friends or contacts.
- Women have a smaller role in deciding whom to hire to do the building work.
- As with hiring, women have a smaller role in deciding which materials to use.
- Men are seen generally as more aware on the best materials to use.
- Accumulating enough money to build a house requires bringing together money from multiple sources, including savings, microfinance institutions, loan sharks, etc.
- Decisions on where to turn to for money were seen strongly as a joint decision between husbands and wives.
- Spending decisions were also largely seen as joint decisions.
- House titles are normally passed on from parents to sons, although this tradition has been challenged by the government.
- Men were generally viewed as having the key role in decision making on titles.
- Women trust their husband's opinion above anyone else's.
- Women also have strong trust in Vastu's advice.
- Women noted that microfinance institutions and self-help groups had increased their decision-making levels.
- Government housing schemes also appear to support women's decision-making.

making across activities, women are comparatively more likely to lead on decision-making in housing layout and design than in any other task. Identifying where to access finance and then spending it were the most likely to be joint decisions, and men were particularly dominant in terms of hiring workers and selecting types of material.

**Women are comparatively more involved in housing layout and design decisions than in other housing activities.** This tended to be due to women being perceived as spending more time within the house and having a larger role in managing and maintaining the house.

**There are more influencers on layout and design decisions than on other activities.** This involved children and parents-in-law, but the most frequent influence was the Vastu consultant. Two Vastu consultants were interviewed as part of the research. One noted that women tended to lead engagement with them, and the other saw a joint role for men and women.

In general, women would welcome the opportunity to be more involved in the house design and construction decision-making process.



*“Don't think it's considered a problem by women; they are involved in discussions. When they build a house, the whole family is involved — kids as well.”* – **An architect working in Pondicherry**

**Women are generally interested in being more involved in the housing decision-making process, but men tend to feel that their current involvement is enough and that their interest for greater involvement is limited.** Women seem to welcome greater involvement in the design process in particular.



*“Women wanted to be more involved in decision-making. They felt they would have contributed better if they had more involvement, especially with regard to the design and construction. Some of them felt that the decisions taken by the men were in line with their thoughts, so they were OK with it.”*  
– **Focus group discussion with women in Parangipettai**



*“Most of them feel that they are sufficiently consulted and involved in decision-making across all the expenses. But some of them mentioned that there are times when they do feel that they could have been involved more in the decision-making, especially with regard to design and expenditures.”*

– Focus group discussion with women in Cuddalore

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*“The group felt that, in most of the cases, women have considerable decision-making power and they don’t need any more enhancement in the role.”* – Focus group discussion with men in Morapakkam

### Hiring workers

**Masons are generally selected through reaching out to friends or contacts** who are masons or asking friends and contacts if they know any masons or have used any recently. This tends to provide multiple options. Households will then look at recent work by the masons and pick one they think will provide the best quality for the price.

**Women had a smaller role in deciding whom to hire to do the building work**, with around half of focus group participants seeing this as a joint decision between men and women and half seeing it as made primarily or only by men. This was in part because men are more likely to work outside the house, and some also work in construction-related trades and therefore are more likely to know masons.

### Picking materials

**As with to hiring, women have a smaller role in deciding which materials to use**, with around half of focus group participants seeing this as a joint decision between men and women and half seeing it as made primarily or only by men. This is reflected in that husbands will always go to retailers to buy materials, sometimes with masons and/or wives.

Focus group participants explained that men are seen generally as more aware on the best materials to use, with women less aware and less able to gauge quality. However, it was noted that women’s knowledge is increasing and that they are becoming better able to make good decisions, with examples of them knowing more about brand and grades of cement and iron rods. Men are also more mobile and less likely to work in or near the house, so they can visit more stores before finalizing their decision of where to buy the products.

## Access to finance and spending decisions

**Accumulating enough money to build a house requires bringing together money from multiple sources.** Households will use their own savings, pawn jewelry, borrow money from family members, and borrow money from informal savings groups or microfinance institutions. Few were able to access larger loans from formal banks.

**Where to turn for money is seen strongly as a joint decision between husbands and wives.** Although these are one-off decisions, there are long-lasting repercussions, such as loan repayments and the possibility of debt collectors knocking on doors. As such, these decisions cannot be hidden from partners. Secondly, women are expected to provide part of the finance, as they are more likely to have valuable jewelry and as microfinance institutions and informal savings groups tend to focus mainly on women.

**Spending also is largely seen as a joint decision**, again because of future implications, the importance of decisions, and because women were providing some of the finance. Generally, where women provided none of the funds, decisions were likely to be led by men, and where women provided some of the funds, decisions were likely to be taken jointly by men and women. Decision-making varied by item, though, with spending on building materials led by men.

### House/land titles

**House titles are normally passed on from parents to sons.** This was generally accepted by both men and women as the tradition and what should happen, with a general view that daughters are equally recompensed by receiving gifts of jewelry for and after their wedding. Informants additionally highlighted that many houses were too small to divide between children (larger houses can be and were more often shared between children), and because daughters tend to leave their parents houses when they get married and sons do not, there was a rationale to pass titles to sons.

This tradition has been challenged by the government. Government program housing is required to be passed to daughters, and laws are in place requiring that inherited houses need to be shared equally between sons and daughters (while households can legally decide on houses they build themselves) – though the latter does not seem to be enforced.

### 6.1. Flows of information to women

**Women trust their husbands’ opinion above anyone else’s.**

In addition, women receive information from fathers- and mothers-in-law in the household, along with their parents,

their children, other relatives and friends. These are all highly accessible and generally trusted.

**Beyond their community, masons and Vastu consultants are important.** Masons are highly accessible, but they are not considered as trustworthy as community members. Within the mason category, mason laborers were more trusted than mason contractors, as contractors were more focused on making profit and looking for ways to cut costs. This contributed to a preference for mason laborers – who actually do the work – over contractors. Most households also go to Vastu consultants to receive advice on layout (see Box 5, pg. 25).

