BACKING INCREMENTAL HOUSING

The role of Social Enterprises
assisting Incremental Housing

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"Innovation is more important where there are fewer resources, more inequality, and more problems to solve"

(Carlos Zedillo, 2021)

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FIG. 01: Social Production of Housing (Comunal, 2021)

Preface

This report marks the completion for the Master of Science in Management in the Built Environment at Delft University of Technology.

"BACKING INCREMENTAL HOUSING: the role of social enterprises assisting incremental housing in Mexico" was steered by my background as an architect and my interest in social enterprises in developing socio-technical innovation to bringing solution to global challenges.

I would like to express my deepest gratitude to both of my mentors: Ellen Geurts and Darinka Czischke. Ellen, for your timely mentorship and guidance in shaping this project, and Darinka, for always providing constructive feedback and inspiring ideas to carry out this research. For the patience, thank you!

This thesis could not have been possible without the participation of the interviewed professionals of the chosen case studies and experts in the field of Incremental Housing in Mexico. Therefore, I would like to extend my gratitude to Lucia Valenzuela (Mejoremos), Nancy Welsh (iBUILD), Francesco Piazzesi (ECHALE), Cesar Guerrero (S-AR, Comunidad VIVEX), Jaime Gomez (Programa Viva), Anaid Gonzalez (Cooperacion Comunitaria), thank you for sharing your expertise for the interest of this research. Also, I would like to thank Claudia Acuña and Magali Patricio (SEDATU/INFONAVIT) for providing great insight into the current situation of Incremental Housing in Mexico.

I hope the outcome of this research brings inspiration to young generations of architects and entrepreneurs in summing up efforts in the form of socio-technical innovation toward incremental urban development.

Finally, I would like to thank my family and friends because this project would not have been possible without all your love and support during this time.

GRACIAS!

Alexandra

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FIG. 02: Social Production of Housing (Comunal, 2021)

Abstract

Top-down solutions toward Incremental Housing have been criticized because the government has imposed unrealistic and unaffordable standards. On a bottom-up approach, Social Enterprises have been recognized for their contribution to global challenges by implementing service and product innovation and their intermediary role in the processes related to the Built Environment. Theory on Incremental Housing (i.e., process, elements) and Social Enterprises (i.e., characteristics of the organization, intermediary roles) are used to identify three types of Social Enterprises and their contributions to Incremental Housing. A typology was constructed from a cross-case study of 6 cases to answer the following research question: To what extent does the type of Social Enterprise and deployed roles contribute to the Incremental Housing process? Firstly, type A: technical-led is a socially driven organization adopting roles as an implementer, emphasizing design and material solutions. Their intervention is sporadic, facing challenges such as a limited network, resources, and motivation to achieve goals. Secondly, type B: community-led, is a socially driven organization adapting roles as a catalyst and partner, focusing on the bottom-up process of self-organization and building social networks on a local scale. Barriers faced by this actor are; the lengthy decision-making process among groups and the minor involvement of the users. Thirdly, type C: project management-led; adopting roles as catalysis, implementer, and partner, has an extensive network with strategic allies. Barriers faced are limited access to the best talent and actors not having a shared vision towards Incremental Housing. Shedding light on these organizations aims to attract the attention of policymakers towards these actors to propel their practice and inspire new ventures towards assisting the Incremental Housing process.

Keywords: Incremental Housing; Social Production of Housing; Social Enterprises; Social Innovation; Intermediary Roles; Typology

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List of Abbreviations

ABBREVIATION	FULL MEANING
APV	Housing producing agency Agencia Productora de Vivienda
AIH	Assisted Incremental Housing
CONAVI	Comisión Nacional de Vivienda National National Housing Commission
ENA	Estrategia Nacional de Autoproducción National Self-Production Housing Startegy
ENVI	Encuesta Nacional de Vivienda en Mexico National Survey of Household
FONHAPO	National Housing Popular Fund Fondo Nacional de Habitaciones Populares
FOVISSSTE	Fondo de la Vivienda del Instituto de Seguridad y Servicios Sociales de los Trabajadores del Estado Housing Fund of the Social Security Institute of Workers at the Service of the State
HIC-AL	Coalición Internacional para el Hábitat Habitat International Coalition
IH	Incremental housing
INEGI	Instituto Nacional de Estadística y Geografía National Institute of Statistics and Geography
INFONAVIT	Instituto del Fondo Nacional de la Vivienda para los Trabajadores Housing Fund Institute
SEDATU	Secretaría de Desarrollo Agrario, Territorial y Urbano Secretariat of Agrarian, Land, and Urban Development (Mexico
SHF	Sociedad Hipotecaria Federal Federal Mortgage Company
SPH	Produccion Social de Vivienda Social Production of Housing

FIG. 03: List of Abbreviations

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FIG. 04: List of Figures

FIGURE: Social Production of Housing (Comunal, 2021)

1.2 Problem Statement

Incremental housing (IH) is a gradual process in which the residents improve or extend their dwellings according to their available resources (Park et al., 2019). This approach once attracted the attention of policies as an affordable way to provide housing to the low-income sector. However, it has both advantages and disadvantages. On the one hand, IH is affordable without the recourse of public subsidy (Wakely & Riley, 2011). On the other hand, it has been criticized for the length of the project, which results in high transaction costs and low quality and value units. The latter is often related to the lack of technical and financial support (Kunz & Espinosa, 2017; Wakely and Riley, 2011; Romero, n.d.; Bredenoord & van der Lindert, 2014).

In an attempt to guide effective growth, Latin American governments have launched Assisted Incremental Housing (AIH) programs. Nevertheless, these programs have been criticized because the government has imposed unrealistic and unaffordable standards, insisting, for example: on regulated land, mandatory housing designs, and high-quality construction standards (Wakely and Riley, 2011; Ortiz, 2020).

Inhabitants have partially or entirely solved their housing needs, frequently by collective effort (Valenzuela, 2018). Different cases analyzed suggest that community empowerment has a significant role in the success of IH (Bredenoord et al., 2020; Wakely and Riley, 2011; Ortiz, 2020). In this context, AIH is considered by UN-Habitat (2005) as the most affordable and intelligent way of providing sustainable shelter. AIH is defined as a bottom-up process of making the Built Environment facilitated by organizations that provide technical and financial assistance (Arroyo, 2013; Breedenord, 2014).

Social Enterprises (SE) have gained more attention regarding their potential role in generating solutions for global challenges (Makhlouf, 2011). Several studies have explored the dynamic between SE as an intermediary in the processes related to the Built Environment (BE). For instance, when it comes to IH and slum upgrading, SE are well known for providing technical, legal, and all kinds of assistance to the self-builder. (Bredeenoord et al. 2014; Nikkhah & Redzuan, 2009). Different authors acknowledge their role in building community and contributing to social capital besides their role in creating strategic 'vertical' connections between the community with powerful actors (Vergara, 2018).

According to the National Housing Survey, in 2020, 57.3% of private housing in Mexico was self-produced, 65.4% was built with its resources 58.5% of private housing requires renovation, extension, or maintenance to satisfy the user (INEGI, 2020). Contrary to government and market actors, who have failed to contribute to the needs of the current housing situation, Social Enterprises and Social Entrepreneurs have been acknowledged for their contribution to global challenges through the generation and implementation of social and service and product innovation (Makhlouf, 2011; Defourny & Nyssens, 2014). SE has recognized the opportunity to create social value in the topic of IH (Mens et al., 2021). However, little is known about these organizations regarding i) who they are, ii) why they started, iii) how they implement their actions, and iv) what their contributions are to the process of IH, considering internal and external barriers and enablers during their practice.

Chapter 1
Introduction

1.3   Research Aim

This research aims to shed light on SE's contributions to IH to attract policymakers' attention to these actors to propel their practice and inspire new ventures toward assisting the incremental housing process. This research first identifies SE's roles and actions as intermediaries in processes related to the BE. In addition, this research develops an analytical tool to explore SE assisting IH. Finally, given the diversity of SE assisting the IH process, this research develops a typology of these organizations to identify their contributions and explore areas of specialization regarding the assistance of IH and explore further collaborations among the different types of SE identified.

1.4   Research Questions

1.4.1 Main Research Question

To what extent does the type of social enterprise, role, and strategies deployed contribute to Incremental Housing?

In order to answer the main question, key questions are organized into three main parts: conceptualization, analysis, and synthesis. The conceptualization part provides the background to create the primary domain of this research. The analysis contains the main research explorations. The synthesis part develops the main research product of this research.

1.4.2 Sub Research Question

What roles and actions can be distinguished regarding the contribution of Social Enterprises to the assistance of Incremental Housing?

The first question aims to develop a tool to explore the role of social enterprises in the field of incremental housing. In order to answer this question, first, a definition of Incremental Housing and Social Production of Housing is given. The dimensions and process phases of the IH are explored. This part also investigates the potential role of SE as intermediaries in the processes related to the BE. This question is answered through a literature review.

How do Social Enterprises assist Incremental Housing in Mexico? What are the Barriers and Enablers of their practice?

The second question belongs to the analysis part and provides the empirical approach. First, the current situation of IH in the country of interest is explored to answer this question. Secondly, an analysis of the characteristics and motivations behind the organizations of interest assisting the incremental process is given. This question is answered using qualitative methods, including a multi-case study of SE located in the country selected to carry out this investigation: Mexico.

What is a typology for Social Enterprises assisting Incremental Housing? What are their contributions to Incremental Housing?

The third question belongs to the synthesis part and provides the results of this research. This question is answered after a cross-case analysis of the previous data and, finally, suggests a typology of SE based on the different approaches taken towards the assistance of IH.

1.5 Research Design and Methods

This research comprises three main parts, i.e., conceptualization, analysis, and synthesis. The structure of this research project establishes a temporal sequence in which the results of one part inform the next one.

The first part, conceptualization (CH 02, CH 03), brings knowledge about IH, its process, and dimensions based on a literature and document review (theoretical approach). Also, the concept of SE is introduced as a part of the solution in the context of IH. This part concludes with the development of an analytical framework to further describe and analyze the interventions of SE in AIH. This part includes data collection from secondary sources, such as scientific documents, government documents, and institutional reports.

The second part, analysis (CH 05, CH 06, CH 07), comprises a multi-case study. In this part, the case of IH in the selected country of interest is reviewed. Given this research's explorative and qualitative character, this approach is used for data collection and analysis (Yin, 2014). This part of the research includes the case study design and selection. 6 cases of the SE assisting the IH process in the country of interest were selected. The framework resulting from the previous section was implemented to carry out the analysis of each case. A cross-case analysis was carried after the individual analysis of each case to identify common patterns and differences from the different cases studied. This part includes data collection from primary data (i.e., semi-structured interviews) and secondary data (i.e., documents review).

The third part, synthesis (CH 08), proposes a typology of SE in the field of AIH. FIG 01 gives an overview of the research design proposed. A detailed description of the case study design and case selection is presented in CH 5.

FIG 06 gives an overview of the research design and thesis outline to conduct this research.

1.6 Data Management Plan and Ethical Considerations

A data plan indicates how data will be managed more efficiently, effectively, and securely. The current research collects raw or primary data (i.e., audio files of interviews, transcripts) stored off-line (i.e., researcher's laptop) with a copy on the cloud (i.e., google drive). The working version of this report, and the figures developed, are also stored off-line (i.e., researchers' laptops) with a copy version on the cloud (i.e., google drive). After submitting the current research report, all data will be stored for one year. The final research report will be submitted to the TU Delft Educational Repository.

This research is focused on the Management Strategy of SE in the field of AIH. Given those characteristics, raw data must be protected based on the standard rules of TU Delft on Ethics and Privacy Committee. For this reason, prior to carrying out the interviews, all interviewees were given an Inform Consent Letter, which aimed to confirm the participant's permission to be part of the current research—allowing the researcher to use the collected data for the current research purpose.

CH 1 — INTRODUCTION

What roles and actions can be distinguished regarding the contribution of Social Enterprises to the assistance of Incremental Housing?

CONCEPTUALIZATION

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How do Social Enterprises assist Incremental housing in Mexico? What are the barriers and enablers of their practice?

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DOCUMENT REVIEW
CONTEXT

CH 6 — Case Studies Social enterprises
INTERVIEWS + DOCUMENT REVIEW
WHO AND WHY / BARRIERS & ENABLERS

CH 7 — Cross - case analysis
WHY / WHO CROSS - CASE ANALYSIS
SIMILARITIES & DIFFERENCES

What is a typology for Social Enterprises in assisting Incremental Housing? What are their contributions to the process and dimensions of Incremental Housing?

SYNTHESIS

CH 8 — Social Enterprises Typology
WHAT ANALYSIS
TYPE & CONTRIBUTIONS TO IH

CH 9 — CONCLUSION

FIG. 06: Research Design and Methods (source: author)

1.7 Research Output

This research aims to deliver the following outputs:
-Knowledge about Incremental Housing.
-Knowledge about the current situation of Incremental Housing in the country of interest.
-Analytical framework to explore the role of Social Enterprises in assisting Incremental Housing.
-A typology of Social Enterprises assisting Incremental Housing.
-Recommendations for Social Enterprises assisting Incremental Housing and for government programs to propel the activities of these organizations.

1.7.1 Dissemination and Audiences

The primary audience of research are SE assisting Incremental Housing in developing countries. Also, startups and entrepreneurs, architecture and construction firms aiming to start their practice in the field. In addition, a primary audience of this research are policymakers. Hopefully, the outcome of this research can bring a better understanding of the contribution of SE in assisting Incremental Housing to further integrate policy instruments within strategies or programs supporting IH.

1.8 Research Relevance

1.8.1 Societal Relevance

According to the National Housing Survey, in 2020, 57.3% of private housing in Mexico was self-produced, 65.4% was built with its resources 58.5% of private housing requires renovation, extension, or maintenance to satisfy the user (INEGI, 2020). The topic of IH, better known in Mexico as Social Production of Housing (SPH), has gained more visibility in the last three years. For instance, in 2019, SEDATU (Secretariat of Agrarian, Land, and Urban Development) launched the ENA (National Self-produced Housing Strategy). However, this strategy is still under development, and it is been argued that SE working on AIH were not considered in its design (Piaezzi, 2022; Patricio, 2022). This is not the first time the government has implemented AIH programs to support self-managers. Several strategies have been launched in previous years. Nevertheless, they have been criticized for their unrealistic and unaffordable standards (Wakely and Riley, 2011; Ortiz, 2021; Ordonez, 2020).

Considering the challenge of IH in Mexico and deviating from top-down approaches, SE have been recognized for creating the link between the government and the people. Also, they have been recognized for their role in building capacities, providing training, and listening to communities (Adler, 2012). SE have gained more attention regarding their potential role in generating solutions for global challenges (Makhlouf, 2011). Therefore, this research considers the societal relevance of sharing knowledge about SE's current and potential contribution in assisting the incremental process to propel their practice in Mexico.

1.8.2 Scientific Relevance

In the last ten years, there has been an increase in the number of papers on IH in developing countries. Research on IH has focused on individually understanding the elements that impact the model (e.g., land, finance, building materials/labor, infrastructure) and the relations among those elements. (Smets, 1999; van Noorloos et al., 2019; Amoako & Boamah, 2017; Kamalipour & Dovey 2020). Research has been done on understanding the process and the stakeholders around IH (Greene and Rojas, 2008; Ortiz, 2012). IH has been studied from the perspective of housing policies and their role in better integrating the poor into the cities (Wakely & Riley, 2011; Acioly et al., 2011; Bredenoord & van der Lindert, 2014; Gattoni et al., 2011).

Other studies have focused on understanding the incremental process through a better understanding of the family dynamics (Mora et al., 2020; Nohn & Reinhard, 2016; Peek, 2013). The topic of AIH, the relation between IH and community empowerment, participatory processes, and the potential role of community training centers have also been explored. (Bredenoord, 2017; Park et al., 2019; Arroyo, 2013; Restrepo, 2017; Hasgül, 2016; Bredenoord, 2009).

Researchers have focused on the role of NGOs and community-based organizations in assisting IH (Wakely & Riley, 2011; Junghwa, n.d.) Along the same line, several scholars have highlighted the relevance of intermediary organizations in supporting low-income and vulnerable groups to improve their capacities (Lee, 1998), promote social capital, and facilitate access to opportunities, resources, and skills. Social Enterprises or Social Entrepreneurs have gained greater visibility and recognition in the last ten years due to their growing worldwide impact, generating solutions to global challenges (Makhlouf, 2011). In this context, Social Entrepreneurship behavior and typologies have been explored in developed countries in urban development and on the transitions to circularity (Parmar, 2021; Mens et al., 2021). Research exploring the contributions of third sector organizations to the management of condominiums has also been carried out (Vergara, 2018). Different analysis frameworks have been identified in the literature to analyze the contribution of social enterprises or/and their type of organization or entrepreneur in different situations (Vergara, 2018; Mens et al., 2021; Shaughnessy, 2010). However, any of those is specifically for analyzing SE assisting the incremental development in developing countries.

Within the country of concern of this report, Mexico, research has been done about housing laws supporting SPH, which is the name under which incremental development is better known (Kunz & Espinosa, 2017; Arnold, 2019; Grubbauer, 2020; Bredenoord & Verkoren, 2010). Research has also been carried out on the relation between participatory design and SPH (Romero et al., 2004; Enet, 2008; Ortiz, 2012). The experiences of housing cooperatives such as Palo Alto and Cooperacion Tosepan in Mexico have also been researched and shared widely by HIC-AL (Habitat International Coalition - America Latina).

The topic of incremental housing is gaining more visibility, and based on the market analysis; it is noticeable that the participation of SE assisting the process of IH has increased. Since studies have not focused yet on the contribution of Social Enterprises in assisting the Incremental Housing process in Mexico, this research aims to add to that knowledge gap in knowledge. FIG 07 shows the framework that forms the basis for the hypothesis of this research, which suggests that while the specific characteristics of the community and local institutions impact how the IH intervention is carried out by SE, the organization's characteristics (e.g., goals, missions, drivers, approach) and role deployed define their contribution to the process of IH.

1.9 Focus and Limitations

This research is narrowed down in two different ways. Firstly, this study focuses on IH in the Mexican context. Mexico has a significant number of housing units that have been self-produced and has an interesting history regarding the attempts by the government to support this housing approach. The selection of the research topic was based on the researchers' interests. Mexico was selected to conduct this research because of the author's close relationship with this country. Secondly, this research focuses on SE and their capacity to intermediate as part of the solution of IH in Mexico. Nevertheless, since the concept of SE is too broad, CH 02 gives an overview of the type of organizations that fall into this category for the current research. CH 04 gives the selection criteria for selecting the cases of study.

Several limitations come with this research. One limitation of the research is the number of organizations to analyze due to time limits. Also, it would be interesting to compare the assistance process by SE located in different countries. However, there is no time to grasp the local situation in another country. Besides, in Mexico, a strategy called National Self-Production Strategy was launched by the Secretary of Agrarian, Territorial, and Urban Development (Secretaria de Desarrollo Agrario Territorial, or SEDATU) last year. It would be interesting to compare the assistance process of this strategy and the one by the selected cases. However, it is soon to analyze this strategy. Also, the analysis of the organizations will be carried out in a completely online setting, which may affect the quality of the data collected. This is because face-to-face interviews allow more in-depth data collection and comprehensive understanding.

FIG. 07: Conceptual Framework (source: author)

FIG. 08: Social Production of Housing (Comunal, 2021)

CONCEPTUALIZATION

↓

ANALYSIS

↓

SYNTHESIS
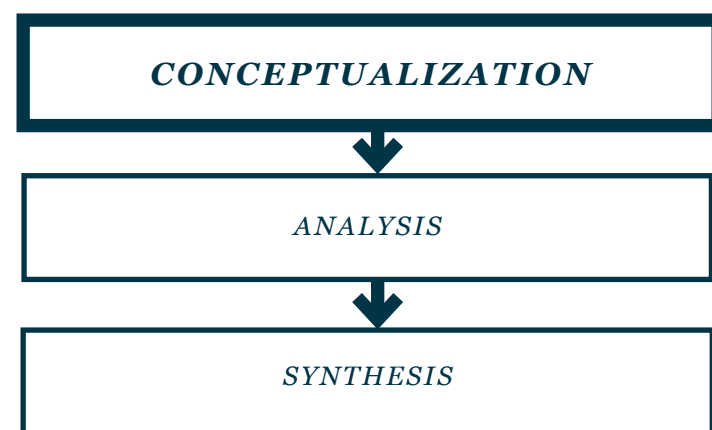
CONCEPTUALIZATION

This section aims to anwer the following research question:

What roles and actions can be distinguished regarding the contribution of Social Enterprises to the assistance of Incremental Housing?

FIG. 09: Social Production of Housing (Comunal, 2021)

Chapter 2
Incremental Housing

Introduction

Incremental Housing is a gradual process in which the residents improve or extend their dwellings according to the available resources. This approach once attracted the attention of policies as an affordable way to provide housing to the low-income sector. However, the process of Incremental Housing has shown several difficulties. This section of the report aims to dive into the concept of Incremental Housing (IH) and the concept of Social Production of Housing (SPH), which is the term utilized in Latin America to refer to self-produced housing.

2.1 Incremental Housing (IH) and Social Production of Housing (SPH)

Incremental housing (IH) is defined as the process by which a shelter is constructed step by step and improved over some time in terms of quality and size (Smets, 1999). Hasan (2000) describes the concept of IH as the process by which low-income households make incremental investments in their dwelling as their income permits. What is noticeable in these definitions is the issue of limited resources and the fact that homeownership is only possible throughout the investment in the dwelling during different stages.

To understand the concept of IH, first, this study aims to distinguish between different ways of understanding the concept of a house. The writings on self-help housing by Turner remain a significant reference in promoting IH nowadays. *"The value of the house must be determined by how far it satisfies or frustrates the needs of its user; what matters in housing is what it does for people rather than what it is."* (Turner, 1976. p.)

This expression is an example of the understanding of Turner's idea that housing should be seen as a verb, a process, or an activity instead of something material, where the real value lies in the function and not in the physical structure (Peek, 2013). Thinking about how users can best control housing design, construction, and management is central to Turner's concept of 'housing as a verb' (Turner, 1972). The self-help housing model was initially identified as a method for providing a variety of shelter options that may be generated by its dwellers and provide a unit that is designed to match their ability to pay (Foundation of Cooperative Housing, 1972). Based on Ortiz (2012), self-help refers to improving or producing new homes, which can be carried out under the direct control of its users through an individual or collective form.

The research by Turner in deprived urban areas in Peru gave him an understanding of self-help construction and incremental patterns. Thus, it inspired various self-help programs that considered it an alternative to overcome the housing deficit in Latin American countries (Mora et al., 2020). Besides, according to Turner (1972), self-help programs could enable individuals and communities to express themselves through housing since they allow people to create more personalized and creative solutions (Mora et al., 2020). Turner argued that large organizations deliver standard products which cannot provide adaptability to the continuously changing needs of the households (Turner, 1972). Therefore, self-help programs are a chance for individuals to oppose the rigid design schemes of private organizations under the sponsorship of national governments (Mora et al., 2020). The following FIG 10 gives an overview of the characteristics of a house as a product, house as a process, house a commodity, and house as an asset.

HOUSE AS A PRODUCT	HOUSE AS A PROCESS	HOUSE AS A COMMODITY	HOUSE AS AN ASSET
Inflexible objects. It does not consider a family's natural growth and, therefore, their living spaces.	Accepts progressivity, allowing the gradual growth of the residential spaces according to the needs and possibilities of their inhabitants.	Production of housing carried out to obtain profit from the sale of its product	It is generally self-produced without any profit
It is usually linked to the notion of "minimum housing" since it must be affordable and a finished product	Allows incorporation of extra-economic resources, such as self-construction, solidarity support, recycled materials, etc.	Mainly serves the sector of the population who can access credit or who is subject to subsidy	The primary purpose of its production is the use by its producers
It involves very long periods for recovery of the investment.	Achieve higher quality in the long term		It is the most widespread way of production in developing countries
Provides lower quality of life in the long term			

FIG. 10: House as a product or a process, as a commodity or as an asset: (Turner, 1976; Ortiz, 2012; Romero & Mesias, 2004).

The type of housing this thesis refers to is the one that is developed as a process and is produced as an asset for the dwellers. A house which is not only defined by its physical space but as a continuous act of building and dwelling that establishes close ties between people and the places.

In America Latina, the concept of self-help is better known as Social Production of Housing (SPH). This term is defined as all those processes that generate habitable spaces (Ortiz, 2012). Commonly, this term is often associated with poverty. However, the SPH should not be thought of as an exclusive option for the urban poor but as an alternative for the production of habitat by people from all sectors (van Noorloos et al., 2019; Rodriguez, 2006; Wakely and Riley, 2011). Based on the definition given by Ortiz (2012), the term SPH includes all social practices carried out to satisfy the housing needs of the inhabitants. This means that the house is pursued to satisfy housing needs and not as a capital accumulation (Ortiz, 2012; Guevara, 2014). However, this does not imply that housing is one of the most important forms of wealth accumulation for the middle and low-income sectors (Guevara, 2014).

According to the literature, the term of SPH is broad enough to include the following concepts: self-built, self-production, and self-management (Ortiz, 2012; Guevara, 2014). Generally, those terms are used interchangeably. However, they do not mean the same. To avoid confusion among them, each term will be briefly explained as follows: *a) self-built,* refers to those habitat production practices in which the household intervenes in the production process by providing a workforce (Guevara, 2014), and it is usually carried out by the households, together with their family and friends. (Ortiz, 2012); *b) self-production,* refers to those production processes in which the household intervenes in the initiation and management of the production process (Pelli, op. Cit by Guevara, 2014). It can be carried out individually or collectively, and it is very often linked with self-construction (Ortiz, 2012); *c) self-management,* implies the transfer of the resources by the State to the organized population (Guevara, 2014). This process is different from self-production because self-production does not imply the transfer of public resources by the State to the organized population, which is often the promoter of the habitat production process. The transfer of the resources of the State to the families often is related to the fact that the State tends to detach itself from the responsibilities, which often represent an overload for the households being responsible for the process of their dwelling (Ortiz, 2012; Wakely and Riley, 2011). This form of production may or not incorporate self-built practices. However, self-built means lower construction costs and a way to strengthen community relationships (Guevara, 2014, Bredenoord, 2017).

In general, SPH is developed from the need to generate strategies to strengthen the efforts made by the dwellers producing their housing. SPH proposes a production system that rescues all those positive elements that come with the self-production of housing. For example, the flexibility of the spaces and the possibility of improving the local economy, among other characteristics, and overcoming the difficulties of self-production of housing (Romero & Mesias 2004). The following FIG 11 shows an overview of the benefits of the SPH.

SOCIOCULTURAL ASPECTS	-Strengthens the cultural identity of the inhabitants and their organizational structures -Increases capabilities -Promotes equitable participation -Improves habitability -Decreases vulnerability
ECONOMIC ASPECTS	-Favors traditional construction materials and systems, -Strengthen the collective organization, -Values local trades, -Improves the local economy -Reduces costs -Detonates self-sufficiency -Strengthens mutual aid -Promotes fair exercise -Increases the local economy
ENVIRONMENTAL ASPECTS	-Improves human relationship – nature -Improves territorial knowledge
POLITICAL ASPECTS	- Recognizes the right to self-determination - Preserve the elements that constitute their cultural identity and their habitat

FIG 11: Benefits of Social Production of Housing: (Comunal, 2020; Ortiz, 2012; Romero & Mesias, 2004).

2.2 Incremental Housing Policies

Access to adequate housing is one of the most critical challenges arising from the rapid urbanization that will take place in the coming decade (Mota, 2021). In the debate on strategies to accomplish sustainable development goals, scholars have proposed IH contribute to the development of adequate housing that could enable the participation of citizens and enhance their sense of belonging and ownership (Wakely & Riley, 2011; Bredenoord & van der Lindert, 2014).

IH has been explored because of its financial, urban management, and governance advantages in integrating the poor into the cities (Wakely and Riley 2011; Acioly et al., 2011). Also, it has been acknowledged that the integration of IH could prevent the expansion of slums in the urban periphery (Gattoni et al., 2011). Cirolia et al. (2016) argue that incrementalism offers many benefits; by embracing small changes over a longer time, incremental upgrading is more flexible and responsive to the needs, demands, and aspirations of households and communities. Van der Linden (1992), cited by Wakely and Riley (2011), argues that from the point of view of the state, IH was initially supported because of the following reasons: 1) affordable without the recourse of public subsidy; 2) flexible and responsible to the needs and fluctuating fortunes of poor urban families; 3) self-managed, which means fewer demands on public administrations and 4) met the needs of the rapidly growing urban population in developing countries.

In the sixties and seventies, the World Bank and the Inter-American Developing Bank validated (although with some reluctance) IH strategies to reduce housing shortages mainly produced by rapid urbanization processes (Mora et al., 2020). In this context, by 1983, the World Bank had supported more than 70 site and services (S&S) projects, where the critical components of each project were the plot of land, infrastructure, and sometimes part of the house (Wakely and Riley 2011, Romero, n.d.). In this case, governments were responsible for acquiring and dividing land, providing the basic infrastructure and financial mechanism to sell/lease the land to the beneficiaries. On the other hand, the beneficiaries were responsible for building the house based on their available resources (e.g., informal finance, family, and community labor) (Wakely and Riley 2011).

From the last text, it is clear that IH strategies were once considered an effective strategy to provide housing to the population that does not have access through the market or public promotions. However, despite the efforts, it is argued that S&S projects did not reach the intended levels for the following reasons:

1) the length of the project resulted in high transaction costs for both the beneficiaries and the government.

2) the fragility of the households budget.

3) the location of the project: a) located on the urban fringes, where land prices were low but transportation costs high, and b) occupation of unsuitable space, affecting the safety of the unit.

4) the resulting unit is low in value in comparison with the investment and the effort realized for its consolidation, related principally to the lack of technical support and the diseconomies derived from fractional purchases of material and construction process (Kunz & Espinosa, 2017, Wakely and Riley 2011, Romero, n.d.).

As a result of the disadvantages, the World Bank shifted funding from S&S and upgraded loans to a large-scale policy, for instance, policies related to house finance and the privatization of public services (IHC, 2008). According to the International Housing Foundation, the decline in donor funding was mainly due to the following reasons: 1) donors want short-term results, but the development of the house is long and complex; 2) local policies and land titling make housing programs difficult (Wakely and Riley 2011).

Romero (n.d.) argues that the failure of the solutions brought in the 70s was due to a lack of understanding of the complexity behind irregular settlements. Because despite the difficulties, IH is often consolidated with time. For instance, many IH complexes that were initiated from public policies and with technical advice are now consolidated after 50 years (Ortiz, 2012; Romero, n.d.). FIG 12 gives an overview of the main disadvantages and disadvantages of IH.

ADVANTAGES	DISADVANTAGES
Affordable without the recourse of public subsidy	Length of the project → high transaction cost for both
Flexible to the needs and unstable fortunes of the low-income sector	Located on the urban fringes → , transportation costs high
Self-managed → fewer demands on public administration	Unsuitable land → affecting the safety of the unit
A simple solution for the rapidly growing urban population	The resulting unit is low in value → due to a lack of technical support

FIG 12: Advantages and disadvantages of incremental housing: (Kunz & Espinosa, 2017; Wakely and Riley 2011; Romero, n.d.; Bredenoord & van der Lindert, 2014, Gattoni et al., 2011).

2.3 Dimensions of Incremental Housing

The following section aims to give a short overview of the main elements that impact the development of IH (e.g., land tenure, finance, building materials, and labor) to further understand the complexity of its process.

Land tenure
One of the main bottlenecks when improving the housing provision is secure land tenure (de Soto, 2000). IH often begins with the occupation of land and building, followed by services and infrastructure, which is often dependent on the regularization of the tenure (van Noorloos et al., 2019). Secure land tenure also affects how the user invests in the dwelling. Therefore, secure tenure becomes a key element for the active involvement of the different actors around IH.

Finance
According to Turner, IH was an affordable model since it enables the household to *"synchronize investment in buildings and community facilities with the rhythm of social and economic change"* (Turner, 1967, pp. 167). However, the relationship between the consolidation of the house and the management of the different financial mechanisms, the role of savings, and the cost of self-help housing were overlooked (van Noorloos et al., 2019).

Amoako & Boamah (2017) argue that there is a lack of clarity from the following points of view: 1) housing finance is not defined or consistent, and therefore, it is not clear which strategies fit the best; 2) investment within the formal sector often eclipses the informal actors and processes. IH is also financed by different sources that are often not well defined and difficult to track (van Noorloos et al., 2019). For instance, Boahmah (2009) identified that IH development has often been financed by 'do it yourself' financing processes adopted by the household to meet their needs. On the same line, Wakely and Riley (2011) mentioned that regardless of the lack of financial support by the government for households to be able to construct their dwelling, self-producers have been able to raise money independently. For instance, in Mexico, around 83.9% of the population that self-produced their dwellings did so with their resources or other types of loans (SEDATU, 2021).

To sum up, the finance element of IH is a critical aspect, especially since finance flows have become more diverse. For instance, including non-standard types of end-users finance (e.g., community credit groups, consumer credit in construction stores), these microfinance initiatives are managed either by the community or supported by NGOs (Wakely and Riley, 2011).

Building materials
According to Bredennord (2016), research often focuses on new innovative building materials that may substitute 'unsustainable' ones. However, despite ongoing innovations, 'concrete' materials are still the most affordable and accessible for the incremental builder worldwide, while sustainable products have just remained niche products (van Noorloos et al., 2019).

Even though the use of local materials is a good measure to facilitate the maintenance of the house (Hiroto, 2021). Bredennord (2016) mentions that the ideals of the modern life of the urban dwellers often prevent them from using traditional materials such as bamboo. Montaner (2015) also mentions this aspect, who describes that the inhabitants do not accept traditional material and vernacular techniques well since they aim for modern ways of building and living. Therefore, building materials in IH need to be looked at from a broader perspective, beyond the city, and understand the urban, regional, and global flows of materials to better understand the incremental practice (van Noorloos et al., 2019). According to van Noorloos et al. (2019) the intervention in the supply chains of key materials can affect the affordability, durability, and ecological impact of IH. In addition, it is important to keep in mind that while innovation is important in building materials, it is critical to consider the affordability and sustainability characteristics of the materials and the acceptance of those materials by the dwellers.

Labour
The aspect of labor flows has been underexplored in the context of IH (van Noorloos et al., 2019). This may be related to the fact that the concept of self-help suggests that people are building their own houses. Nevertheless, as before mentioned, empirical evidence shows that IH development often relies on several 'experts' (e.g., skilled construction workers) that help to carry out the project (Bredenoord & van Lindert, 2014; Guevara, 2014; Ortiz, 2012).

2.4 Process of Incremental Housing

The process of incremental housing is complex and dynamic due to the multiple actors involved in the process and the multiple dimensions that impact it (Romero & Mesias, 2004). For these reasons, this process is defined by Greene and Rojas (2008) as a 'process-based nature,' which usually lasts for many years and often it never ends. The household works firstly on improving and extending the dwelling to obtain the minimum standards in terms of size and quality. Secondly, it will accommodate changes within the family structure or get income from investing in their dwelling (Greene and Rojas, 2008). Three main phases of IH production are distinguished: 1) access to land for residential use, 2) the construction of a basic nucleus, and 3) the incremental improvement of the dwelling.

According to Ortiz (2012), there are five main phases for the production of housing: *1) promotion and integration:* which entails the definition of the target population, the integration, training of the group, and a feasibility study of the project; *2) planning:* includes the land acquisition, development of the urban and architectural project, finance management and the processes related to permits; *3) production:* includes the urbanization, construction/ extension or improvement of housing and the supervision of works; *4) use:* credit amortization, maintenance, extension or improvement.

Different authors argue about the importance of the early involvement of the user in the SPH (Ortiz, 2012, Enet, 200, Romero and Mesias, 2014). Within the phases: of planning, production, and use, it is necessary to give enough time to strengthen the capacities of the beneficiaries (individual or organization)—the latest to guarantee an informed intervention during the housing process. According to the literature, the development of self-produced projects requires the integration of the following activities within the just mentioned phases (See FIG 13).