**Beyond these two, women receive little further information from outside their community.** Many households have a television, and internet access (smart phone) is increasing rapidly. However, content on housing appears to be currently limited to advertisements on TV, with women noting that they mainly watch dramas and soap operas. Digital media are not generally trusted on housing. Microfinance groups are also highly accessible and trusted, but these rarely talk about housing issues aside from housing finance. In peri-urban and urban areas, there appears to be some access to engineers, but this is limited.

## 6.2. Influence to increase women's agency

**Women noted that microfinance institutions and self-help groups had increased their decision-making levels.** This is largely because microfinance institutions and self-help groups focus on engaging women (over men) as clients, because they are seen as more likely to repay and often because of their own social missions. They were seen as increasing women's decision-making because, as noted above, they do not just give women a specific area of responsibility, but when women

contribute to household finance for construction, men see an increased need to include them in overall decision-making. Interviewees also noted how self-help groups help women gain confidence by providing a space where they can discuss issues with their peers outside of the house.



*“Self-help groups and microfinance institutions have helped them gain confidence. They enable enterprises and hence help them contribute to the family income. They also said that some of the microfinance institutions provide material loans like blenders, solar lamps, etc., which contribute to the assets within the family.”* – **Women's focus group discussion in Parangipettai**



*“Being in a self-help group has also influenced the women by growing their confidence, as they are now taking active part in managing the household and contributing to finance through loans.”* – **Women's focus group discussion in Cuddalore**

**Microfinance institutions and self-help groups rarely focus on housing or disaster resilience,** both in their named focus of the products (for instance, enterprise loans) and in the discussions group members have among themselves, though members who have built houses do provide input to others when housing is infrequently discussed.

**Government housing schemes support women's decision making** through providing money directly to women or requiring that land titles are passed on to daughters.



# Norms mapping

## 7.1. 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>8</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>9</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.

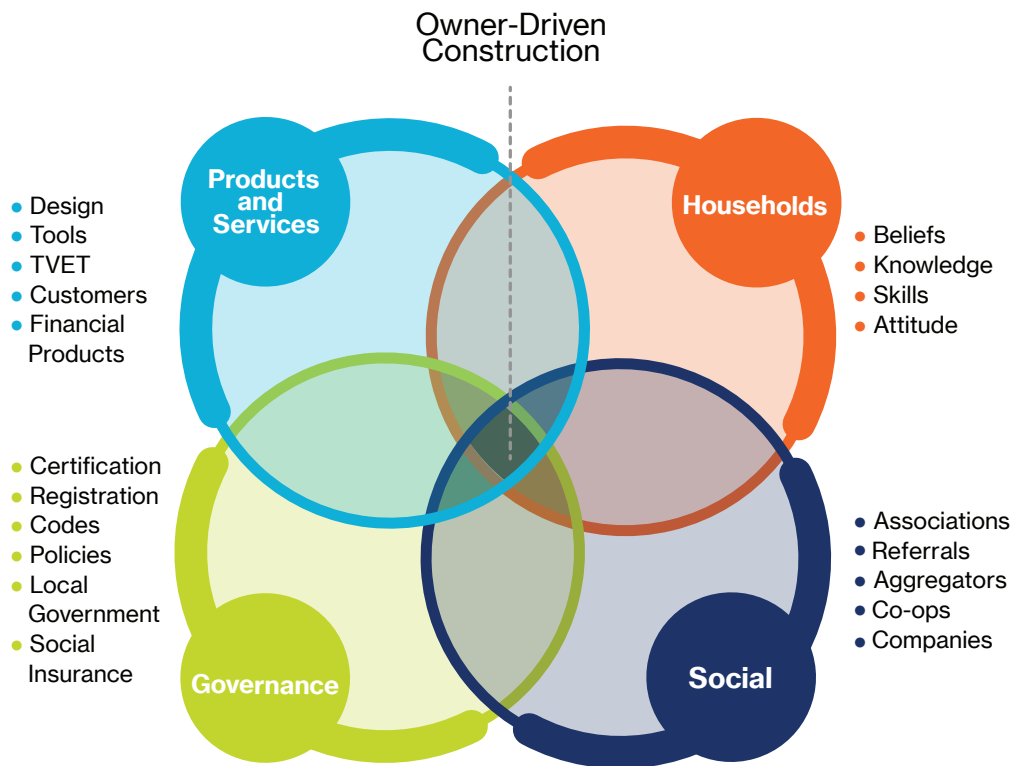
It is important to note that **behaviors and decisions are not driven only by norms**. Rather, they are influenced by a multitude of factors, as the “flower” framework developed by Cislighi and Heise (2017), which the Terwilliger Center has adapted below for housing.<sup>10</sup> The four domains depicted 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

<sup>8</sup> <http://marketshareassociates.com/disrupting-system-dynamics-a-framework-for-understanding-systemic-changes/>

<sup>9</sup> The Social Norms Factor: How Gendered Social Norms Influence How We Empower Women in Market Systems Development. BEAM Exchange. 2016.

<sup>10</sup> Cislighi and Heise. 2017. Measuring Social Norms: A Learning Report. London: LSHTM.

Figure 15: Adapted from Cislighi and Heise framework for understanding determinants of behavior



of 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>11</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>11</sup> Ibid.