PHASE	ACTIVITIES
PROMOTION AND INTEGRATION	-Identification of the participants and initial commitments from the participants. -Knowledge of their needs, possibilities, and capacities -Basic training through workshops, exchange of experiences -Organization and initiation of savings processes. -Formal constitution of the participating group or organization (in case it is applicable)
PLANNING	-Continuation of the process of education, training, and savings -Identification, assessment, and negotiation of possible land -Participation in the design of the house -Participation in the management of finance and permits. -Assistance in obtaining finance, subsidy, or savings facilities -Assistance in securing or improving essential services -Assistance in securing land and tenure
PRODUCTION	-Continuation of training and savings -Participation in community construction tasks and or production of construction materials or components -Participation in the acquisition and management of materials and tools -Participation in the supervision of works -Construction technical assistance -Providing design advice and building services -Assistance in obtaining or producing quality building materials
USE	-Payment of credit and agreed installments -Active participation in the management and improvement of the assets -Participatory supervision and technical support of the process's improvement, expansion, or consolidation of the housing unit -Community development

FIG 13: Phases and activities within IH process: (Ortiz, 2012, Romero and Mesias, 2004, Comunal, 2020).

The last phase: use or the incremental improvement of the dwelling, is permanent. However, this phase receives less attention from developers, financial entities, and even its users. Especially when they have been excluded from the decision and control of the housing process (Ortiz, 2012). During this phase, the household is responsible for the production, extension, and improvement of the dwelling; investing in the dwelling comes based on resource availability (Ortiz, 2012). MacDonald, J (1987) argues that evidence shows that after possessing the basic nucleus, the household transforms it using precarious materials, generally recycled that are easy to install. This means having little consideration for quality to meet the changing needs of all household members. For these reasons, there is no doubt that an organized SPH which counts with comprehensive assistance in the various phases of its development is the one that offers the best possibilities to generate a sufficient condition of life and housing for the dwellers (Ortiz, 2012).

2.5 Participation in Incremental Housing

Stimmels (2015) argues that a big part of the success of IH depends on households' participation. Turners conceived self-built as a creative process in which families could customize their houses, acquire technical skills and develop their creativity (Turner, 1972). However, Bjerknes et al. (1987) describe that the object is not only about enhancing or creating new building skills for the family but also about providing them with the democratic right to participate in the design process.

Participation is a term that has been used in different fields in many ways. Based on the previous definitions of IH and SPH and the explanation of its process, this study believes that it is necessary to explain what it is meant when applying this term in the context of IH. This report starts by understanding the reasons behind the dwellers' desire to transform their housing conditions.

The desire to improve one's living and housing conditions is a universal phenomenon (Tipple, 1999). Khan (2013) argues that spontaneous transformations can be operationally defined as alterations, additions, extensions, or modifications of a house in terms of the form and the interior spaces usages. Nevertheless, governments have often proposed temporary and industrialized housing solutions that could be built rapidly and often in inaccessible locations (Mora et al., 2020). In addition, government-built housing tends to give little flexibility for residents to transform the unit according to their income or household composition changes (Tipple, 1999). However, it is well known that these housing units have been expanded, transformed, and improved in multiple ways by their occupants (Tipple and Ameen 1999; Garcia-Huidobro et al. 2011).

In the context of IH, especially in developing countries, studies show an abundance of spontaneous transformations (Khan, 2013), which do not occur suddenly but involve a long process of thought between the members of the households. In addition, these transformations might reflect the behavior of the household and not the individual. Glasser (1998) identifies five particular internal needs that shape our behavior: 1) to survive, 2) to belong, 3) to have freedom, 4) to have power and control, and 5) to have emotional fulfillment. Tipple (1999) points out that the encouragement of transformations through public policy is quite controversial among planners in the developing world who consider most transformations a process for generating slums, given the difficulty of regulating spontaneous transformations to meet health and safety codes.

Based on Turner's (1972) and Ortiz's (2012) ideas, IH can be seen as an open system in which the user participates by choosing between various options throughout the entire process. In addition, participation is recognized by Romero & Mesias (2004) as an important aspect that impacts the dynamics of IH. Specifically, in design and planning, the motivation of applying participatory methodologies is about providing basic information about the needs or aspirations of the inhabitants and bringing an understanding of viable and suitable solutions (Romero & Mesias, 2004).

It is also acknowledged that the latter is only achieved through active integration between the different actors involved in the production of housing and in the recognition that the BE can better fit the inhabitant's needs and aspirations if they are actively involved in its production (Romero & Mesias, 2004). In this context, Enet (2008) argues that only social organizations can guarantee that the participation of the citizens will be fulfilled. She argues that social organizations are the ones who fight for their space and will encourage other sectors to recognize the inhabitant's needs to make decisions.

Moreover, Romero (n.d.) argues that it is not only about financing or the architectural standards but instead about an opportunity for the population itself to decide and control how to improve their house and habitat. The strategy that Romero (n.d.) suggests is based on two key aspects: participation and organization, since the main problem lies in the political and economic weakness of the individual inhabitants. Thus, organization, training, and participation in the decisions are required at different levels.

2.6 Multidimensional Framework for Assisted Incremental Housing

The previous literature highlights the user's role in IH, leads this research to explore the concept of assisted incremental housing (AIH), and provides a multidimensional framework. Understanding these dimensions is necessary to understanding fundamental questions of where, how, and why initiatives aimed at improving or developing IH advance or get stock (van Noorloos et al., 2019). Assisted Incremental Housing is described as a bottom-up, community-led process of making the Built Environment that organizations facilitate through technical assistance (Arroyo, 2013; Breedenord, 2014). According to UN-Habitat (2005b), this is the most affordable and intelligent way of providing sustainable shelter.

Acquaye (2011, p20), cited by Vergara (2018), argues that without the means to provide maintenance to their homes, *"low-income homeowners run the risk of not having the benefits of homeownership. Instead, they may experience unhealthy living conditions for their families, depreciating value of their homes, instability in the neighborhood, and instability to sustain gains in low-income homeownership"*. The concept of housing management is related to AIH since, as mentioned earlier, the process of IH is dynamic and often a never-ending process. In the context of social housing, Priemus et al. (1999, p. 211) defined housing management as *"the set of all activities to produce and allocate housing services from the existing housing stock."* The authors categorize housing management activities into four main groups: 1) technical: maintenance, improvements, and repair activities; 2) social: communication, information provision; 3) finance: rent policy, lending money, and 4) tenure management.

Van Noorloos et al. (2019) suggest a framework for understanding the city-wide industries around IH concerning the following dimensions: 1) land; 2) finance; 3) infrastructure; 4) building material, and 5) labor. On the same line, Acioly Jr. (n.d.) suggests the following dimensions for assisting incremental housing: 1) time: flexible and differentiated duration, evolutionary infrastructure, and evolutionary housing; 2) materials: building material loans, fiscal incentives to producers, and retailers, building vouchers; 3) land and security tenure: land regularization, property registration and formalization, land sharing and land readjustment instruments and 4) resources: flexible finance, micro-financing, short term, and long term loans. From the latest, it is clear that there is an emphasis on the dimensions of land and finance. However, from the last section, the social dimension of IH is critical. Vergara (2018) argues that housing management is a multidimensional process beyond technical features since it involves socio-cultural and organizational features. The main actors of the process are the households with their own socioeconomic and cultural dimensions (Ortiz, 2012, Turner, 1976). Vergara (2018) also argues about the internal and external factors that might positively or negatively impact management practice. In IH, the internal elements are related to the family dynamic described by Mora et al. (2020) and within self-managed organizations (Ortiz, 2012; Ordoñez, 2020). On the other hand, the external elements are related to the context conditions, the institutional sphere, and policies.

For this research, AIH will be defined as a multi-dimension and multi-actor process which considers the following dimensions: 1) technical: building materials, labor; design 2) resources: finance and human resources; 3) sociocultural: culture & knowledge and action capacity; 3) land tenure. These dimensions and phases within the incremental process are drawn as follows in FIG 14.

T : Technical
R : Resources
SC : Socio - Cultural
L : Land tenure
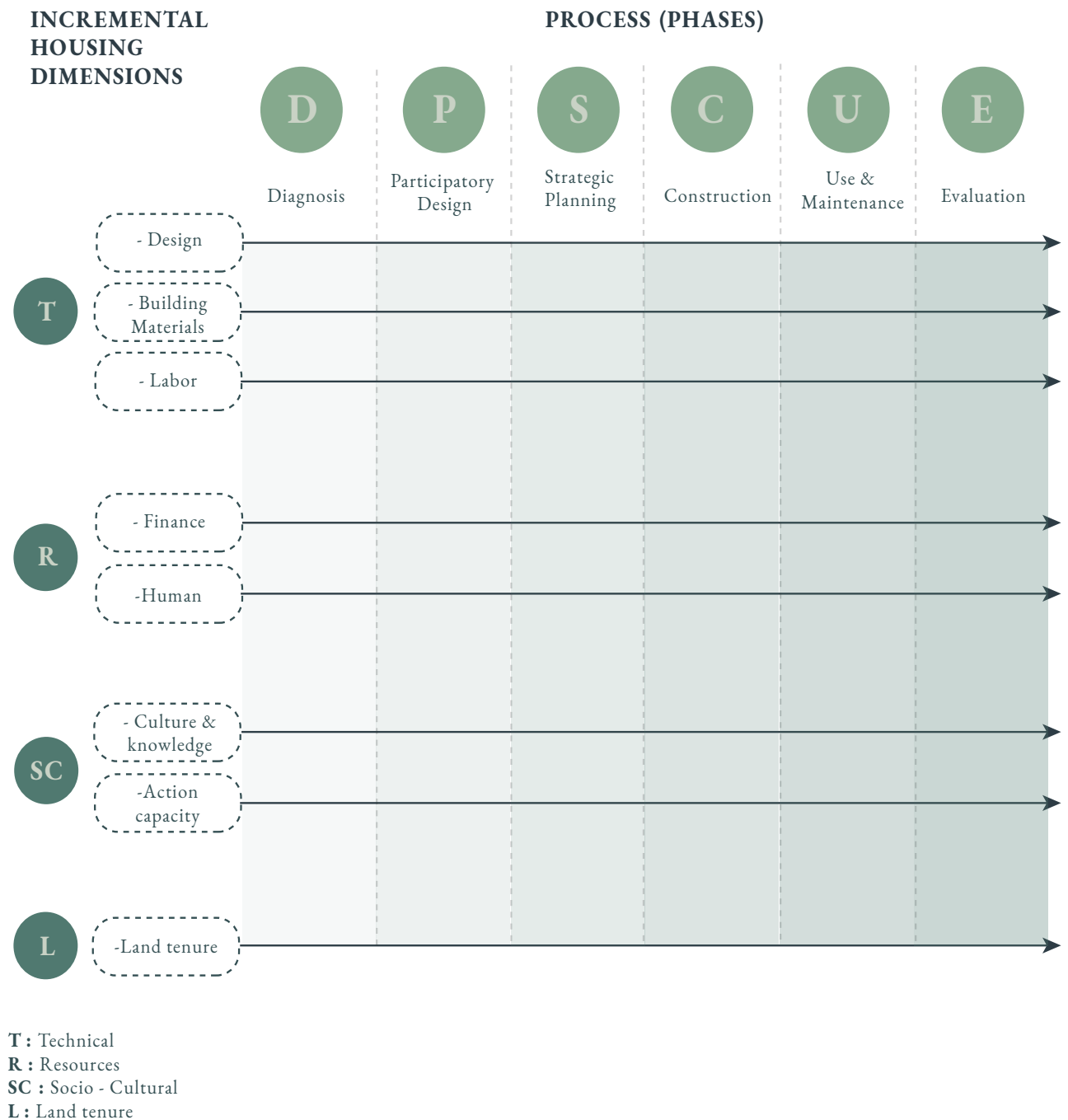
FIG 14: Incremental Housing dimensions through the Incremental Housing process.

Conclusions

This chapter dived into the concepts of Incremental Housing (IH) and Social Production of Housing (SPH) and its origins based on the writings on self-help by John Turner, and Latin American literature by Enrique Ortiz. Incremental Housing was defined as a process by which a shelter is constructed step by step and improved over time in terms of quality and size depending on the available resources.

It is clear that the Incremental Housing process is complex and entails the participation of many actors. This participation is emphasized to the households, who are transforming their dwelling by nature. In this context, this thesis arrived at the concept of Assisted Incremental Housing (AIH) which is facilitated by external organizations, assisting the homeowner with essential aspects during the incremental process. Assisted Incremental Housing was defined as a multi-dimension and multi-actor process of making the built environment that organizations facilitate through assistance.

Phases identify withing the process of Incremental Housing are: 1) diagnosis; 2) participatory design; 3) strategic planning; 4) construction; 5) use & maintenance; 6) evaluation. The dimensions identified around IH are *1) technical:* building materials, labor, design; *2) resources:* micro-financing, saving groups; human resources; *3) sociocultural:* culture & knowledge and action capacity; and *4) land tenure.*

FIG. 15: Social Production of Housing (Comunal, 2021)

Chapter 3
The Potential Role of Social Enterprises in Incremental Housing:
Development of an Analytical Framework

Introduction

Several studies have explored the dynamic between Social Enterprises (SE) as an intermediary in the processes related to the Built Environment. For instance, when it comes to Incremental Housing IH and slum upgrading, SE are well known for providing technical, legal, and all kinds of assistance to the self-builder (Bredeenoord et al., 2014; Nikkhah & Redzuan, 2009). Different authors acknowledge their role in building community and contributing to social capital besides their role in creating strategic 'vertical' connections between the community with powerful actors (Vergara, 2018). The following chapter introduces SE as an important actor assisting the IH process. This section aims to define the role of SE in the process of IH and finally develop a methodological tool to assess their practice to identify their contributions further.

3.1 Social Enterprises & Social Innovation

According to Defourny & Nyssens (2014), SE have been associated with Social Innovation (SI) and the integrating new services or products to contribute to contemporary challenges. Social innovation is defined by Mulgan (2006) as follows: *"Innovative activities and services motivated by the goal of achieving social needs and predominantly diffused through organizations whose purposes are primarily social"* (Mulgan, 2006, p. 46).

Crozier and Friedberg (1993, p. 19) cited by Howaldt et al. (2016) define SI as follows: *"interpreted as a process of collective creation in which the members of a particular collective learn, invest and layout new rules for the social game of collaboration and conflict."* A widely cited definition of SI is as follows: *"Social innovation is a novel solution to a social problem that is more effective and efficient, sustainable or just than other existing solutions and for which the value created accrues primarily to society as a whole rather than private individuals."* (Phills, Deiglmeier, & Miller, 2008, p. 39).

In the view of Oeij et al. (2019), successful innovation should be implemented innovation. Philips et al. (2015) argue that SI is not undertaken only by entrepreneurs, but different organizations and institutions shape it. Based on Mulgan et al. (2007), cited by do Adro & Fernandes (2019), argues that there are three types of agents of SI: individuals, social movements, and organizations. This means that actors such as governments and companies can coordinate SI projects, but innovations come from society. Considering the contribution of SE assisting IH, and their association with SI, leads this research on understanding the type of roles this SE take to assist processes in the Built Environment.

"Today's organizations operate in a rapidly changing, competitive, and turbulent environment. In order to stay viable, organizations need to be flexible, innovative, and quickly adapt to their environment" (Arad et al. , 1997, p.1) The relationship between the organization's characteristics and innovation has been broadly researched. For instance, the literature suggests that the aspects of the organization's structure and reward system are strongly linked to the levels of innovation (Aiken & Hage, 1971; Moch, 1976; Moch & Morse, 1977). Kimberley and Evanisko (1981), found that 'level variables' such as size of the organization were more important for the adoption of different types of innovation than individual variables (i.e., age, level of education) or contextual variables (i.e., competition, size of the city). Nevertheless, other researchers have explored the positive impact of structural and social characteristics of the organization (e.g., structure integration, teamwork, communication structure) (Kanter, 1988).

On this line, Arad et al. (1997) suggest a taxonomy to investigate further the relationships between the organization's characteristics and innovation. The taxonomy comprises the following domains: organizational structure, leadership, human resources (HR), systems and practices, goals, and organizational values. To study and compare the characteristic of Social Enterprises with Social Housing Organizations, Czischke, Gruis, and Mullins (2012) suggest three types of variables: i) descriptive, ii) motivators, and iii) behavioral, based on the framework developed by Crossan and Til (2009) for non-profit organizations. Firstly, descriptive variables include the formal institutional characteristics, for instance, legal structure, profit objective, ownership structure, governance, and funding income. Secondly, motivator variables relate to the organization's objectives, mission, and drivers. For instance, the motivation for the organization can be: a) state-driven (influenced by the state, regulation, and finance); b) market-driven (influenced by housing market demand or financial opportunities), and c) community-driven (influenced by preferences and financial means of inhabitants, communities, third sector organizations) (Czischke et al., 2012).

3.2 Social Enterprises as an Umbrella Term

This research refers to SE as an umbrella term that includes voluntary organizations, community groups, cooperatives, mutual societies, non-profit organizations, and for-good and for-profit organizations. For the aim of this research, architecture firms or the so-called 'social architects' assisting the IH development are also considered. The following paragraph describes some of the differences, characteristics, and challenges of the organizations mentioned previously and their differences from for-profit organizations.

FIG 16 shows the distinctions between non-profit organizations, for-good and for-profit organizations, and for-profit organizations concerning their motives, methods, goals, and key stakeholders.

		Non-profit	For good and for-profit	For-profit
MOTIVES		Appeal to goodwill	Mixed motives	Appeal to self-interest
METHODS		Mission-driven	Mission and market-driven	Market driven
GOALS		Social value	Social and economic value	Market-rate value
KEY STAKEHOLDERS	*BENEFICIARIES*	Pay nothing	Subsidized rates, or mix or full payers and those who pay nothing	Market-rate prices
	CAPITAL	Donations and grants	Below-market capital, or a mix of donations and market-rate capital	Market-rate capital
	WORKFORCES	Volunteers	Below-markets wages, or a mix of volunteers and fully-paid staff	Market-rate compensation
	SUPPLIERS	Make in-kind donations	Special discounts or a mix of in-kind and full-price donations	Market-rate prices

FIG 16: Distinctions between social enterprises, non-profit organizations, and for-profit organizations:
(source: author, adapted from Dees, 1998).

From the previous image, it is noticeable that non-profit organizations aim to generate social value (i.e., fulfilling the needs of society) (Austin et al., 2012). On the other hand, purely commercial organizations aimed for financial value. In the middle, for-good and for-profit organizations aim for mixed motives. The latter is also acknowledged as a hybrid value orientation.

Non-profit organizations often face several difficulties, for instance, due to diminishing financial assistance in public funds and contributions (Alexander, 1999). Also, due to the growing competition with for-profit organizations (Kong, 2008), less volunteer support (Jamison, 2003) and losing the commitment of employees working in this sector (Eisenberg, 1997). Austin et al. (2012) list several constraints, such as: *"limited access to the best talent; fewer financial institutions, instruments, and resources; and scarce unrestricted funding and inherent strategic rigidities, which hinder their ability to mobilize and deploy resources to achieve the organization's ambitious goals"* (Austin et al., 2012, p 377).

All the just mentioned aspects add significant pressure to NPOs (Kong & Ramia, 2010). For these reasons, for-good and for-profit organizations have emerged as a strategic response to the challenges that NPOs face nowadays (Dees, 1998). Alongside, Austin et al. (2012) argued about the importance of *"a large network of strong supporters, and an ability to communicate the impact of the venture's work to leverage resources outside organizational boundaries"* (Austin et al., 2012, p 377).For-good and for-profit organizations, also known as hybrid organizations, are considered more flexible than NPOs because they are not limited in using innovative strategies (Spear et al., 2009). Also, this type of organization may eventually become self-sustaining, reducing their dependency on contributions.

3.3 Roles and Actions by Social Enterprises

SE are considered an intermediary where the market, the state, and the society come together (Defourny, 2009). According to Joshi et al. (2010: 25), the main aim of social enterprises is: *"Create a link between the state government, local government … and the people. They play a dual role: bringing information, services, and schemes to the people and allowing the service providers (government, corporate, private) to understand the specific needs of various target groups."* Scholars have generally come up with three role categories that SE can perform: According to Lewis & Kanji (2009), they function as implementers, catalysts, or partners (See FIG 17).

ROLE	MAIN GOAL
IMPLEMENTER	-The implementer role means that the organization mobilizes resources to provide goods and services to the people who need them. In this type of role, the organization is often 'contracted' by the government or donor to perform a specific task in return for payment (Robinson, 1997, cited by Lewis, 2003)
CATALYST	-The catalyst role means that the organization brings about change. For this reason, this role is defined as the third sector's ability to inspire, facilitate and bring ideas and actions to promote change (Lewis, 2003). This also brings the idea of integrating innovation into new solutions for the problems. Goals: reshape power structures, and address structural changes.
PARTNER	-The partner role works collaboratively and shares the risk or benefits of the joint venture, which means that this role very rarely works alone (Lewis, 2003) Goals: build alliances and movement

FIG 17: Intermediary roles (Robinson, 1997; Lewis, 2003; Lewis & Kanji, 2009)

In the same vein, Adler (2012) suggests two approaches that an organization can take: the traditional 'community capacity building' and 'community capacity restoration,' which defer in decision-making processes, goals, activities, and ideological principles (See FIG 18).

DIMENSION	COMMUNITY CAPACITY BUILDING	COMMUNITY CAPACITY RESTORATION
Decision-making process	Partnership with communities; often top-down "managerialism;" include leaders	Lateral, horizontal, bottom-up, decentralized, participatory, based on assemblies; local voice
Project initiation	External initiation in partnership with community leaders	Community-initiated projects; based on community collective decision
Goals	Sustainable development; capacity building; creating professionalism and corporate work culture; integration of community in the capitalist economy	Sustainable livelihoods; capacity restoration; community control and autonomy; production and consume local products; meet community needs and increase the quality of life
Activities and work plan of projects	Advocate and raise awareness of resources; build capacities; transfer new technology from experts to locals; provide training; find funding	Organize and mobilize the community; restore capacities (indigenous knowledge and technology); listen to communities; community sets goals and priorities; build solidarity and share knowledge
Ideological principles and approach	Integration into the capitalist economy; deficit model; focus on community empowerment via individual rights and human and social capital expansion (entrepreneurship); individual efficacy and capabilities	Autonomy from the capitalist economy; equity, social justice; collective rights; seek alternatives to capitalism; produce for own consumption and local markets; use alternative production methods; focus on collective efficacy and capabilities of community
Focus of projects	Market- and product-centred; the commercial success of individuals and community; adjust to the external capitalist economy	People-centred; collective success as an autonomous community (social, cultural, economic self-determination); creation of internal markets and food security
Framing of mission on activities	Extensive borrowing of ideas, concepts, and terminology from Northern NGOs	Minimal use of Northern NGO concepts and terminology; new frames are developed

FIG 18: Comparison of the traditional community capacity building model (CCB) and the alternative community capacity restoration (CCR) model (Adler, 2012)

Mens et al. (2021) describe, based on the literature, three roles that social entrepreneurs can adopt. The first role is defined as a 'boundary spanner,' an actor skilled in establishing cross-sectoral collaborations, 'bridging' different interests, negotiating, and establishing trust within a network (Williams, 2002). The second role, 'niche entrepreneur,' is an actor actively creating a 'niche' (Pesch et al., 2017). The third role, policy entrepreneur (Kingdon, 2011), is described as an actor drawing attention to specific issues or problems and actively and strategically connecting these problems to policies within political contexts (Kingdon, 2011; Pesch et al., 2017).

Analysis Conceptualization

Research on IH has focused on individually understanding the elements that impact the model (e.g., land, finance, building materials/labor, infrastructure) and the relations among those elements. (Smets, 1999; van Noorloos et al., 2019; Amoako & Boamah, 2017; Kunz & Dovey 2020). Research has been done on understanding the process and the stakeholders around IH (Greene and Rojas, 2008; Ortiz, 2012). IH has been studied from the perspective of housing policies and their role in better integrating the poor into the cities (Wakely & Riley, 2011; Acioly et al., 2011; Bredenoord, 2014; Gattoni et al., 2011).

Several studies have focused on understanding the incremental process through a better understanding of the family dynamics (Mora et al., 2020; Nohn & Reinhard, 2016; Peek, 2013). The topic of AIH, the relation between IH and community empowerment, participatory processes, and the potential role of community training centers have also been explored. (Park et al., 2019; Arroyo, 2013; Restrepo, 2017; Hasgül, 2016; Bredenoord, 2009).

Research has focused on the role of NGOs and community-based organizations in assisting IH (Wakely & Riley, 2011; Junghwa, n.d.) Along the same line, several scholars have highlighted the relevance of intermediary organizations in supporting low-income and vulnerable groups to improve their capacities, promote social capital, and facilitate access to opportunities, resources, and skills (Lee, 1998). Social enterprises or social entrepreneurs have gained greater visibility and recognition in the last ten years due to their growing worldwide impact, generating solutions to global challenges (Makhlouf, 2011). In this context, social entrepreneurship behavior and typologies have been explored in developed countries in urban development and on the transitions to circularity (Parmar, 2021; Mens et al., 2021).

Research exploring the contributions of third sector organizations to the management of condominiums has also been carried out (Vergara, 2018). Different analysis frameworks have been identified in the literature to analyze the contribution of social enterprises or/and their type of organization or entrepreneur in different situations (Vergara, 2018; Mens et al., 2021; Zahra et al., 2009). However, any of those is specifically for analyzing SE assisting the incremental development in developing countries. For that reason, this research aims to fill that knowledge gap.

Analytical framework for Incremental Housing Assistance by Social Enterprises

Based on the previous literature, this report supports the idea that while the specific characteristics of the community and local institutions impact the intervention process, the organization's characteristics (e.g., goals, missions, drivers, approach) and role deployed define their contribution to the process of IH. Since there is little research about the influence of the characteristics and role of SE towards assisting IH, this research argues that it is necessary to develop a qualitative tool to provide a systematic approach to describe further the contribution of SE in IH.

The use and development of frameworks is one of the most generic forms fro theoretical analysis. Frameworks are often used to identify elements and their general relationships among those elements (Ostrom, 2011). In this regard, the institutional analysis and development (IAD) framework (See FIG 19) is well known for the microanalysis of a wide range of social challenges (Donoso, 2018). For instance, it has been applied by researchers and policymakers interested in how different governance systems enable citizens to address problems democratically. Also, it contributes to the generation of knowledge from empirical studies and in the analysis of past reform attempts (Ostrom, 2011).
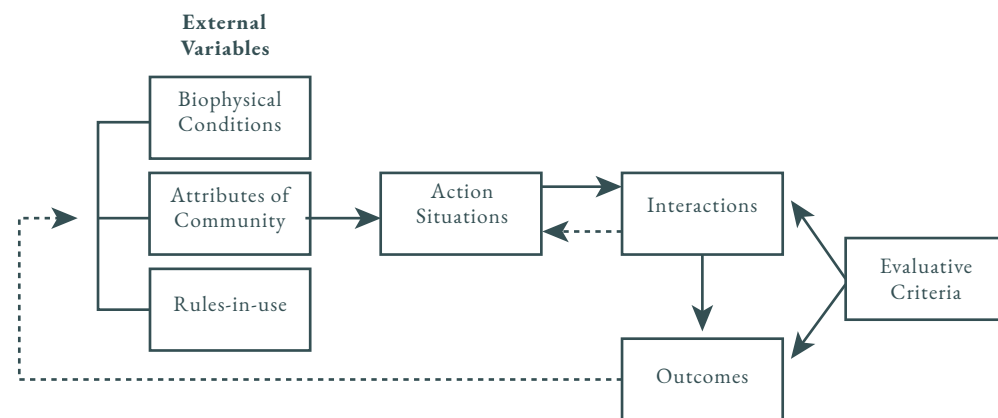
FIG 19: Framework for Institutional Analysis (Ostrom, 2011, adapted from Ostrom 2005, p.15)

In addition, this framework has been used for the examination of SESs. For instance, Vergara (2018) applied it to analyze the intervention process by third sector organizations within condominium management. Donoso & Elsinga (2016) applied the Institutional Analysis and Development Framework of Ostrom (2011) to analyze and compare the perceived level of maintenance in low-income condominiums in Ecuador and Colombia. Gao & Ho (2016) also applied this framework in condominiums in Hong Kong, focusing on exogenous factors that might affect the decision-making process of maintenance activities.

Likewise, Mens et al. (2021) applied this framework (2021) to identify different types of social entrepreneurs in bottom-up urban development in the Netherlands. For these reasons, this research believes this framework suits the purpose of this research and adapts it to explore the contribution of SE in AIH in developing countries.

A crucial part of this framework is the so-called 'action situation', which concerns the social aspects where individuals interact, exchange goods and services, and solve problems (Ostrom, 2011). FIG 20 gives an overview of the variables used in the 'action situation': (i) actors, (ii) positions by participants, (iii) actions and their relationship to outcomes, (iv) outcomes linked to actions, (v) level of control each participant has over choice, (vi) information available to participants about the structure of the action situation, and (vii) the costs and benefits (Ostrom, 2011).
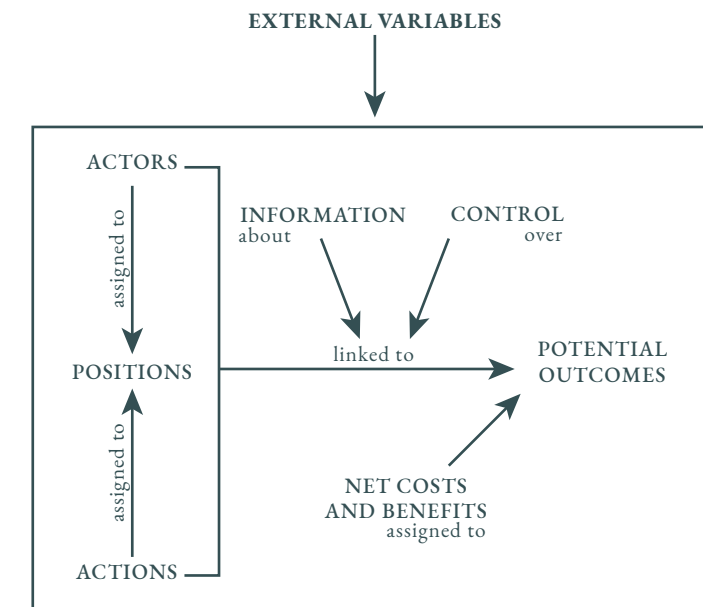
FIG 20: The internal structure of an Action Situation (Ostrom, 2011, adapted from Ostrom 2005, p.15)

Considering the IAD framework, FIG 21 shows this report's analysis framework. It addresses the actors of concern in this research: Social Enterprises, their characteristics and motives in the WHO & WHY variable, the role taken to reach their goals in the HOW variable, and the resulting AIH strategy in the WHAT variable. The explication of the operationalization will be explained later in this section.
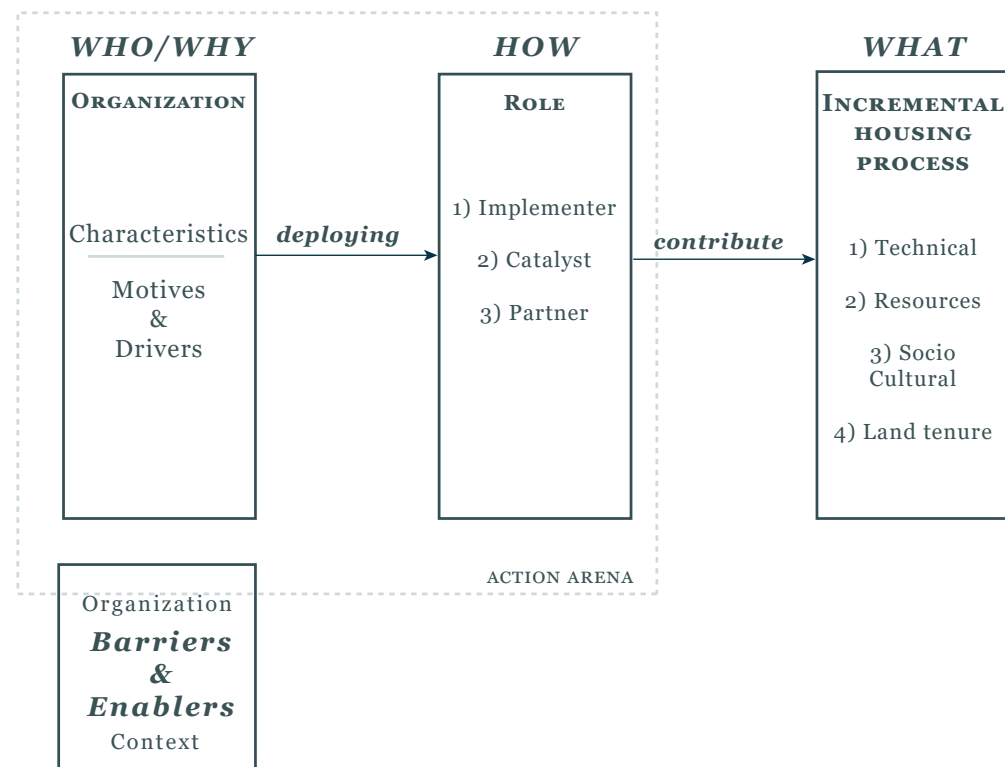
FIG 21: Analytical framework for assisted incremental housing by social enterprises (source: author)

The actors of focus are SE, given the interest of this report. The first variable, **WHO & WHY** variable, include the following parameters: *1) Descriptive variables/ characteristics:* including formal institutional characteristics, for instance, legal structure, profit objective, ownership structure, governance, and funding income (Czischke et al., 2012). *2) Motivator variables/ motives & drivers: i*ncluding the organization's objectives, mission, and drivers. Concerning the diversity of organizations making efforts towards the assistance of incremental housing and the interest in socio-technical innovation, within this parameter, this research is interested in the identification of the following options: a) state-driven, b) market-driven, and c) community-driven (Czischke et al., 2012).

The **HOW** variable describes the intermediation role taken by each organization. This part of the framework aims to analyze the strategies taken by the organization. For instance, 1) mobilizing resources; 2) alignment and articulation of vision; 3) building of social network; and 4) interactive & collective learning processes (Mens et al., 2021). Finally, the aim is to identify and categorize their roles and strategies based on three intermediary roles defined by Lewis & Kanji (2009). For this research, these roles are defined as follows: 1) Implementer: focus on services and good provision to improve the physical quality of existing housing or to start new housing construction; 2) Catalyst: contributes to bringing change, implementing socio-technical innovation that aims to improve the capacities of the self-builders/self-managers, and 3) Partner: which mainly focuses on improving the capacities of the community organization to carry out implementer or catalyst interventions throughout strategic alliances (Vergara. 2018), but also the strategies taken by the organization to built large networks and mobilize resources (Mens et al., 2021). These roles or sets of activities are used to understand how SE contributes to dimensions of AIH.

The **WHAT** variable consists of the resulting AIH contributions from the role taken by the SE. This section integrates the framework developed from the conclusions of CH2, which includes the following dimensions toward AIH: 1) technical: building materials, labor; design 2) resources: micro-financing, saving groups; human resources; 3) land and secure tenure: land regularization, land sharing and 4) sociocultural: culture and knowledge and action capacity. Through the following phases: 1) diagnosis, 2) participatory design; 3) strategic planning; 4) construction; 5) use & maintenance; 6) evaluation.

Alongside, this framework explores **Barriers & Enablers** at an internal and external level. Since this research is interested in the role of SE, the internal factors are related to the organization, and external factors are related to the context, user, and built environment. It is important to mention that since this research mainly focuses on SE typology, the framework does not dive into details of the characteristics of the context, only gives an overview of those essential aspects that may push or pull the AIH process according to the data collected.