### 7.1.1 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.

### 7.1.2 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.**

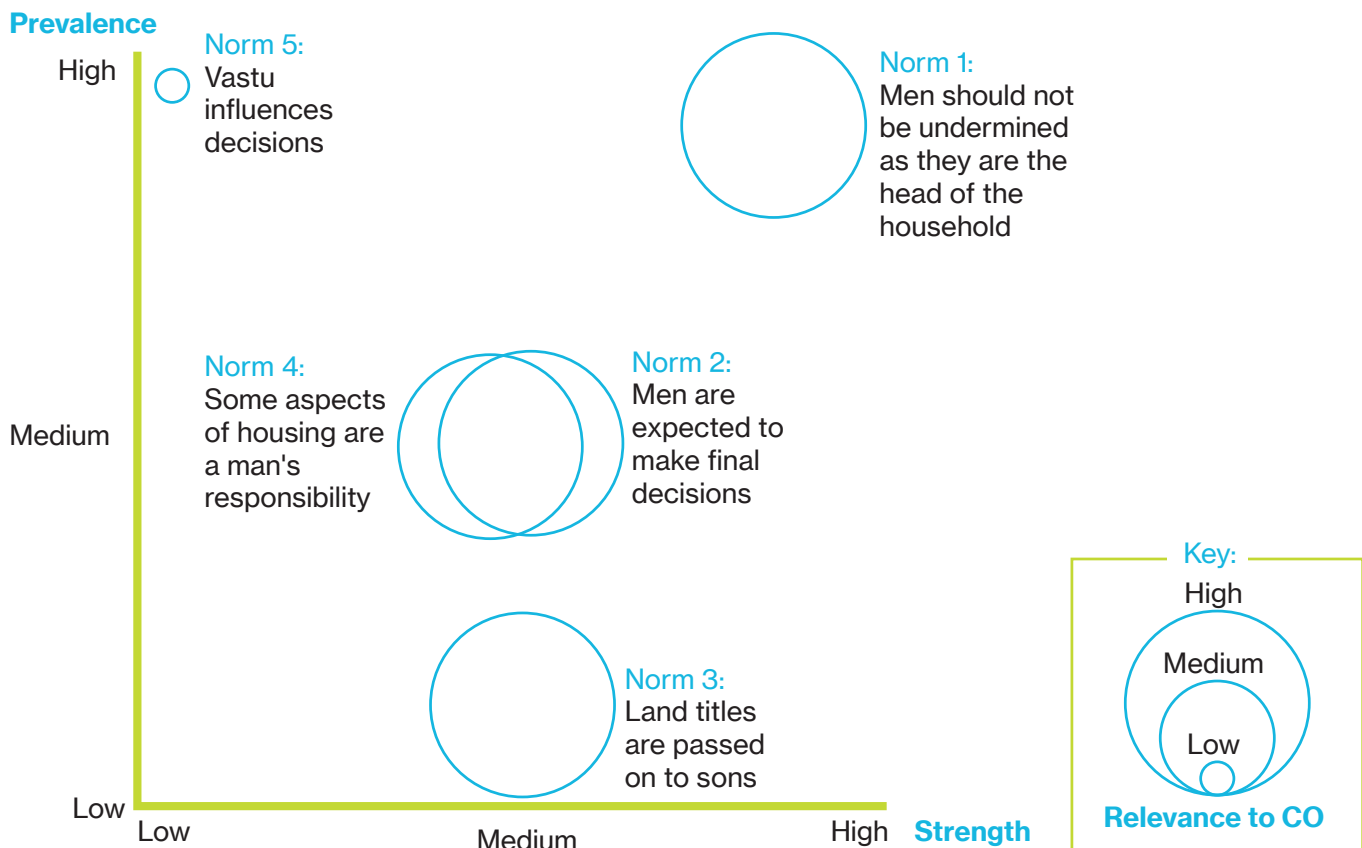
## 7.2. Change Objective 1: Increase agency for women in housing decision-making

### Norm 1: Men should not be undermined, as they are the head of the household

○ Prevalence: High  
 Strength: High  
 Relevance: High

Although women are noticing that their involvement in the decision-making process has increased during recent times, men are still excluding them from some of the key decisions

Figure 16: Change Objective 1 norms map





because they feel their status as the head of the household will be undermined. Women also are apprehensive about pushing their preferences and perspectives because they don't want to create tension within the household and challenge the authority of men as head of the household.



*“Another perspective that emerged was that the men would be apprehensive if the women took the decisions that would be more appropriate than the decisions that men take. Then they will be forced to execute it as per the decisions taken by the women. It becomes an ego issue.*

*Another perspective was that it was felt that men always wanted to dominate women and suppress them, so they were not included in all the decision-making processes. “If one or two things that you said turned out right, don't think that you are intelligent.”* – **Women's focus group discussion in Chengalpattu**

*“The men always want women to remain one rung below them. Even if education, work and other things change, certain things will never change”* – **Women's focus group discussion in Chengalpattu**

*“Most of the times the respondents felt that at least they are being consulted, even if they are not able to take more decisions. They felt even this was good enough, considering that earlier they were not even asked for their opinion. ... Men are the head of the household, and hence that position needs to be respected. Some women also mentioned that they would like to relinquish the decision-making to the men since they didn't want to challenge the authority of men. It was expressed that men would feel undermined if women challenged or took a more active role decision-making.”* – **Women's focus group discussion in Chengalpattu**

### Norm 2: Men are expected to make final decisions



Prevalence: Medium  
Strength: Medium  
Relevance: High

Women are heavily involved in some aspects of the housing construction, such as layout, but there is an expectation that

men are usually the ones to take the lead and to make the final decision.



*“Another perspective that emerged was that the men take the responsibility for everything concerning the house and its management, and hence it was felt that it was rightful that they take the lead in making decisions.”* – **Women's focus group discussion in Chengalpattu**

*“Usually in families that are conservative and traditional, men usually take such decisions. Women will not interfere. They will give suggestions or advice, but accepting it is in the hands of the men.”* – **Perumbakkam, a Vastu consultant**

*“When it was asked if they were not OK with the decision how would they feel, they said that they'd tell their husbands, but they didn't expect it to be executed.”* – **Women's focus group discussion in Parangipettai**

### Norm 3: Land titles are traditionally passed on to sons



Prevalence: Low  
Strength: Medium  
Relevance: High


Though laws have been passed in favour of titles being passed to all children, this does not happen as frequently as it should, as there is a tendency for land titles to be passed on to sons rather than daughters. The effect of this practice is that daughters are likely to receive less wealth from their parents than sons, meaning that they will always be officially living in their husband's house.