FIG. 23: Social Production of Housing (Mejoremos, 2021)

Chapter 4
Research Methods

Introduction

This part of the report introduces the research methods suggested to carry out this investigation. As mentioned in the first part, this report aims to fill the gap in knowledge regarding the contributions of SE in the field of IH. This report argues that a better understanding of these actors can contribute to developing future strategies to propel their practice through government programs and inspire new ventures in the field. This aim is achieved by answering the following research question:

To what extent does the type of social enterprise, role, and strategies deployed contribute to the incremental housing process?

The following FIG 24 gives an overview of the research design and methods suggested to carry out this research.

PARTS	RESEARCH QUESTIONS	OBJECTIVES	APPROACH	METHODS	OUTPUT
CONCEPTUALIZATION	*What roles and actions can be distinguished regarding the contribution of social enterprises to the assistance of incremental housing?*	To define incremental housing dimensions and process phases	Literature review	Document review	Assisted incremental housing dimensions and process phases
		To develop a methodological tool to analyze social enterprises	Literature review	Document review	An analytical framework for social enterprises' contribution
ANALYSIS	*How do social enterprises assist incremental housing in Mexico? What are the barriers and enablers of their practice?*	To describe the current situation of incremental housing in Mexico	Literature review	Document review	Description of the current situation of incremental housing
		To Identify: WHO / WHY – (characteristics & motives) HOW – (roles & strategies)	Multi case study Analysis	Document review Interviews	Individual Case Analysis
SYNTHESIS	*What is a typology for SE in assisting IH? What are their contributions to the process and dimensions of IH?*	To provide a typology of social enterprises in the field of incremental housing	Synthesis	Cross–case analysis	Typology of social enterprises in the field of incremental housing
		To identify contributions to IH process phases and dimensions	Synthesis	Mapping contributions	SE contributions to IH process phases and dimensions

FIG. 24: Research Design and Methods (source: author)

4.1 Case Study Research

Robson (1993) defines a case study as *"a strategy for doing research which involves an empirical investigation of a particular contemporary phenomenon within its real-life context multiple sources of evidence."* Using a case study as a research strategy contributes to a deeper understanding of a process, a practice, or a phenomenon. This is achieved using a wide range of data such as documents, interviews, and observations. Case study research methods differ from other research methods (i.e., applied statistical methods and operations research methods) in three ways: 1) they are descriptive; 2) they are exploratory, and 3) explanatory. This approach is suggested to carry out this research since the main aim of this analysis is to be able to explore the role of different SE assisting IH in Mexico.

Since this research aims to analyze and compare local (i.e., Mexican) case studies of SE assisting IH in exploring their characteristics, motives, and roles during the assistance of incremental housing process, this study is undertaken through a multiple case study approach. This approach will allow a broader overview of these actors and their contributions to IH. A multiple case study allows the researcher to identify similarities and differences between the selected SE. Another benefit of multiple case studies is that the evidence generated from this study is solid and reliable (Gustafsson, 2017).

4.2 Cross Case Study and Typology

A cross-case analysis is suggested since it is known to provoke the researcher's imagination, prompt new questions, reveal new dimensions, generate models, and construct ideas and utopias (Stretton, 1969). Since this research aims to elaborate on a typology of SE, a cross-case analysis is carried out to facilitate this process. Thus, this study analyses case studies and compares the results through a cross-case analysis to identify similar patterns and differences among the characteristics and roles taken by the selected organizations, which may lead further to the development of the typology. FIG 25 offers an overview of the case study design.
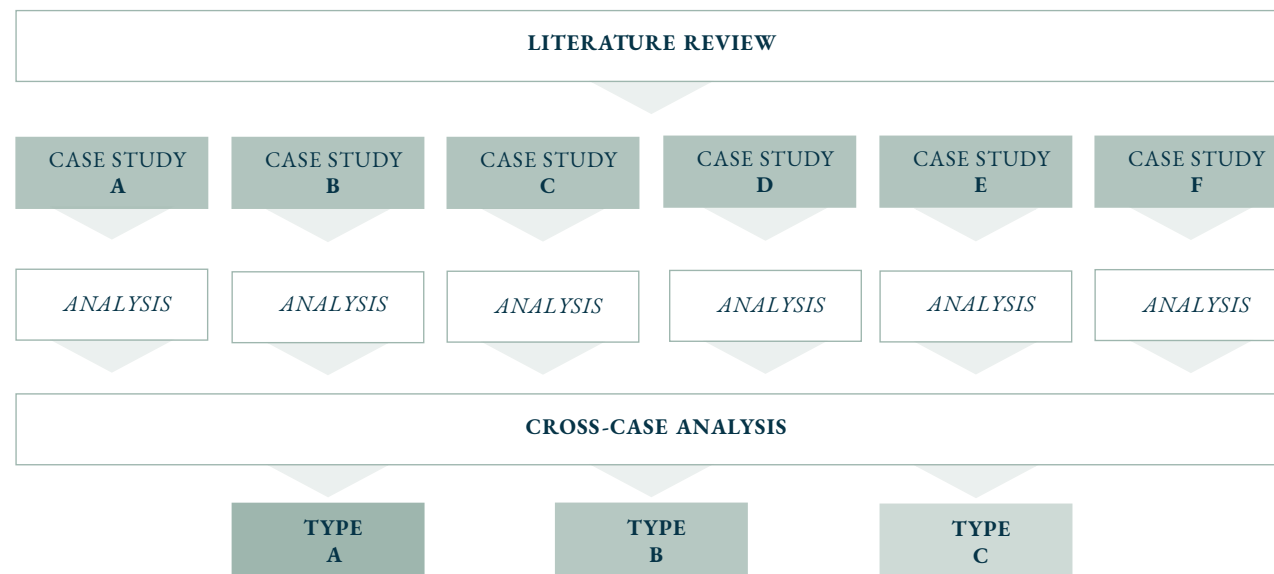
FIG 25: Case Study Design (source: author)

4.3 Case Study Selection

The case study selection consisted of a two-phase process. 6 cases were selected from an initial database of 10 cases after an in-depth analysis of each case. This first in-depth analysis consists of establishing first contact with the organizations, a first interview with the contacted person if possible, and a document review of their current practice based on the information found on their websites. The first selection criteria applied was the location of this case studies; Mexico was the country of selection to carry out this research. The final selection was based on the organization that better matched the case study criteria selection (See FIG 26) and the organization's availability to participate in the current research.

CRITERIA	EXPLANATION
INTERMEDIATION	An organization with an intermediary role
TARGET GROUP	The target group is the low-income sector
GOALS	In their goals, they assist incremental housing throughout one or more of its dimensions: resources, land, technical, socio-cultural
SIZE OF ORGANIZATION	5-100 employees
LOCATION	Mexico
EXPERIENCE	The selected case has practical experience assisting incremental housing and has enough information to identify barriers & enablers during their practice.
INFORMATION	The local organization is currently active, and it is possible to contact and also its clients
INNOVATION	The assistance by the organization is carried out from an innovative perspective (from social innovation or building techniques).
DIVERSITY	The selection considers different ways Social Enterprises are involved in assisting IH.

FIG 26: Case Study Selection Criteria (source: author)

FIG 27 gives an overview of the selected cases to conduct this research.

ORGANIZATION	*INFORMATION*	*WEBSITE*	*TYPE (SELF-DESCRIBED)*	*NAME OF INTERVIEWEE*
CASE A **Mejoremos**	Specialist in the assistance of self-production of housing	https://www.mejoremos.com.mx/	Social enterprise (for-good and for-profit)	Lucia Valenzuela
CASE B **S-AR (Comunidad VIVEX)**	To offer architecturally sound design for construction workers and their families, taking advantage of their abilities	https://comunidadvivex.org/	Architect firm / NGO	Cesar Guerrero
CASE C **ECHALE**	Works on the development of ecological and sustainable housing for vulnerable communities in Mexico	https://echale.mx/	Social enterprise (for good and profit)	Francesco Piazzesi
CASE D **Cooperacion Comunitaria**	Self-management through participatory and training processes through the improvement of constructive and productive processes	https://cooperacioncomunitaria.org/	NGO	Anaid Gonzalez
CASE E **Programa Viva**	Demonstration center of different construction techniques and vernacular architecture techniques	https://www.programaviva.org/	Architect firm / NGO	Jaime Gomez
CASE F **IBUILD**	A cloud-based platform of tools and services	https://www.ibuild.global/es-mx	Social enterprise (for good and for-profit)	Nancy Welsh

FIG 27: Overview of Selected Cases (source: author)

4.4 Case Study Protocol

The selected cases followed the same protocol: the first action was to contact the SE to invite them to be part of the current research. After the invitation was accepted, the data collection involved the following activities:

4.4.1 Data Collection

-Individual semi-structured interviews with a professional from the organization. One interviewee represented each organization. These interviews were to obtain information about the organization, the problems during their assistance, and their strategy for assisting IH. (For Interview questions, see APPX.A)

-Reviews from project documents, i.e., official organization documents and internal evaluations.

-Complimentary interviews: unstructured interviews with experts in the field of IH, i.e., academy, and government entities, were conducted to understand better contextual barriers and enablers and future pathways of SE in AIH.

4.4.2 Data Analysis

Data analysis was carried out through a thematic analysis approach which provides the opportunity to code and categorize data into themes (Mohammed, 2012). This approach is suitable for this research since it allows the researcher to highlight the differences and similarities within the data (Creswell 2009). Coding allows the researcher to review the whole data by identifying its most important details from the raw data (Miles &Huberman, 1994). Therefore, this data analysis approach was suitable for the current research since it facilitated the research to linking and comparing various opinions and concepts found among the participants.

The interviews were performed in Spanish and were carried out in an online setting, i.e., Zoom platform. The recording was carried out with prior permission by the interviewees. Furthermore, the interviewees were transcribed using Word Online transcribed tool and manually checked afterward.

The first phase for data reduction consisted in setting the transcripts ready to analyze in a Microsoft Word document; for instance, the text was ready to read through a line-by-line method, which facilitated reading through it. Transcripts were not translated; they were analyzed in the original language they were carried out. Initially, the aim was to use the Atlas. Ti. However, due to a lack of familiarization with the software, the decision was to carry out this coding 'manually,' i.e., Microsoft Word.

The second phase involved highlighting relevant pieces of the text: such as words and sentences / the selection of these pieces in the text was selected because: i) it has been repeated in several places, ii) it is surprising for the researcher, iii) the interview explicitly states that its necessary, iv)it is related to previous reading in the literature, v) reminds of the theory of a concept.

The third phase consisted of using the highlighted pieces and breaking the data into smaller segments or themes. These segments or themes refer to the sentences of a paragraph. This established the first themes from the data (i.e., motivations, roles, barriers).

The resulting themes were saved in a new Microsoft Word document. The data was then prepared to re-read and identify the second level of themes, i.e., codes, which involved repeating the procedures followed in the second phase, i.e., highlighting relevant pieces of the text that better answer the research questions set. In some cases, transcripts were reread in search of missing information.

Alongside this thematic analysis, triangulation was carried out. Triangulation aimed to decrease the deficiency of only using one method approach. This was achieved by comparing the interviews' findings with the documents provided by the organization and the organization's website. However, important to mention is that only one professional represented each organization, which might impact the reliability of the study.

Conclusion

This chapter presented the methodological approach to case study analysis. As mentioned, this research uses multiple case studies to describe and understand the contributions and limitations of SE in AIH. An individual analysis of each case will allow the researcher to reveal the position and power of each organization, their main barriers, and possibilities in the field of incremental housing. The individual analysis of each case is followed by a cross-case analysis that aims to compare the practices and finally propose a typology of SE in the last part of this report.

The selection of the cases involved a two-phase process, starting with an initial database of 10 cases, from which 6 were selected from a diversity of SE assisting incremental housing in Mexico. The 6 cases selected are the following; A) Mejoremos, B) Comunidad Vivex, C) Echale, D) Cooperacion Comunitaria, E) Programa Viva, and 6) iBUILD. The analysis of each case will be presented in CH 6, after CH 5, which aims to bring knowledge about the current situation of IH in the country of interest of this research.

FIG. 22: Social Production of Housing (Mejoremos 2021)

CONCEPTUALIZATION

↓
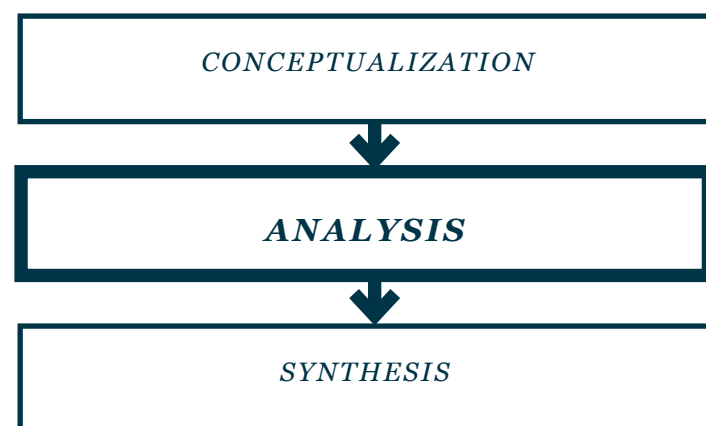
ANALYSIS

↓

SYNTHESIS

ANALYSIS

This section aims to anwer the following research question:

How do Social Enterprises assist Incremental Housing in Mexico?
What are the Barriers & Enablers of their practice?

FIG. 28: Social Production of Housing (Mejoremos, 2021)

Chapter 5
Assisted Incremental Housing in Mexico

Introduction

This chapter aims to bring an overview of the current housing situation for the low-income sector in Mexico and bring knowledge about the situation of IH in Mexico.

5.1   Social Housing in Mexico

Like many other countries in Latin America, the housing for low-income in Mexico is provided by two delivery systems: Social Housing and Incremental Housing (IH). As mentioned earlier, the latest is better known as Social Production of Housing (SPH). Mexico is a country with a significant history in Social Housing production. Forty years ago, an institutionalized housing system was established. However, during the last decade, the State has focused on increasing production to address the housing gap (Arnold, 2019). The government delegated the promotion of Social Housing to the private sector (Ziccardi & Gonzalez, 2015) while it focused on granting subsidies and the generation of mortgage programs to facilitate the acquisition of new commercially produced homes (Arnold, 2019). The latter meant an increase in demand, which was met by the development of mass housing production, usually developed in low-cost plots of land available on the outskirts of the cities (Hernandez & Velasquez, 2014; Arnold, 2019). As a result, entire neighborhoods were built in remote locations, lacking infrastructure or access to public services, and disconnected from their family and work opportunities (Arnold, 2019). This phenomenon led to high travel costs and subsequently led to the abandonment of thousands of homes. According to the census in 2010, the national inventory of houses reached 35,000,000. However, a fifth of that number of housing is vacant (INEGI, 2010 cited by Kunz & Espinosa, 2017). This also resulted in a disproportionate expansion of the cities (Arnold, 2019). According to Rodriguez & Sugranyes (2005), this typical approach for social housing often leads to a lack of quality and spatial insufficiency, impersonality in their design, and lack of privacy and security.

5.2   Social Production of Housing (SPH) in Mexico

SPH is a widespread practice in Mexico. According to INEGI (2020), the process of self-production in Mexico represents 57.3% of the country's private dwellings (VivPH, viviendas particulares habitadas). FIG 29 shows the percentage distribution according to the form of house acquisition in 2020: 1) 57.3%, it was self-produced; 2) 20.8%, it was bought new; 3) 14.6%, it was bought used; 4) 7.2%, it was obtained in another way.
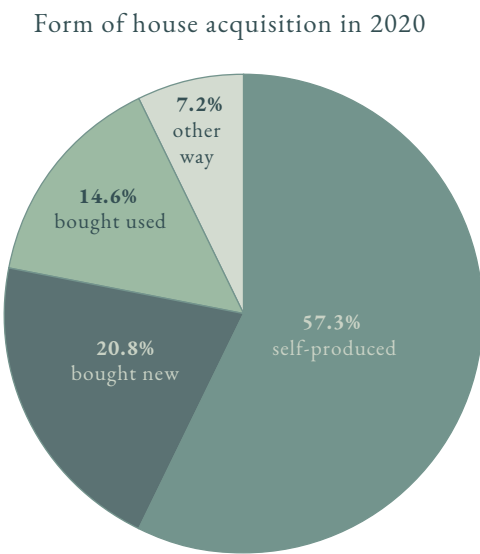
Form of house acquisition in 2020

FIG 29: Private dwellings percentage distribution according to the form of house acquisition in 2020 (INEGI, 2020)

Regardless of the level of income, particularly low-income families have implemented this model to generate housing solutions based on their economic capacities, and social and cultural conditions, using other types of resources, such as savings and solidarity work as a result of insufficient monetary resources (Ziccardi and Gonzalez, 2015). This illustrates the significance of IH in Mexico, and it is clear that SPH represented, at least in the last decade, the main form of housing provision in the country (Kunz & Espinosa, 2017). Despite the critical role SPH plays, the government has not recognized its importance and has not been able to understand the potential to solve the housing problem (Kunz & Espinosa, 2017, Ziccardi & Gonzalez, 2015).

FIG 30 gives information about the need to renovate or extend private dwellings (VivPH, viviendas particulares habitadas): 1) 58.5%, in need of renovation; 2) 58.1% in need of extension; 3) 7.4% in need of other type of repair.
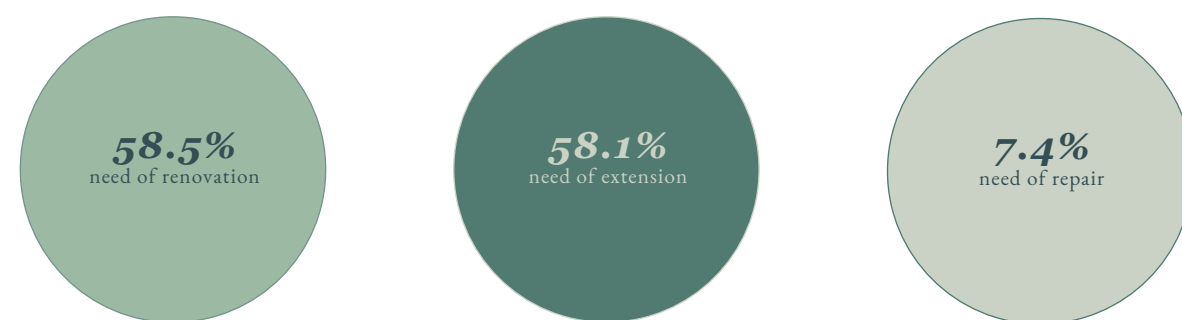
FIG 30: Private dwellings percentage in need of renovation or extension in 2020 (INEGI, 2020)

FIG 31 gives an overview of the main issues found in private dwellings that have structural problems: 1) 44.2% humidity and water infiltrations; 2) 40.8% cracks; 3) 16.2% deformations in frames; 4) 14.8% heaving or subsidence of the floor; 5) 10.6% fractures/deformations of columns or beams and 6) 7.9% cracks in pipes or drains.
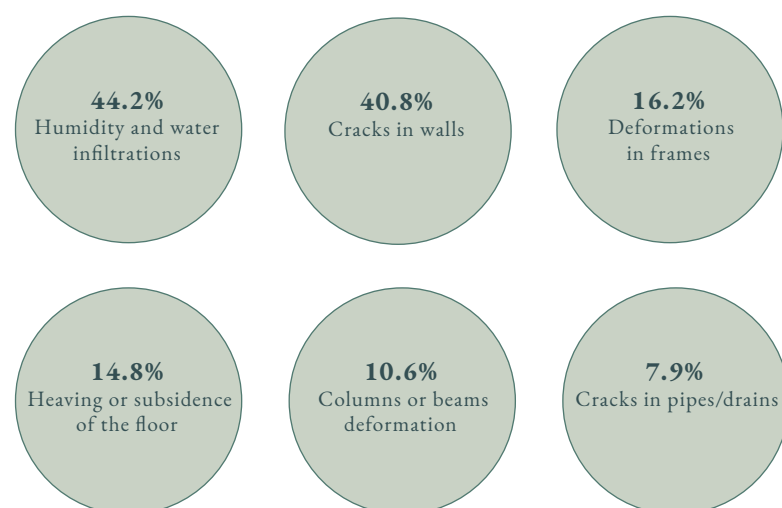
FIG 31: Private dwellings percentage with structural problems in 2020 (INEGI, 2020)

5.3 Assisted Incremental Housing Programs in Mexico

5.3.1 Programs by the Government

The government has made several attempts to support the SPH model. However, any has come to stay. Back in the history of Mexico, IH was supported by the federal government. In the 60s, the government supported IH through the implementation of urban planning and offering the necessary infrastructure, an example of this phenomenon can be found in Nezahuacoyotl located in Mexico City, which started in 1950 and is now considered a consolidated self-constructed area with around 1.1 million residents (Breedenoord et al. 2014; Ziccardi and Gonzalez, 2015).

In 2006, it was possible to include a section in the Housing Law with a specific focus on SPH, which was defined as follows: *"Housing carried out under the control of self-producers and self-builders who operate non-profit, and that is primarily oriented to meet the housing needs of the low-income population, also includes housing which is carried out by self-managed and supportive procedures, that prioritize the use-value of housing over the commercial value, which is possible through the allocation of resources and constructive and technology procedures based on the needs, management and decision-making capacity from the household"* (Arnold, 2019).

This was possible as a result of joint work among academic institutions and social organizations, that undertook the task of spreading demonstrative experiences of the self-production processes, territorial management, and social impact of this form of housing (Ziccardi and Gonzalez, 2015; Grubbauer, 2020). In this context, between 2006 and 2012, bases were laid for the construction of a service platform, in which public, private and social entities have contributed with proposals to increase the housing options for the low-income sectors (Ziccardi and Gonzalez, 2015).

Since 2006, the Federal Mortgage Company (Sociedad Hipotecaria Federal, or SHF), as an intermediary lending institution, has supported the improvement of existing self-built through its housing microcredit fund (SHF, 2019a). Also, since 2011 it has supported more extensive renovations. For example, extensions and structural work through its assisted self-help housing fund (SHF, 2019b). These loans could be combined with capital subsidies from CONAVI or other state and municipal programs. In this scheme, while the financial intermediary is in charge of credit allocation, the borrowers within the SHF's assisted self-help housing scheme are required to work with an SHF-registered company (Agencia Productora de Vivienda, or APV), who is in charge of supervising the renovation project, this model was operational from 2007 and 2012 (CPSV, 2012 cited by Grubbauer, 2020). In 2012, after the election of President Peña Nieto and several organizational changes in the SHF and CONAVI, APVs were blocked from these programs. However, after protests and political negotiations, the programs continued with a stronger emphasis on involving for-profit financial agents (Grubbauer, 2020). Since 2016, the beneficiary was obliged to show 30% of the construction progress to receive the subsidy. As a result, fewer people could apply to this initiative.

The results of this proposal were the following: from 2007 to 2012 more than 50,000 housing units were supported. From 2013 to 2016, 18,346 self-production projects were supported, and 25,790 upgrade projects were supported (Arnold, 2019). It is argued that without suppressing this initiative, the government almost neutralized the SPH mechanism, promoting instead prefabricated and commercial 'rural housing' solutions, which required prior savings, as mentioned earlier (Arnold, 2019; Ordoñez & Amescua & Ordonez, 2020).

However, in the last years, Leftist president López Obrador, who has been in office since December 2018, has been actively seeking the advice of the socially oriented APVs and other actors affiliated with the CPSV. He intends to scale up low-income housing programs by further making existing microcredits schemes more flexible and reinforcing the involvement of for-profit actors (Grubbauer, 2020). Also, concerning INFONAVIT, they are collaborating with ITESM to incorporate a "CATEDRA INFONAVIT" program.

5.3.2 ENA (national strategy of self-produced housing)

In 2019, the Secretary of Agrarian, Territorial, and Urban Development (Secretaria de Desarrollo Agrario, Territorial y Urbano, or SEDATU), in close coordination with the National Housing Organizations, has developed the National Self-Production Strategy. The strategy is based on the generation of land suitable for housing construction and its link with urban development, innovative financing schemes, the promotion of comprehensive technical assistance, and effective communication, all this to strengthen the decision-making process of families and offer them better opportunities to exercise their right to adequate housing (SEDATU, 2021). This strategy was possible thanks to the coordination of different organizations: National Commission of Housing (CONAVI), National Institute of Sustainable Soil (INSUS), Institute of the National Housing Fund for Workers (INFONAVIT), Housing Fund of the Social Security Institute of Workers at the Service of the State (FOVISSSTE), Society Federal Mortgage (SHF) and the National Housing Fund Popular (FONHAPO). This strategy is based on an integral approach and aims to guide the families in the self-produced process through the following approaches: 1) access to land, 2) finance, and 3) technical assistance (SEDATU, 2021). Together with strategy, a digital tool to guide the decision-making process by the self-builders was developed; Decide y Construye (Acuna, personal communication, February 2022). Policymakers responsible for the design of this strategy mentioned that they are looking for ways to design the strategy at a municipal level. Also, they are thinking about making this strategy sustainable by better integrating SE into it (Acuna, personal communication, February 2022). However, it was mentioned that no NGO was considered yet to develop this strategy (Piazzesi, personal communication, March 2022). Also, this strategy has been already criticized for not accepting the construction with local materials and local techniques (Amescua & Ordonez, 2020).

5.3.3 Assistance by Private Sector

For profit, actors have also contributed to the topic of IH in Mexico. For instance, a proposal developed by CEMEX, a construction material company, consisted of offering technical and material assistance to self-builders and credit for home renovations. The program is called 'Patrimonio Hoy' and has benefited more than 250,000 households (CEMEX, n.d.) Other construction materials companies have also developed similar strategies, such as Holcim Apasco, which introduced an initiative called 'MI CASA', which aims to help people self-construct homes by providing affordable construction materials (Holcim Apasco n.d.).

However, since IH is still a common practice in Mexico, other interesting attempts have been made to assist self-help housing. An interesting example that supports IH is located in Nuevo Laredo, where a trust fund was founded in 1999 to prevent illegal settlements within the municipality. The trust fund bought 343 hectares of land, divided, and sold to the families (Bredenoord & van der Lindert, 2014).

5.3.4 Assistance by Social Enterprises

Social Enterprises have prioritized bottom-up approaches and worked with local communities (Martins & Rocha, 2019). By the 1980s, the so-called non-governmental organizations (NGOs) and various sectors of the Catholic Church began to form networks such as SELAVIP (Latin American and Asian Popular Housing System), which acknowledged the need to adopt a different approach toward the housing issues (HIC-AL, n.d.).

From this approach, several organizations are assisting IH projects in Mexico. For instance, Habitat for Humanity Mexico has operated in 18 states by mobilizing financial resources and people (Habitat Mexico, n.d.). Echale a tu casa is another organization that offers housing solutions for low-income families through the following aspects: 1) social inclusion, 2) access to finance, 3) adequate building technology (Echale, n.d.). Comunal and Laboratorio de Arquitectura Basica are organizations that bring technical assistance to the inhabitants through the incremental process, promote the use of local materials, the rescue traditional techniques, and the user's involvement in the design of the housing unit. These organizations work collaboratively, which means that they work together with the community through the whole construction process, from planning to construction (Comunal, 2020; labmx, 2021).

Another important organization is CONVIVES (National Council of Sustainable Green Housing), composed of NGOs, suppliers with certified construction companies, and financial intermediaries to provide opportunities for the under-served sector (Ziccardi and Gonzalez, 2015; CONVIVES, 2021). In 2022, they agreed with the Development Financial Corporation (DFC), which will finance at least 30 million dollars for self-production of housing, specifically for areas where vulnerable groups live and do not have access to social security mechanisms FOVISTE or INFONAVIT. It was mentioned that this agreement would give preferential financing and bridge loans to the companies that integrate CONVIVES. The latest also brings knowledge about recent efforts of SE in AIH and how they are working on the mobilization of resources and building social networks for assisting the process of IH (Piazzesi, personal communication, March 2022).

Conclusions

In Mexico, several programs by the government have been launched to bring a solution to the case of IH since the process of self-produced housing represents around 57.3% of the country's inhabited private dwellings. However, no programs and strategies have come to stay due to imposing unrealistic and unaffordable standards. On a bottom-up approach, several organizations named SE are making important efforts toward mobilizing resources for the purpose of IH. CH 06 aims to dive into detail into describing who these actors are roles taken to assist the process of IH.

FIG. 32: Social Production of Housing (Mejoremos, 2021)

Introduction

Using the analytical framework developed in CH 03 based on the literature review findings, this chapter presents a case studies analysis of 6 cases of social enterprises in Mexico to explore their role in assisting incremental housing. After this, a cross-case analysis focused on identifying the similarities and differences of the selected cases is conducted to further provide a typology for social enterprises in IH in CH 08.

Chapter 6
Case Studies
Social Enterprises Assisting
Incremental Housing in Mexico

FIG. 33: Social Production of Housing (Mejoremos, 2021)

6.1 Case A
Mejoremos

6.1.1 Who & Why

Characteristics

Mejoremos is self-defined as a 'social enterprise' or for-good and for-profit organization, a specialist in the self-production of housing. The organization comprises around 50 employees from different backgrounds (i.e., architecture, social sciences, economics). Since 2008, it has provided technical advice, training, and social support to people who have decided to build, expand or improve their homes. At the end of 2019, Mejoremos improved the quality of life of more than 7,500 Mexican families in 7 states of Mexico Currently, the organization's directors are an Architect and a Psychologist (Mejoremos, 2022).

Motives & Drivers

"To respect the principle of self-production where people have to make decisions and be responsible for the management of the resources they have" (Valenzuela, personal communication, February 2022)

The motives behind the creation of Mejoremos come from the Law of Housing in Mexico. This law, developed in 2006, acknowledged the concept of SPH within it. A group of people from different backgrounds (e.g., politics, housing institutes, and architects) launched the organization. This group aimed to ensure that SPH was implemented as a policy for subsiding support and carried out 'integrally' (Valenzuela, personal communication, February 2022).

Also, their work has been motivated by the earthquake in 2017. This earthquake left hard lessons such as increasing safety standards for buildings since most collapsed houses did so due to deficient structures. Based on the information provided by Mejoremos, within the houses they have been able to intervene, they have found, in addition to structural problems, habitability problems. For instance, spaces without any ventilation or lighting. In many cases, Mejoremos observes that these problems come from a lack of planning since the houses are built incrementally. For these reasons, Mejoremos believes it is essential to provide technical and qualified assistance in self-production housing programs (Valenzuela, personal communication, February 2022).

Mejoremos usually work in peri-urban areas and sometimes in rural areas. Initially, they started working with CONAVI in their co-financing social housing programs. These programs usually involve three parties: 1) beneficiary, 2) technical assistance, and 3) a financial agency that provides a loan. In this case, Mejoremos acts as the technical assistance entity. Mejoremos has also worked with Habitat for Humanity and rural and urban cooperatives. In their case, the beneficiary is defined by these financial agencies. For instance, many times, the conditions were set by CONAVI. For a long time, the target population was mainly between 40 and 50 years old, developed families, informal sector without job benefits, and earning no more than 12,000 MXN salary per month (Valenzuela, personal communication, February 2022).

The interviewee argued that their target group is changing. Together with the ENA National Self-production Housing Strategy mentioned in CH 05, INFONAVIT has opened a line for credit for the self-production of housing. The latest completely changes the user into a user with a more stable income, who is no longer receiving a subsidy and invests all their credit on their house. Therefore, there is no collateral for subsidies, which means a change in the target population for Mejoremos, resulting in a target population of 30-40 years, who may or may not have children, and who spend much time on public transport and who is hard to meet in person (Valenzuela, personal communication, February 2022). Therefore, the way to contact them has also changed to a digital way of communication. Also, the target group scope has widened, which means that the user can be someone who works on the fabric to someone who works in a bank, which means working with different budgets.

6.1.2 How

Role and Strategies

The interviewee was asked about their roles and strategies. As an implementer, this organization provides the development of architecture, construction plans, and supervision of construction works carried out by the user.

For the catalyst role, they inform the user about the procedure to be taken. For instance, to explain all details about their service to make sure the user is on board. Also, they have a strong focus on the financial aspects and therefore provide flexible financial schemes that fit the users. Also, they provide different workshops to explain technical and structural aspects. Mejoremos has a platform to provide a follow-up for every case they attend. The interviewee mentioned that if they want to make this project scalable, they have learned that they need to have specific controls to monitor each project's design and quality.

More activities are shown in their role taken as a partner. For instance, Mejoremos has a strong link with financial entities. Since they act as technical assistants, they have a strong alliance with different financial entities responsible for the finance (e.g., INFONAVIT, CONAVI). From the latest, their intermediary role as a partner is highlighted while working on aligning goals from the demand and supply sides. Also, Mejoremos started to work with several cooperatives in Mexico, which were the entities in charge of collecting the credit and following up on the intervention. The interviewee mentioned that after completing their work with cooperatives, they would often continue to work in the process. (Valenzuela, personal communication, February 2022).

The interviewee argued that the model Mejoremos; is a replicable one. It was mentioned that they were working initially in an area called ECATEPEC in Mexico City with extreme conditions (e.g., large population, little urban space, social issues, crime). By working within this area for around ten years, Mejoremos developed a replicable model, which they can use in other states of Mexico. The success of this model contributed to gaining visibility and attracting support from different local and international organizations (i.e., World Bank, CONAVI, and INFONAVIT).
Mejoremos has built important alliances with people and organizations that have enriched their practice (e.g., public entities and academia). They are part of national and international networks working to share their self-production experiences. Also, on their website, they have shared their experience widely. All the before-mentioned efforts resulted in sharing their vision toward IH with all actors involved in the field.

FIG 34 gives an overview o the role and strategies taken by Mejoremos according to the following indicators: 1)implemented; 2) catalyst; 3) partner.

HOW	INDICATORS	DESCRIPTION
ROLES & STRATEGIES *MEJOREMOS*	**IMPLEMENTER STRATEGIES**	-Supervision of construction works -Development of architectural and construction project -Integration of own platform to provide a follow-up for every case they attend -Have an on-site team to assist the process closely. -Providing flexible financial schemes that fit the users
	CATALYST STRATEGIES	-Informing the user about the procedure -Workshops to explain to the user technical and structural aspects.
	PARTNER STRATEGIES	-Mobilizing financial resources, strong alliance with different financial entities responsible for the finance -The organization usually hires a workforce from the communities they work in. -Building a social network with other SE AIH and universities to motivate the transition from theory to practice -Building a social network with other SE AIH and finance entities to design flexible financial models which can be adapted to the user. -Building a social network with national and international entities to share experiences -Sharing experiences to influence public policy to support IH -Promote the alignment of vision towards IH among the actors involved.

FIG. 34: HOW: Overview of Roles & Strategies by Mejoremos (source: author)

6.1.3 Barriers & Enablers

FIG 35: Gives an overview of the barriers & enablers faced by Mejoremos during their assistance to IH.

BARRIERS & ENABLERS *MEJOREMOS*	**BARRIERS**	
	Organization	-Access to the best talent -The communication gap between the professional and the community
	Context	-Short timeframe to develop the intervention when working with public resources. -User lacks time to invest in the self-construction. (This is related to long commuting times) -The user does not internalize technical assistance -Many times, the user trusts more in works by Manson, not their ability to build -Architect service can be seen as a luxury
	ENABLERS	
	Organization	-Having part of the organization team at the site of intervention -Multidimensional structure of the company (legal, finance, design, socio-cultural) -Developing close relationships among the professionals and the community -Evaluation methods to take care of quality from both service given and construction of each case -Belonging to the Network of Housing Self-Producers allows influencing public policy -Constant presence in the territory to build better relationships and credibility with the environment
	Context	-A committed user on the topic of incremental housing -A shared vision about IH among the actors involved (e.g., financial entity, architects, users)

FIG. 35: Barriers & Enablers by Mejoremos (source: author)

Mejoremos Conclusion

Mejoremos brings good insight into an organization that works as an intermediary in the processes related to the built environment. The organization has an overall experience in the topic of IH and has been able to find a niche in the market by providing technical assistance for low-income groups. They are defined as a for-good for-profit. The organization usually works in urban and peri-urban areas and mainly works on improving and extending housing. This organization is primarily working together with financial entities from the government. Therefore, the target is generally set by those entities. For that reason, the organization needs to adapt its service to meet the needs of the target groups set by the financial entity. However, their service is generally designed for individual households and not for communities. Looking at their implemented strategies, it is noticeable that Mejoremos is mostly taking the partner role since they are working on mobilizing resources and building social networks with strategic alliances. Having an extensive network has been vital for the organization to facilitate access to resources and add to its economic sustainability. Based on their implemented strategies, it is noticeable that a big part of their actions is related to the resources dimension, specifically within the financial aspects.