This means that husbands will be the key household members in engaging with the government and taking out formal housing loans.



*“If the house is passed on from one generation to next, it will be generally passed on to sons. If the property is large, it would be divided; if it is small, it is usually passed on to sons, since it will be too small to portion.”* – **Women's focus group discussion in Parangipettai**

#### Norm 4: Some aspects of housing are a man's responsibility

 Prevalence: Medium  
Strength: Medium  
Relevance: High

With women taking on positions of increasing responsibility in society and within the household, women's involvement during the house construction process is growing. However, their involvement is restricted to certain domains (as explained in Section 6, Figure 14), in part because of a lack of knowledge, in part because there is an expectation that men will lead in certain aspects of house construction (materials, hiring masons, etc.), while women will lead on others (design, layout, financing).




*"The men take the responsibility for everything concerning the house and its management, and hence it was felt that it was rightful that they take the lead in taking decisions."* – **Women's focus group discussion in Chengalpattu**

*"It was also expressed that men would seek more participation from women for those things which the men feel that the women can contribute (design, layout, financing, spending, etc.). For those that they feel women cannot contribute, they consult women, but men take the decision (selecting materials, hiring masons, etc.)."* – **Women's focus group discussion in Chengalpattu**

*"Most of the women said that they took decisions pertaining to the design and layout, largely because it was felt that the women manage and spend most time at home, and it is largely left to them to decide on the design and layout."* – **Women's focus group discussion in Chengalpattu**

#### Norm 5: Some decisions are delegated to Vastu


 Prevalence: High  
Strength: Low  
Relevance: Low

Women lead many of the conversations with Vastu consultants and are often the ones encouraging men to consult Vastu before building the house. The exact effect of speaking to

Vastu on women's decision-making power should be explored further, as the research has not shed light on whether women are empowered during the engagement with Vastu consultants, or feel disempowered because some of the decisions that women would otherwise lead on are delegated to a third party.

#### 7.3. Change Objective 2: Households use more disaster-resilient construction techniques

##### Norm 1: Disasters are seen as an inevitable occurrence

 Prevalence: Low  
Strength: Medium  
Relevance: High

Although major natural disasters such as cyclones and flooding are infrequent (occurring, on average, every five to six years), when they strike, they hit hard. When they hit, communities are displaced for long periods, and damage to the infrastructure is substantial. Vasantha Vadakutturai, who lives in Parangipettai, commented that, after a cyclone, her family was forced to vacate their home for three months and stagnant water lingered for more than three months in the village. Indira, a woman from Parangipettai, reported that replacing the frames damaged by Cyclone Thane in 2011 cost her 65,000 rupees, a significant sum for a pensioned woman living on 7,000 rupees (plus remittances from her sons) per month.

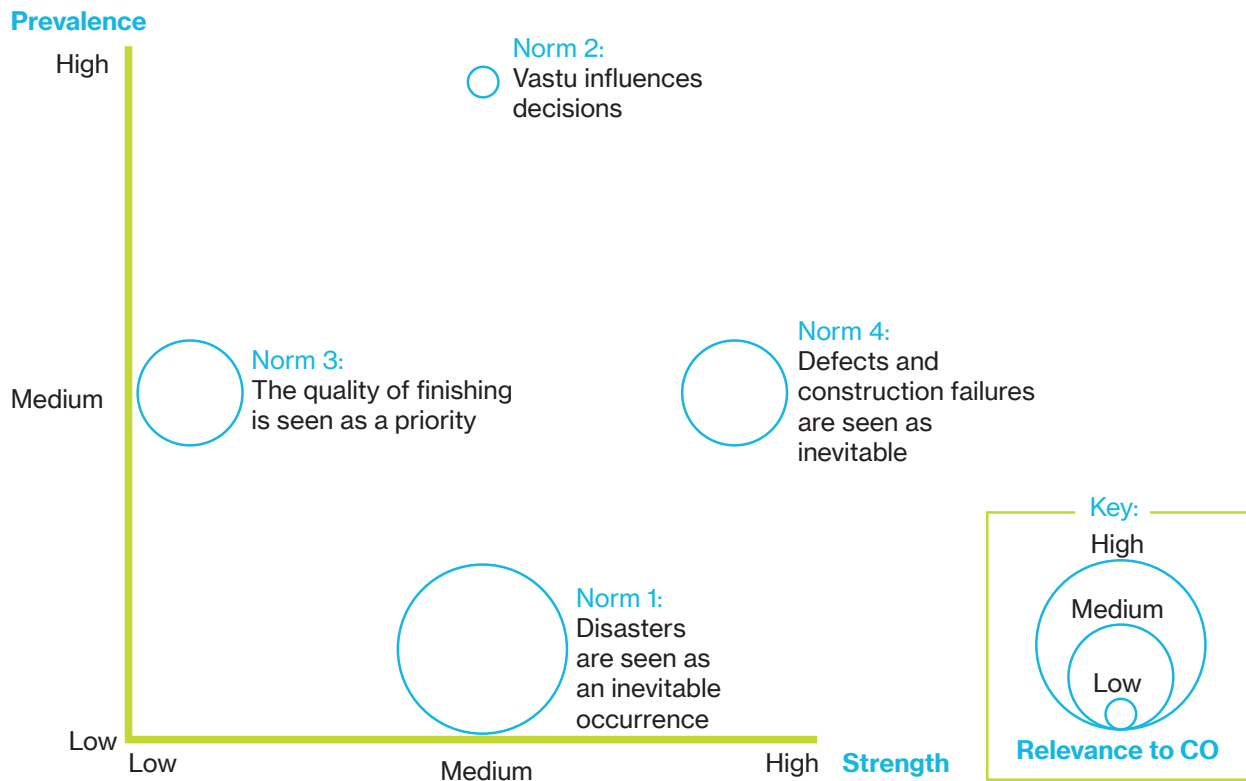
The overwhelming feeling among the households interviewed during the fieldwork is that disasters are inevitable and that households are powerless against their force. Several people argued that if stronger multistory buildings are destroyed by cyclones, how can they expect to do much about their own homes?

When asked what would happen to their homes if a disaster were to hit, a common response was a shrug of the shoulders and, "God can only help us."



*"If there is a fault, the mistry will go up and see it themselves and then call the mason and ask if they had done the work properly, according to the nature of the fault. They will know. But if it occurs in spite of proper work, it is only an act of God. No one can do anything about it."* – **Mason focus discussion group in Cuddalore**

Figure 17: Change Objective 2 norms map



### Norm 2: Households seek Vastu's advice

○ Prevalence: High  
Strength: Medium  
Relevance: Low

Vastu beliefs play a big role in every-day life and are a key decision-making point during the house construction process. Vastu is often seen as a science, and households speak to Vastu consultants before houses are built to make sure that Vastu practices are taken into consideration, and masons are increasingly strengthening their knowledge and awareness of Vastu to provide embedded services to the households.



*“He said he did not believe in God, but his wife does. They both believed Vastu was important for a house, as there was a science behind it. Following it leads to better sunlight in the house. If built Vastu-compliant, the sunlight kills germs and leads to better overall health,”* – **From an interview with Dayalan, who lives in Kancheepuram**



*“Vastu is a science. It talks about ventilation, positive energy flow, etc. When you go for an east-facing house, everything is in the right place. If it is other-facing, then alterations have to be made.”* – **Sasikumar, who lives in Kancheepuram**

*“Vastu is important and is a kind of science. He learned about Vastu through books and from experience. It says what should go where, based on where magnetic rays emanate from. There are scientific truths behind it,”* – **From an interview with Kumaresan, a mason working in Kancheepuram**

The overall belief is that if a house is not built following Vastu principles, there will be negative consequences on the family's health and fortunes. Several of the interviewed families shared anecdotes and stories to substantiate this belief, explaining how adopting Vastu has had a positive effect on them or their families and how, in some other cases, not adopting Vastu has led to health problems.

Although not everyone believes in Vastu, the strength of Vastu is rated as medium, as the societal pressure to adopt Vastu practices means that even nonbelievers and skeptics refer to Vastu during their housebuilding process.



*“He doesn’t know if Vastu was good for the house or not, but felt it would be better to follow it as it was mainly about layout. At a later stage, he doesn’t want to regret not being Vastu-compliant in case something happened. His wife said she did not believe in Vastu, but she would ensure Vastu compliance so that neighbours, elders or visitors would not blame them, saying, “If you had built your home according to Vastu, you would not be facing these problems”, in case any issues arose (personal, financial, health, etc.) in the future.”* – **From an interview with Pandian, who lives in Kancheepuram**

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*“He had seen people suffer and so decided to build ensuring Vastu compliance. Everyone in the town believed in God and therefore followed these things.”* – **From an interview with Thanigachalam, who lives in Kancheepuram**

There seems to be flexibility in the application of Vastu principles, with several households, masons and even Vastu consultants reporting that advice is adopted flexibly by households because of cost and is often overruled by masons, if necessary.



*“He feels that Vastu is mandatory for households and has become a norm, but how much they are adhering to the design by consultants is a major question. In the view of products, it’s always better to use local ... materials, e.g., sand nearby the river, bricks from sand, cement, etc., but the economic feasibility of the individual ultimately plays an important role by the households in buying certain products.”* – **From an interview with Kutty Iyappan, a Vastu consultant operating in the Cuddalore area**

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*“Owners might mention what they want, or he could do work based on what he knows. If there is not enough space, he cannot do everything the homeowner wants.”* – **From an interview with Rajadurai, a building contractor working in Kancheepuram**



*“But Vastu cannot be applied to all plots. A large plot is needed to apply Vastu principles completely. On small plots it is not possible; we apply to the extent possible. Not all clients consult or are particular about Vastu. only some. But the final plan may not be as per the diagram given by Vastu.”* – **Venkadesan, a building contractor working in the Cuddalore area**

The relevance of Vastu to disaster resilience is low. Vastu principles are used primarily when deciding the layout of the house; its positioning; direction of the front door and windows; and position of the kitchen, bedrooms and pooja (prayer) room. The research did identify a particularly strong link between Vastu principles and disaster resilience.



*“Generally, Vastu people don’t think about DR, as it is unpredictable. They don’t go into the materials-related aspects; they leave it for engineers or masons to decide on them.”* – **Pughazhendi, a Vastu consultant in Cuddalore**

However, some market actors believe that there is a link between compliance with Vastu and disaster resilience.



*“Vastu has scientific basis, and if the building is constructed according to Vastu principles, the structure can withstand most disasters.”* – **Mutlu Balachander, a material and labor contractor in the Cuddalore area**

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*“Vastu is based on the five elements. If you look at India, the way South India is surrounded by waters on three sides — south, southeast and southwest — is totally against Vastu. Hence South India experiences a lot of natural disasters. According to Vastu northeast should have water, but we have mountains, and south should not have water, but we have water in south, southeast and southwest. Water in the place of fire is not good and is also one of the reasons why we have lot of poverty in India and fire incidents in the southeast. Same principles apply to any house.”* – **Youvaraj Sowma, a Vastu consultant in Kancheepuram**

Because Vastu principles come from ancient scriptures, little flexibility has been shown by Vastu consultants to incorporate additional information in their advice. Households go to Vastu consultants seeking specific Vastu advice, so the potential to embed other types of recommendations seems limited.

### Norm 3: The quality of finishing is seen as a priority

○ Prevalence: Medium  
Strength: Low  
Relevance: Medium

Although most of the individuals interviewed (both masons and households) argue about the importance of building durable and strong homes, households primarily share feedback with masons on the finishing quality of the houses. This is due in part to the fact that many households do not have the technical knowledge to judge the quality of masons' work and, therefore, oversee and comment on the more cosmetic aspects, but it seems that the quality of finishing is a priority across the market and overshadows some of the more important aspects of construction.