FIG. 36: Cimbra (Comunidad Vivex, 2021)

6.2 Case B
Comunidad Vivex

6.2.1 Who & Why

Characteristics
Communidad Vivex is a non-profit Civil Association that works under a model based on a methodology of participation, collaboration, and assisted self-construction that generates value for our beneficiaries. This organization is a branch of an architecture firm based in Monterrey. Therefore, the organization comprises individuals with a design and construction background. Comunidad Vivex activities toward IH were defined as being 'sporadic' by the professionals since this project is a branch of the original project of the architects, and the organization is composed of around ten employees (Guerrero, personal communication, February 2022).

Motives & Drivers
Based on the professionals, the organization's primary goal is to offer architecturally sound design for construction workers and their families, taking advantage of their abilities. The organization has a strong interest in the aesthetic aspect. They mentioned: *"Using Architecture to make changes, to transform things. Transform architectural knowledge into social empowerment, into participation. We believe that Architecture and construction have great potential to activate people. The question is to use this to pursue human objectives, sensitive to the needs of others, especially those who have less"* (S-AR, 2022). In the end, Comunidad Vivex, seek to generate social values in the participants and their families through housing projects. For instance, self-effort, responsibility with resources, pride in their work, solidarity with others, and saving resources. This organization often assists people with previous experience in construction and who already own a piece of land (Guerrero, personal communication, February 2022). Also crucial is that Comunidad Vivex assists the IH process, especially for individual households. Activities deployed are not designed for communities.

6.2.2 How

Role and Strategies
The professional was asked about the roles taken during their assistance. The primary role taken by Comunidad Vivex towards IH is the one as an implementer. This can be identified since they actively develop architectural and construction plans for the family in need. Also, it was mentioned that the model of Comunidad Vivex has proven to be replicable. *"We think that Comunidad Vivex's model is replicable in any place where resources (i.e., materials and labor) exist and the commitment from both involved parties: on the one hand, the architects who design the projects and empower the people, and on the other, the families or communities with housing needs and the motivation to build or manage for themselves"* (Guerrero, personal communication, February 2022).

As a catalyst, they implement a co-design process with the assisted family. Also, they promote the culture of maintenance. Alongside, they have published Catalogo Vivex. This pocketbook regroups various options for making homes. It depicts personalized structures to discourage the construction of conventional social housing developments and promote diversity, creativity, and imagination for Mexican housing solutions.

Regarding their role as partners, the interview mentioned that funds come from donors, and sponsors come from the city they are working in. Also, financial resources come from donations via PayPal from the United States. Considering financial resources, the beneficiary family only contributes with human resources to build the house (Guerrero, personal communication, February 2022). The last means more pressure on the organization to mobilize more resources for the project. FIG 37 gives an overview of the roles taken by this organization.

HOW	INDICATORS	DESCRIPTION
ROLES & STRATEGIES *COMUNIDAD VIVEX*	**IMPLEMENTER STRATEGIES**	-Management of construction materials -Development of architectural and construction projects without cost to the user -Supervision of construction works -Development of housing catalog
	CATALYST STRATEGIES	-Promotion of maintenance culture -Co-design with family
	PARTNER STRATEGIES	-Mobilizing financial resources from national and international donors

FIG. 37: HOW: Overview of Roles & Strategies by Comunidad Vivex (source: author)

6.2.3 Barriers & Enablers

FIG 38 gives an overview of the barriers & enablers faced by Comunidad Vivex during their assistance to IH.

BARRIERS & ENABLERS *COMUNIDAD VIVEX*	**BARRIERS**	
	Organization	-To find constant funds -Little network out from the architecture field -Personal life -Small firm
	Context	-Lack of involvement of the user
	ENABLERS	
	Organization	
	Context	-Self-manager is committed

FIG. 38: Barriers & Enablers by Comunidad Vivex (source: author)

Comunidad Vivex Conclusion

Communidad Vivex shows insights into an organization with limited resources partly related to its limited network and the company's size. It was argued that the organization is working with other entities. However, most stakeholders are from the architecture and construction fields. Their collaboration with entities from other sectors (e.g., social sciences, housing, government) was not stressed by the interviewee. However, they offer an example of how architecture firms show efforts towards IH in Mexico. It was observed that the organization is only assisting IH sporadically due to the barriers faced and lack of motivation.

FIG. 39: Social Production of Housing (Echale, 2021)

6.3.1 Who & Why

Characteristics

Echale is a Social Enterprise that works on developing ecological and sustainable housing for vulnerable communities in Mexico. The project of "¡Echale! A tu Casa" emerged in 1997 as a Civil Association under Adobe Home Aid, to meet the demand for decent and adequate housing in Mexico. Later in 2006, they became a Social Enterprise (for-good and for-profit) under Ecoblock International S.L. (Echale, 2022).

Nowadays, the organization is composed of 3 entities: 1) Echale, which facilitates the access to adequate housing; 2) Echale Financiera*, which is in charge of providing financial products & services and 3) Echale Fundacion*, which main aim is to establish the link between vulnerable communities and socially responsible individuals or companies that are willing to contribute to the organization. The company of around 100 employees is divided into mainly four areas shown in FIG 24, 1) revenue & budgetary control department; 2) legal department; 3) technical support & systems department, and 3) talent management department.

Motives & Drivers

"We are a Social Enterprise based in Mexico City with a mission to promote holistic development for marginalized communities. We provide quality housing solutions to underserved families through access to microcredits, innovative technology, and workshops to encourage social inclusion" (Piazzesi, personal communication, March 2022)
The professional mentioned that coming from a background in the construction and machinery industry, they noticed that construction workers (despite having the ability to build) do not have the means to build adequate housing. From the latest ECHALE began to provide the necessary means to families to have adequate housing. They state the organization's motivation: *"To empower people, involving them actively in planning and constructing their own home"* (Echale, 2022).

The final motivation of ECHALE is to address the housing deficit in Mexico, of which 9.8 million families, 6.8, cannot have access to adequate mechanisms to acquire homes. As a result, they chose self-construction, which sometimes ends in precarious results. Therefore, the service/product is designed for families in the informal sector with no access to social security or banks. They attend low-income families living in precarious conditions, marginalized communities looking forward to improving their situation, and organized communities.

6.3 Case C
Echale

6.3.2 How

Role and Strategies

The roles and strategies taken by the organization were categorized regarding the roles suggested by the framework: implementer, catalyst, and partner.

Considering the role of an implementer, a unique point of the organization is the implementation of innovative construction methods—for instance, 3D printing and ECO block. Also, since they have a strong interest in improving the construction works' transparency, they implement geotagging photos to decrease fraud in the construction sector. Another critical action they take as implementers are the provision of accessible credits. As mentioned before, this organization is composed of 3 entities, one is responsible for providing financial means (Echale, 2022).

The organization has shown great emphasis on its role as a catalyst. They highlight their research team's importance in conducting a previous diagnosis of the area and evaluating the impacts of their assistance through the whole process, considering an internal evaluation and the users' views. They usually work with communities and social cohesion as catalysts, promoting technical and financial culture in the built environment. Also, the interviewee mentioned that they usually support the local economy by introducing innovative construction techniques (i.e., ECO block) (Echale, 2022).

Finally, their role as implementers is also highlighted. Echale is an organization that has collaborated with different actors to achieve its goals. According to the interviewee, being part of different foundations that support the practice of Social Enterprises (i.e., Ashoka, B Corporations, Schwab Foundation, Clinton Global Initiative, New Story Charity, and Imperative Fund) has been essential for facilitating the mobilization of resources and starting to generate revenue from their practice. (Piazzesi, personal communication, March 2022).

One important aspect highlighted by the organization's co-founder is their strategy of stakeholders mapping before each intervention. They do so to understand their potential role and contribution to each case. Through this practice, they identify the interest and power of every actor involved and work toward aligning goals. Echale has increased its network during the years of experience and developed a solid reputation. Also, the organization is part of a larger group called CONVIVES, which is composed of several organizations working in the same field of Social Production of Housing. This organization is making significant efforts to gain attention from public and private entities to attract monetary funds to IH in Mexico (Piazzesi, personal communication, March 2022).

FIG 40 gives an overview of the leading roles and strategies taken by ECHALE.

BARRIERS & ENABLERS ECHALE	BARRIERS	
	Organization	-Lack of incentives for SE
	Context	-High-interest rate for self-builders -Lack of shared vision among actors involved in the process
	ENABLERS	
	Organization	-Multidimensional structure of the company (legal, finance, design, socio-cultural) -Leadership within the organization -Having a research group on-site responsible for diagnosis and evaluations through the intervention -Large experience in IH -Working together with business accelerators such a Ashoka. Empresas B, Schwab Foundation, Clinton Global Initiative, New Story Charity, Imperative Fund
	Context	-Previously organized community -Establishing an alliance with SE in the same field for the mobilization of resources

FIG. 40: HOW: Overview of Roles & Strategies by Echale (source: author)

6.3.3 Barriers & Enablers

FIG 41: Gives an overview of the barriers & enablers faced by Echale during their assistance to IH.

BARRIERS & ENABLERS ECHALE	BARRIERS	
	Organization	-Lack of incentives for SE
	Context	-High-interest rate for self-builders -Lack of shared vision among actors involved in the process
	ENABLERS	
	Organization	-Multidimensional structure of the company (legal, finance, design, socio-cultural) -Leadership within the organization -Having a research group on-site responsible for diagnosis and evaluations through the intervention -Large experience in IH -Working together with business accelerators such a Ashoka. Empresas B, Schwab Foundation, Clinton Global Initiative, New Story Charity, Imperative Fund
	Context	-Previously organized community -Establishing an alliance with SE in the same field for the mobilization of resources

FIG. 41: Barriers & Enablers by Echale (source: author)

Echale Conclusion

Echale brings exciting insights into the contributions and limitations of Social Enterprises in supporting the Incremental Housing process in Mexico. The organization focuses the contribution to the development of communities through the integration of families in the self-production process through strategies such as: bringing access to microcredit, innovative technology, and workshops to encourage social cohesion. Looking at the implemented roles, it is noticeable that they are an organization working hard on implementing strategies for all roles (i.e., implementer, catalyst, and partner). However, one could observe that this organization has increased its contributions to IH due to the extensive network and strong reputation they have worked on a national and international scale. It is hard to say where precisely this organization stands regarding its contribution to the process and dimensions of IH since they have shown strategies for most dimensions: 1) technical, 2) resources and 3) socio-cultural. Regarding the land dimensions land, no actions were identified.

FIG. 42: Kaquemteel (Cooperacion Comunitaria, 2021)

6.4.1 Who & Why

Characteristics

Cooperacion Comunitaria is a non-profit organization that started its activities in 2010 and in 2012 it turned into a Civil Organization (Cooperación Comunitaria, 2022). The Assembly of Associates is made up of Ireri De La Peña, Isadora Hastings, Gerson Huerta, Elis Martínez, Jesús Alvarez and Lizet Zaldivar. Since 2020, they have formed an Advisory Council with experts on different topics they have worked on since Cooperacion Comunitaria was initiated. For instance, Enrique Ortiz (PSV), Doris Ruiz (Socio Cultural) María Gutiérrez (Environment and climate change), Luis F. Guerrero Baca (Construction with earth) and Bertha Michel (Financing) (Cooperación Comunitaria, 2022). Therefore, it is clear that the organization is supported by an interdisciplinary group of people with a lot of experience on IH in Mexico.

The team is composed of two primary teams: A) Institutional team, which is composed of the following branches: 1) management; 2) structural projects; 3) architectural projects; 4) communication; 5) performance assessment; 6) community development. On the other hand, B) On-site team is located in the areas of assistance within the country (4 states in Mexico), and in every one of those states, the on-site team is composed of 1) community promotor; 2) community architect; 3) project coordinator; 4) sustainability expert. The interviewee emphasizes the importance of having people on-site during the whole assistance to facilitate the process (González, personal communication, March 2022).

Motives & Drivers

Since 2010, Cooperacion Comunitaria has been working to contribute to the improvement of living conditions and to reduce the vulnerability of rural communities in Mexico from an integrated model which includes the following dimensions: environmental, constructive, socio-cultural, and throughout the recovery of traditional knowledge for the self-management of rural communities.

The organization has set the following main goals: 1) Strengthen self-management processes in organized populations; 2) Rebuilt the habitat and reduce the population's vulnerability affected by disasters; 3) Disseminate knowledge in multisectoral forums for processes of Reconstruction and Social Production of Housing.

6.4 Case D
Cooperacion Comunitaria

6.4.2 How

Role and Strategies

The organization professional was asked about the role of Cooperacion Comunitaria and its main strategies towards IH. As an implementer, since the organization is involved in rural areas, it usually facilitates the use of communal land by organized groups. Also, the organization implements evaluation methods to measure the progress of their intervention based on their strategic lines of action: 1) social and integral reconstruction of the habitat; 2) production and social management of the habitat with organized groups; 3) training and incidence. For example, they measure the number of people who assisted in the meetings. Considering the construction, measurements have been made at three specific points of the construction process. Also, since the organization is concerned about providing construction training, different assessments are carried out to know if the community is learning about construction systems to replicate them in the future without any technical supervision (González, personal communication, March 2022).

However, the intermediation role taken by this organization is mainly as a catalyst. This organization is characterized by its interactive and collective learning implementation with the communities they have worked with, which is perceived as a bottom-up self-organization process. When it comes to building materials, considering the organization's focus on environmental sustainability, the organization usually encourages using the available means. It focuses on rescuing traditional construction techniques (González, personal communication, March 2022).

In terms of their internal workforce, they have managed to have an on-site group specialized in every state of the country where they assist. Something important mentioned in the interview is that they always look for an engaging workforce who can join the project for long periods. Since IH is a long process, it is essential that the people guiding and providing the assistance also commit for extended periods (González, personal communication, March 2022).

Regarding their role and strategies as a partner, the interviewee mentioned that most financial resources come from constant national and international donors. The organization's reputation built from its 12 years of experience has facilitated mobilizing financial resources into the company. Also, they have been asked to give consultancy on IH. The organization is highly involved in sharing the knowledge from their practice with other organizations and universities.

The interviewee argued that sharing this knowledge is a way to influence public policy to support IH. In general, this speaks about their role in aligning goals and interests around the topic of IH. The organization has shared its vision about IH through different channels (e.g., manuals, books, infographics, podcasts). This is important since one of the main problems of IH is that the different actors involved do not have a shared vision about this term. By sharing this knowledge, they bring other actors to the same ground. Comunidad Comunitaria has also developed a strong relationship with the communities where they usually work. By doing so, there have been several times that the organization has been asked to assist the incremental process by previously organized communities (González, personal communication, March 2022).

FIG 43 gives an overview of the organization's leading roles & strategies based on the indicators proposed by the framework: 1) implementer, 2) catalyst, and 3) partner.

HOW	INDICATORS	DESCRIPTION
ROLES & STRATEGIES *COOPERACION COMUNITARIA*	**IMPLEMENTER STRATEGIES**	-Facilitates the use of communal land by organized groups -Implementation of evaluation methods -Have an on-site team to assist the process closely.
	CATALYST STRATEGIES	-Promoting the bottom-up self-organization process promotes the use of available means on-site. -Workshop to promote the use of local materials -Engage the workforce from the area in the project that can join the project for long periods. -Manuals for self-managers
	PARTNER STRATEGIES	-Mobilizing financial resources, looking for constant donors. -Building social networks with other SE AIH and universities -Sharing experiences to influence public policy to support IH, i.e., manuals, podcasts, infographics -Promote the alignment of vision towards IH among the actors involved.

FIG. 43: HOW: Overview of Roles & Strategies by Cooperacion Comunitaria (source: author)

6.4.3 Barriers & Enablers

FIG 44 gives an overview of the organization's barriers and enablers.

BARRIERS & ENABLERS *COOPERACION COMUNITARIA*	**BARRIERS**	
	Organization	-Access to the best talent -Communication gap between the professional and the community
	Context	-Private land since they often facilitate the access to communal land -Decision making among groups takes very long -Short timeframe to develop the intervention when working with public resources.
	ENABLERS	
	Organization	-Having part of the organization team at the site of intervention -Employees committed to AIH -Multidimensional structure of the company (legal, finance, design, socio-cultural) -Developing close relationships among the professionals and the community
	Context	-Previously organized communities (at least 10 people) -Availability of vast natural resources in the area.

FIG. 44: Barriers & Enablers by Cooperacion Comunitaria (source: author)

Cooperacion Comunitaria Conclusion

Cooperacion Comunitaria provides insight into the role of SE assisting IH. The organization is a formalized legal entity that usually works with communities in rural areas. They strongly emphasize the deployment of activities as a catalyst and partner. They are primarily interested in community restoration through their role as a catalyst. They usually work with 'what is available on-site,' promoting the use of communal land and local materials with local construction techniques. Regarding the partner role, they are highly interested in the influence of public policy to support better IH in Mexico and, therefore, are constantly sharing their experiences through different channels.

FIG. 45: Social Production of Housing (Programa Viva, 2021)

6.5 Case D
Programa Viva

Characteristics
Programa Viva, A.C. is a non-profit civil association created in 2009 (Viva, 2022). They promote the use of construction systems with low environmental impact and self-construction techniques in which the users actively participate. The organization has 12 years of experience in developing sustainable architecture (Viva, 2022). The organization comprises around ten employees who have previous experience in architecture, construction, and sustainable design (Gómez, personal communication, March 2022).