In addition, when future homebuilders look for masons through the referral system, finishing quality, rather than durability and the solidity of the structure, seems to be one of the primary concerns. Since masons find work primarily from referrals, this focus on finishing means that masons have less incentive to focus on improving structural, durability and disaster resilience issues. Masons also take advantage of this by covering up structural issues with higher-quality finishing.



*“Q: We heard that people generally decide on the mason by looking at their work. So how would a person who visits a house constructed by you judge your work?”*

*A: If they know about construction, then they will look at many aspects like angles, quality of plastering, thickness, etc.*

*Q: What about others who are not so aware?”*

*A: They will only look at the finishing. They usually look for soft and smooth wall finish.” – Mason focus group discussion in Cuddalore*

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*“One of the problems is that many people look only at the finish and not the work that has been done inside. Even if the finishing is good, it is possible that the quality of construction may not be*

*good. The finishing can be enhanced by the painters by adding more primer and putty before painting. The wall will appear smooth, but inside the mix may not be optimal.” – Mason mini focus group discussion in Cuddalore*

### Norm 4: Defects and construction failures are seen as inevitable

○ Prevalence: Medium  
Strength: High  
Relevance: Medium

While some defects are harmless and unavoidable, such as air cracks, others, like structural cracks and leaking, are not. There seems to be a quiet acceptance, especially among masons, that some more harmful mistakes are inevitable, especially in the case of waterproofing. Poor waterproofing techniques have likely led to a collective acceptance across households that waterproofing is ineffective, meaning that masons and contractors are not held accountable for their mistakes and have little incentive to learn how to improve. The acceptance that some practices are not effective has also likely led to the decrease in demand for these services and decreased incentives for masons and contractors to offer them to households.



*“Once the construction work is done, households bear the brunt most. They do the repair work themselves, and they do the works mostly if the repair works are small.” – Unknown household in Kancheepuram*

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*“As far as water leakage is concerned ... We now mix the waterproofing chemicals in all roof and RCC applications. In spite of RCC and waterproofing there is seepage of water during storms.” – Men's focus group discussion in Parangipettai, Cuddalore*

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*“On probing with example of an air crack on the wall — have you observed that? Did you ask him about it? The respondent opined that the mason would say, ‘This is a simple air crack, and it will not affect the building,’ but on probing as to why she thinks he will say that. she said that is what he would say and that he would not guarantee that the house will be free of defects.” – From an interview with Sundaramurthy, who lives in the Kancheepuram area*

“Minor issues keep happening. As long as there is no major structural issue, they felt people will not be worried much.”

– From an interview with Thangavel, who lives in the Cuddalore area

#### 7.4. Change Objective 3: Improve masons’ ability to change their practice, leading to better services for low-income homebuilders

##### Norm 1: Masons are unwilling to accept knowledge gaps

○ Prevalence: Medium  
 Strength: Medium  
 Relevance: High

Many of the masons who were interviewed believe that they know everything there is to learn in the construction sector. While this is driven partly by the fact that there has been little innovation in the sector, limiting masons’ exposure to change and the need to learn new practices, masons are unwilling to

accept that they have gaps in knowledge or that they could be at fault. It was not uncommon for a mason to comment on the fact that they are never wrong and that their work is as perfect as it can be. This also suggests a link with Norm 4 from Change Objective 2, which suggests that market players see defects as inevitable and normal.

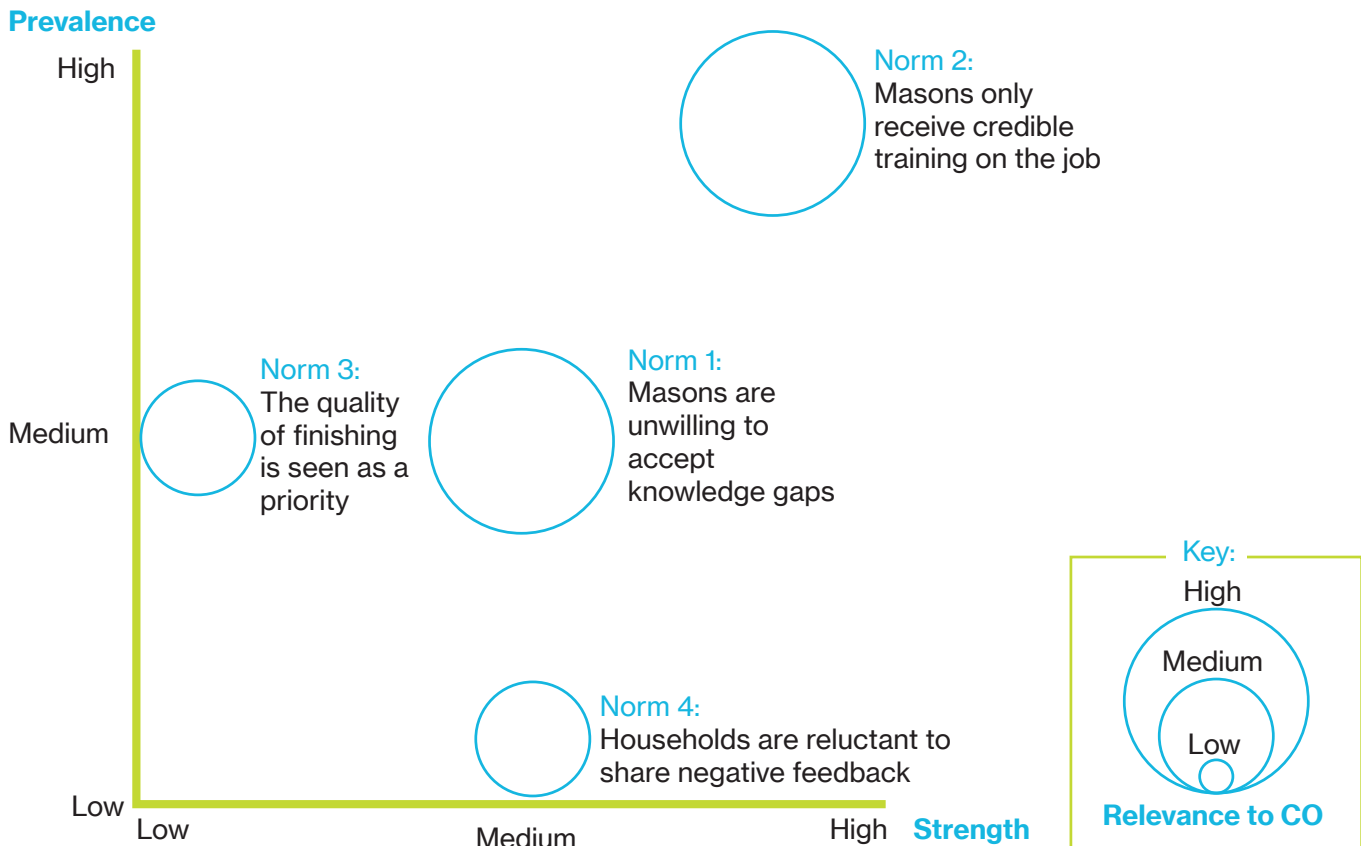
Prevalence of this norm is rated as medium, as some of the masons interviewed (especially if they are more experienced building contractors with civil engineering degrees) have indicated that they would be interested in learning about new techniques and technologies.



“Masons in general don’t like to be told how to do their work. They will stop working if there were questions asked or suggestions given. Two or three masons had left like that.”

– Dayalan, who lives in Kancheepuram

Figure 18: Change Objective 3 norms map





“There is nothing to learn. He has worked in three projects in Chennai. He said the work is the same everywhere. He believes his work is one of the best and he does not need to know or learn anything more.” – **From an interview with Manikkam, a labor contractor working in the Cuddalore area**

“One aspect he wants is the experience to work with new materials like M-Sand, hollow cement block, etc. He feels he cannot experiment on a client, and hence would like a chance to experiment with new materials. He feels there is no scope for this as of now.” – **From an interview with Venkadesan, a building contractor working in the Cuddalore area**

“He is willing to learn new things, be it material or technique (gave an illustration of how he learned smooth roof finishing through another NGO). He is willing to receive information and learn from anywhere. On what motivates him to learn new things, he said he is inquisitive and takes the initiative to learn from wherever it is available.” – **From an interview with Mutliu Balachander, a building contractor planning to study an engineering degree and working in the Cuddalore area**

**Norm 2: Masons only receive credible training on the job**

Prevalence: High  
Strength: High  
Relevance: High

The reluctance of many masons to value formal construction training in large part comes from the general belief that construction is a hands-on profession that is primarily learned on the job. Most masons interviewed were therefore extremely dismissive of formal training courses and certification processes (although to a slighter lesser extent), claiming that they add close to zero value to the profession. Any construction worker formally trained would have to go through the same learning process and on-the-job training as anyone else.



“Education does not matter in this work because this requires hands-on skills; it doesn’t depend on education. Irrespective of one’s education, if they are willing to learn, only if they handle

the materials properly can they do this work. Experience is most important. Even to educated people, we only have to teach them. Only for engineering work they need education. not for masonry.” – **Ramachandran, a mason interviewed during the mason focus group discussion in Cuddalore**



“More than training in this field, it is experience that matters more. Everything in this business is learned by experience — even bar bending, etc. You have to keep learning, improving your experience.” – **Rakasekar, who works as a building contractor in the Kancheepuram area**

**Norm 3: The quality of finishing is seen as a priority**

Prevalence: Medium  
Strength: Low  
Relevance: Medium

As discussed in Section 7.3 (Change Objective 2, Norm 3), households seem to prioritize finishing aspects of the construction work when either sharing feedback with masons or looking for masons through the referral system. Although this is in part caused by a lack of knowledge across households of construction techniques and how to evaluate good construction practices, it has reinforced the expectation that finishing is one of the main criteria for determining the quality of a house.

Since masons are therefore mainly held accountable for the finishing of their work, they have little incentive to learn about new practices and technologies that improve the disaster resilience, durability or weather preparedness of the houses they build.

**Norm 4: Households are reluctant to share negative feedback**

Prevalence: Low  
Strength: Medium  
Relevance: Medium

Conversations with masons have shown that there isn’t a fully functional feedback system among households and masons. Households keep a strong eye on masons while they are working on the construction site and mainly discipline them for their work ethics, but little feedback reaches masons after the house has been constructed.

Since masons and households often come from the same neighborhood or village, households are often reluctant to share negative feedback with the masons to avoid disputes. This lack of feedback leaves masons rarely aware when the work they have delivered is not up to scratch and that they should improve in their delivery.

This norm is likely to be more prevalent in lower-income communities, where there is a stronger link between households and masons.



*“On involving the homeowners for whom they have built houses, 90 percent are bound to tell that the mason did good work because they do not want to tell anything bad about the mason who has worked on their house especially because they tend to be from the same network.”* – [Mason mini-focus group discussion in Cuddalore](#)

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*“The homeowner will often share the negative feedback with the person who recommended us, but not with us. Not all households are like that though; there are some who share the feedback more directly.”* – [Mason focus group discussion in Kancheepuram](#)

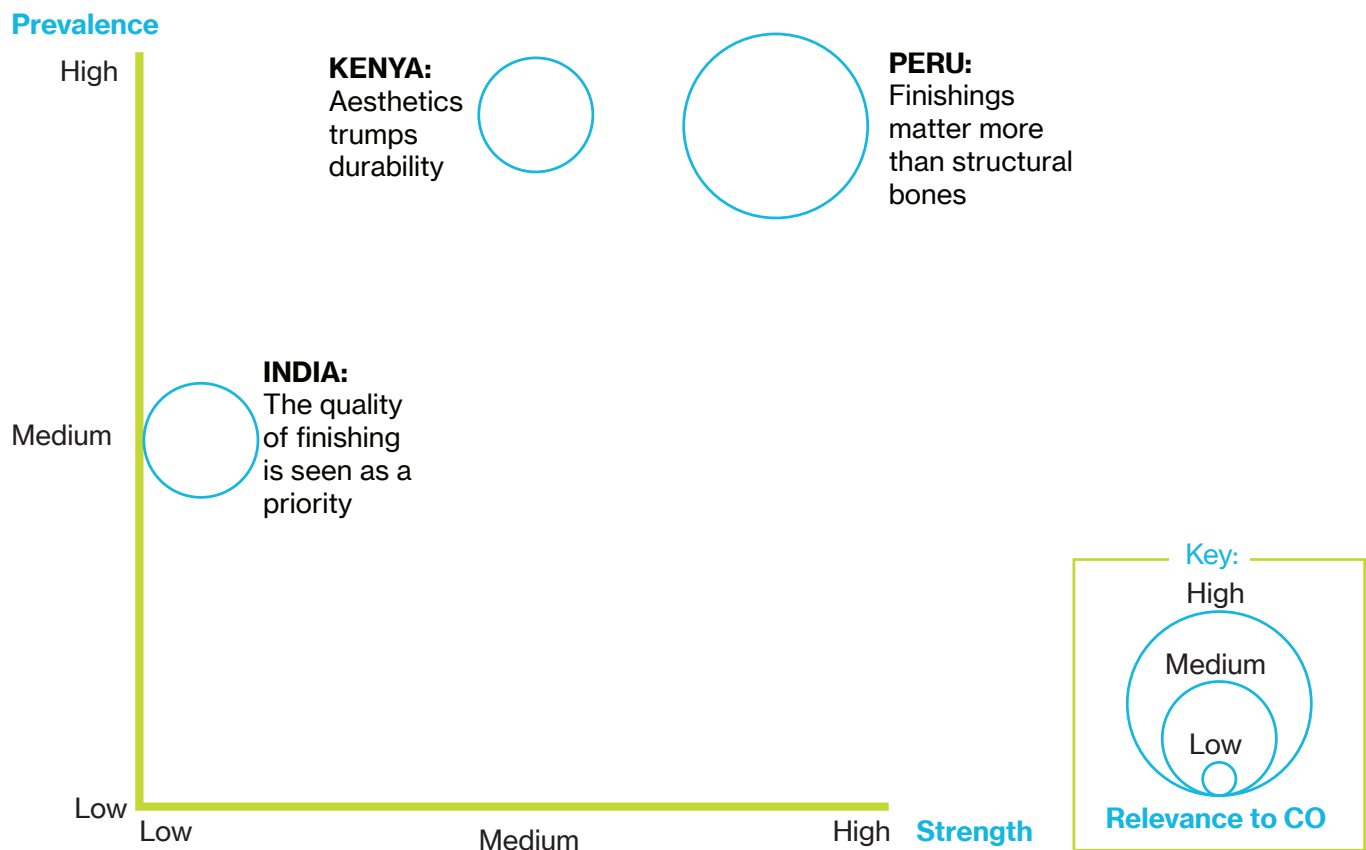


# Making sense of the research

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 make sense when one understands the norms that prioritize the quality of finishing and consider construction failures to be inevitable.
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 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 19: 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 fail to 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 users’ 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 India and building on the findings described in Sections 5-7 of this report, a human-centered design workshop was facilitated to design draft intervention concepts for quick field validation. The steps taken during the workshop were:

- **Step 1:** Identification of key intervention opportunity areas.
- **Step 2:** Prioritization of four intervention opportunity areas (at least one per change objective).
- **Step 3:** Fast intervention concept development, using a concept development card.
- **Step 4:** Prioritization of draft intervention concepts, according to a transformation vs. ease of implementation matrix.

- **Step 5:** Detailed intervention design of four prioritized intervention concepts.
- **Step 6:** Fieldwork validation by interviewing four households and holding one mason focus group discussion.

The four interventions that were prioritized for detailed design (Step 5) and validation (Step 6) are:

- **Intervention Concept 1** (Change Objective 1): Marketing through microfinance institutions and self-help groups.
- **Intervention Concept 2** (Change Objective 2): Work through microfinance institutions to develop loan products for roofing, with embedded insurance.
- **Intervention Concept 3** (Change Objective 3): Develop an app to connect the construction system, including masons with material suppliers and households with masons.
- **Intervention Concept 4** (Change Objective 3): Work with

material companies to provide information to masons through a voucher system.

**Next steps include:**

- Engaging with microfinance institutions to assess their appetite and the feasibility of developing a new loan product.
- Assessing the feasibility of having microfinance institutions collaborate with masons as agents.
- While improving access to information through mobile phones might not be the way forward, the fieldwork validation showed that there is an interest from masons to receive information and technical support from engineers and material suppliers.
- Following up with companies with clients who make bulk orders, in order to assess their appetite for improving their customer service and after-sales follow-up.

This report was developed by MarketShare Associates for Habitat for Humanity's Terwilliger Center for Innovation in Shelter by Adriano Scarampi and reviewed by Ben Fowler, Erin Markel and Ashley Aarons of MarketShare Associates and Jennifer Oomen, Mehjabin Ahmed, Sanjiv Ray, Bala Subramanyam, Prasanna Sriraman, Deepak Visvanathan, Henrietta Isaac, Ashwin Kumar Rao, Mallory St. Claire, Scott Merrill and Sheldon Yoder of Habitat for Humanity. In addition, the Terwilliger Center's country personnel and consultants in India dedicated themselves wholeheartedly to carrying out the research summarized in this report.



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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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