Motives & Drivers
The organization started from the collaboration of different architects and builders concerned about the impact of buildings on the environment. This concern about the environment led to a land purchase in the outskirts of Valle de Bravo (a town very close to Mexico City). They developed a demonstration center to showcase construction techniques and vernacular architecture techniques at this site. The main motive behind the project was *"to impact the way people usually build their homes"* (Gómez, personal communication, March 2022). The interviewee mentioned that more than giving housing to the people was more a matter of teaching them how to do it by themselves using their means at hand. They noticed that the man of the families usually left the towns to go to the main cities or go to the United States, and the women were the ones staying. For this reason, they started to work with the women and children of the community (Gómez, personal communication, March 2022).

"The user group has been changing organically" (Gómez, personal communication, March 2022). Initially, the main objective was to help the communities around the area. However, the support has been expanding little by little to others, other income groups, and areas outside of the State of Mexico. *"This is what we want: to influence positively without limiting to a specific income group"* (Gómez, personal communication, March 2022).

6.5.2 How

Role and Strategies

The professional was asked about the implemented actions and strategies based on the different roles suggested, implemented, catalyst, and partner. Most strategies taken in the implementer role involve developing architectural and construction design with a strong focus on sustainable techniques. Since they have a close relationship with the academy, their strategies toward IH also include experimenting with new ways of construction. These techniques are designed to be easily replicated by the household. Also, since self-production in rural areas often lacks services such as electricity and drainage systems, they are interested in implementing techniques to make the house sustainable (Programa Viva, 2022)

Their role as catalysts was also stressed since they are also concerned with promoting bottom-up self-organization processes and using the available means on-site. They do so through a community cultural center where they teach construction skills. Also, they have a place where they showcase sustainable techniques and give workshops to promote the use of local materials. Within this role, they are concerned about empowering women and kids' involvement in the self-construction of housing (Gómez, personal communication, March 2022).

According to the last role, Programa Viva is looking for constant donors. The interviewee mentioned that donors usually contribute 80% of the total cost of housing. Volunteers will participate in two stages of construction and have the opportunity to learn, share and live with the beneficiary family. Finally, the beneficiary will contribute 20% of the total cost of the house and is actively involved in the entire construction process. A powerful ally from Programa Viva is the University of Environment (UMA), located very close to the showcase site. According to the professional, having this link with academia has facilitated the implementation of socio-technical innovation in their practice (Gómez, personal communication, March 2022). FIG 46 summarizes the leading roles and strategies taken by Programa Viva.

HOW	INDICATORS	DESCRIPTION
ROLES & STRATEGIES *PROGRAMA VIVA*	**IMPLEMENTER STRATEGIES**	- Implementing showcase area
	CATALYST STRATEGIES	-Promotion of the bottom-up self-organization process promotes the use of available means on-site. -Workshop to promote the use of local materials -Engagement of women and kids within the process of self-production
	PARTNER STRATEGIES	-Mobilizing financial resources, looking for constant donors. -Building social networks with other SE AIH and universities -Sharing experiences to influence public policy to support IH, i.e., manuals, podcasts, infographics

FIG. 46: HOW: Overview of Roles & Strategies by Programa Viva(source: author)

6.5.3 Barriers & Enablers

FIG 47 shows barriers and enablers defined by Programa Viva.

BARRIERS & ENABLERS *PROGRAMA VIVA*	**BARRIERS**	
	Organization	-To find constant funds -"To much social work." -Small firm
	Context	-Fraud -The process of permits -Norms do not well accept local construction techniques.
	ENABLERS	
	Organization	-A strong relationship with the academy -Motivation to keep exploring sustainable techniques -Learning through experimentation
	Context	-Previously organized communities -Availability of vast natural resources in the area.

FIG. 47: Barriers & Enablers by Programa Viva(source: author)

Programa Viva Conclusion

Programa Viva provides good insight into organizations contributing to the IH from a different angle. The organization is interested in sustainable techniques and works in rural areas. They are an example of an organization that is motivated to showcase alternative ways of construction. This is interesting since it has been mentioned before that there is a lack of understanding of what IH means to the user but also to other actors involved (e.g., financial entities, architects). To showcase the process is a great initiative of this organization to identify whether the user can commit to that process for long periods and make other actors more aware of what the process of IH involves.

FIG. 48: Social Production of Housing (iBUILD, 2021)

6.6 Case D
iBUILD

6.6.1 Who & Why

Characteristics
iBUILD Global is self-described as a for-good and for-profit software development company. It consists of an app-accessible, cloud-based platform of tools and services. iBUILD has pioneered a fintech Platform Economy for construction, with the capability for an end-to-end value chain of construction stakeholders to connect and collaborate (iBuild, 2022).

Motives & Drivers
"Our mission is to close the gap in affordable housing production by empowering the world to build." (iBuild, 2022). The state as their motives, the increasing world population: "The world's population will increase from 7.2 billion today to 8.1 billion in 2025" (iBuild, 2022). They mentioned that if current trends in urbanization and income growth persist, the affordable housing gap will grow from 330 million households to 440 million by 2025, leaving at least 1.6 billion people living in substandard housing. iBUILD Global acknowledges that the scarcity of affordable housing created a global housing crisis that cannot be solved by conventional private sector development methodologies (iBuild, 2022). The interviewee mentioned that among lower-income people (over 4 billion), alternative housing schemes such as incremental building are often the only available option (Welsh, personal communication, March 2022).

6.6.2 How

Role and Strategies
The professional was asked about their roles as intermediaries in the process of IH. As an implementer, this organization's primary strategy is implementing a platform that facilitates interaction among the user-managers, the construction workers, and materials suppliers. The latter shows that they are an organization concerning other interested parties in IH apart from the user (i.e., construction workers and materials suppliers) (Welsh, personal communication, March 2022).

Considering their role as catalysts, this organization provides training centers for construction workers. This is mainly aimed at new generations. According to the interviewee, young generations are less interested in learning how to build. Also, each construction worker can show their work within the platform they have built. This is also a way to empower the construction workers. In addition, the organization is especially concerned about improving the visibility of the works during construction. This means increasing transparency during construction works to prevent fraud from happening. According to the interviewee, fraud is one of the main problems in the construction industry (Welsh, personal communication, March 2022).

Considering the last role, iBUILD Global is working with strategic alliances to facilitate financial access for the self-managers. Also, it was mentioned that they are working together with government entities to integrate the platform they have built to improve the transparency of the construction process of social housing. However, it was mentioned by the interviewee that this is not always well accepted by the government actors (Welsh, personal communication, March 2022). Also, they are an organization constantly sharing their knowledge and their unique way of looking at the case of IH. FIG 49 shows the leading roles taken by iBUILD Global.

HOW	INDICATORS	DESCRIPTION
ROLES & STRATEGIES *iBUILD*	**IMPLEMENTER STRATEGIES**	-Implementation of a digital platform to connect the different actors in IH. -Securing transparency and visibility of construction works through geotagged photos
	CATALYST STRATEGIES	-Support small construction stores -Facilitating bargain among users and suppliers -Training of young generations' construction techniques -Community training center
	PARTNER STRATEGIES	-Facilitating access to financial entities -Working together with government entities -Sharing knowledge of their practice} -Connecting self-manager, construction workers, and suppliers through the platform

FIG. 49: HOW: Overview of Roles & Strategies by iBUILD (source: author)

6.6.3 Barriers & Enablers

Barriers and enablers by iBUILD Global are shown in FIG 50.

	BARRIERS	
BARRIERS & ENABLERS *iBUILD*	**Organization**	
	Context	-Fraud -Cost Estimation -New generations have no interest -People still use cash
	ENABLERS	
	Organization	-Digitalization -Business model innovation
	Context	-"Everyone has a smartphone."

FIG. 50: Barriers & Enablers by iBUILD (source: author)

iBUILD Conclusion

iBUILD Global provides good insights into an organization facilitating the process IH looking at it from a broader perspective. It could be said that this organization's primary role is the one of a catalyst since, through this platform, they are enabling families to produce their own houses. The case of iBUILD Global is interesting since it is designed for different parties assisting the process of IH (i.e., construction workers, material suppliers) and is designed for individual households, not communities. This is interesting since most cases analyzed rely on a collective way of building their houses. However, decision-making processes among organized groups are a barrier to the practice. On the other hand, iBUILD provides the opportunity to the individual household to build their house or improve their house without getting organized with other individuals. Also, it is interesting to see that even if it is designed for low-income groups, it could be used by other income groups. This is important since it has been discussed in the literature and some previous cases that it is not only low-income groups building incrementally but also other income groups often choose this housing approach.

FIG. 51: Social Production of Housing (iBUILD, 2021)

Introduction

Through cross-case analysis, the main differences and similarities will be identified between the cases. This cross-case study aims to develop a typology of SE AIH in the following CH 08 and draw their contributions to IH's process phases and dimensions. This cross-case analysis brings together WHO/WHY, HOW and barriers & enablers from the framework developed in CH 03. To facilitate this cross-case analysis, an abbreviation will be used to refer to each case: Mejoremos – ME; Comunidad Vivex – CV; Echale – EC; Cooperacion Comunitaria – CC; Programa Viva – VI; iBuilt – IB.

7.1   Who & Why

Characteristics

The selected SE analyzed were self-described using the following terms: NGOs, social enterprises, for-good, for-profit organizations, and civil organizations. For instance, ME; EC; IB describe themselves as for-good and for-profit organizations. On the other hand, CV; CC; VI define themselves as civil organizations able to receive funds. All cases have agreed that important financial sources are national and international donors. However, ME mentioned that sometimes they act as contracted entities as government financial agencies. Regarding EC, they mentioned that business accelerators played an essential role for the organization to start generating revenue. In the case of CC, they mentioned that they are starting to explore how to make revenue from providing consultancy on IH.

From the interviewees, it was observed that the assistance by CV; VI is sporadic. It was noticed that there was a lack of plans for the future—moreover, the efforts given to IH were only seen as a side project. The latest can be related to the fact that NGOs or civil organizations often face difficulties such as diminishing financial assistance, less volunteer support, and fewer workers' commitment (Austin et al., 2012). Also, concerning the members of these last two organizations, they are composed of less than ten people. The last relates to the role suggested by (Mens et al., 2021), a pioneer; who is an actor in bottom-up development characterized by limited network and having few resources.

On the other hand, ME; IB; EC have shown a more constant and stable practice. All these organizations are hybrid organizations and show being less dependent on funds and more flexible than CV; CC; VI. A particular example is CC even if they are NGO, they have found the ways and means to have a constant practice.

It can be observed that there is previous experience in the architecture and construction industry in all cases. The main difference is that some cases have individuals from different backgrounds (politics, social science, and economics). The last is the case for MJ; EC; CC; IB. CC; VI mentioned that they count on an advisory expert group. This advisory group comprises people from different backgrounds with a broad experience in the topic of IH that have strongly guided their assistance process.

The organizational model ME; EC; CC is divided into two leading teams: 1) institutional team; 2) on-site team. EC stressed that an essential part of their organization is the research team, which carries out all diagnoses before intervention and evaluations during the different process points. The last is regarding the organizational model is about ME; EC; CC, who are organizations composed of around fifty and 100 employees. Contrarily CV; VI are minor in size, with around 10 employees.

Chapter 7
Cross-Case Analysis

Motives

A first categorization that can be quickly drawn is the type of value the social enterprise aims for: For instance, 1) social value CV, VI, CC and 2) hybrid value ME, EC, IB. Considering their motives behind their assistance, all of them are interested or improving the social housing conditions for low-income sector in Mexico. However, they have set different target groups. The following terms were used to describe the target group by the organizations: 1) construction workers; 2) organized communities; 3) low-income families; 2) organized communities in rural areas. It was observed that some SE often serve already organized groups, and less emphasis was made on providing this assistance to individuals or families. ME, CV are the ones doing so and have found that it is much work to assist only one family. CC mentioned that due to their experience and reputation, organized groups often reached them searching for their assistance.

An interesting observation is the definition of the target group by (IB). This organization delivers a service for 1) construction workers, 2) self-managers, and 3) material suppliers (small and large size). This approach is highly aligned with the approach suggested by van Noorloos et al. (2019), who suggest a framework to understand the city-wide industries around IH. Similarly (IB) is concerned with multi-actor assistance, where they are concerned about the empowerment of construction workers and material suppliers.

Another interesting observation is that the target group is changing for some organizations; ME; VI. Even though the initial motivation is to improve the housing opportunities for low-income housing, the assistance towards the middle-income sector is also being considered and recently started to be integrated. The last is important since the literature suggests that IH should not be only related to low-income sectors but also as a practice deployed by all income sectors (Ortiz, 2012; van Noorloos et al., 2019). This report considered that this view might impact the stigmas built around the concept of IH. FIG 52 provide an overview of the individual findings of the case studies.

7.2 How

Roles & Strategies

The cases were reviewed according to their strategies to assist incremental housing. The findings were organized according to the role classification: 1) implementer, 2) catalyst, and 3) partner.

Different strategies were found regarding the role of SE as an implementer. For instance, CV, ME developed architecture and construction projects and supervised users' construction works. EC emphasizes the deployment of activities as an implementer. Some strategies involved constructing and implementing new and innovative technical solutions during their intervention (i.e., ECO BLOCK, 3D printing).

Regarding CC, they are often involved in facilitating access to communal land by organized groups. It was noticed that IB, MJ, EC are implementing evaluation methods to facilitate the follow-up of each IH case from the user's perspective and the organization's perspective. These methods are often implemented towards facilitating the project management carried out by self-builder and integrated to increase the transparency and visibility of the incremental process, for instance, through geotag photos. Looking at the role and strategies deployed by EC, MJ, IB, it is noticeable that their more substantial role is their implementer role due to their involvement in product and service innovation.

Given the characteristics of AIH, the analyzed SE are deploying several strategies within the catalyst role. For instance, one crucial strategy taken by ME, CV, EC, VI, IB is the previous diagnosis and their focus on informing the family and community about their assistance procedures. Also, all organizations implement participatory processes with the community of individuals and households, depending on the case. This close interaction with the self-managers is possible since most cases ME, EC, CC have an on-site team located in the area of intervention. This recalls literature regarding the importance of the early involvement of the user in the process (Ortiz, 2012; Enet, 2008; Romero & Mesias, 2014). The latest improves the bonding between the organization and the community. Also, it adds to a better understanding of the area intervened. In this regard, ME mentioned that they often seek to hire people already located within the community.

This catalyst approach was strongly taken by EC; CC. Both organizations worked with communities and not individual households; therefore, a big part of their strategy is implementing workshops (e.g., promoting social cohesion, promoting local materials and traditional construction techniques, and promoting financial education). However, all cases show a significant interest in transferring knowledge to the community regarding the different approaches of IH. The last is aligned with the suggestions by (Park et al., 2020), who explore the role of community training centers as a potential solution to improving the built environment. In this regard, VI implements a showcase where sustainable construction methods are exposed, so self-builders get to know them and explore the possibilities. It is interesting to see how these organizations are deploying their work towards better integration of sustainability in IH.

Concerning the catalyst role, it was observed that CC, VI works hard on community restoration by promoting the rescue of traditional construction techniques. This approach is well known for being activities such as organizing and mobilizing the community and the restoration of indigenous knowledge and technology (Adler, 2012). On the other hand, EC focused on capacity building by promoting innovative construction techniques and adding the resource dimension (i.e., providing credits). ME implemented strategies such as a platform to follow up on each intervention by users and provide mixed financial schemes. These strategies also fall into the capacity-building approach, which concerns building capacities by transferring new technologies from experts to locals (Adler, 2012).

The last role, partner, is critical regarding the limited resources in the context of IH (Mens et al., 2021). Taking the role of a partner usually involves mobilizing resources through building social networks. Also, key strategies involved aligning visions among the different actors involved in the assistance (e.g., financial entities, government entities, local communities, and users). The last point is of high importance since, from the interviews, it was noticeable that a critical barrier these organizations face is a lack of shared understanding among the actors involved in the process.

For instance, ME; EC have shown several strategies for building strong alliances with key actors (e.g., public and private) and with other SE working in the same field. CC; VI has also shown different efforts in this role. However, it is noticeable that they play this role on a different scale. Their relationships are within a local context, and they do not collaborate with public entities often.

Regarding CV, they are mainly allied with actors in the same field, i.e., architecture and construction, and having a limited network may hinder their ability to have access to resources (Austin et al., 2012). FIG 53 summarizes the findings regarding the HOW variable from each case study.

WHO & WHY	INDICATORS	CASE A MEJOREMOS	CASE B COMUNIDAD VIVEX	CASE C ECHALE	CASE D COOPERACION COMUNITARIA	CASE E PROGRAMA VIVA	CASE F IBUILT
ORGANIZATION CHARACTERISTICTICS & MOTIVES	**CHARACTERISTICS**						
	Legal structure	Social enterprise Since 2008	Formalized, legal entity, "civil organization."	Social enterprise Since 2006	Formalized, legal entity, "civil organization."	Formalized, legal entity, "civil organization" Since 2010	For good and for-profit
	Funding income	Government housing programs i.e., INFONAVIT, CONAVI	International and national donors	International and national donors i.e., Ashoka, New Story	International and national donors Government programs Private consultancy	International and national donors	
	Profit OBJ	For good and for-profit	Non-profit	For-good and for-profit	Non-profit	Non-profit	For good and for-profit
	ORG structure	50 employees Institutional team and on-site team	10 employees Two directors and 8 architects	100 employees 1) revenue & budgetary control; 2) legal department; 3) technical support, systems ; and 4) talent management department.	50 employees Institutional team and on-site team	10 employees	
	Background	Architecture + Psychology	Architecture + construction	Architecture + Construction + economics	Architecture + social sciences	Architecture + construction + sustainability	Architecture + construction + economics
	MOTIVES						
	Motives & drivers	By Housing Law 2006, "to make sure SPH was implemented". "to improve housing conditions."	"to promote values within self-builders."	"to promote holistic development for marginalized Communities"	To strengthen the self-management process in rural areas. Spread knowledge about self-production of housing,	Promotion of sustainable architecture	"to empower the world to build"
	Target group	Set by the financial institution (low- and middle-income families)	Construction workers	Communities in rural areas, low-income families	Communities in rural areas and urban	Different sector groups (communities and individuals)	-Construction workers -Construction material suppliers - Self-producers of housing

FIG. 52: WHO /WHY: Overview of Characteristics & Motives by SE in AIH (source: author).

HOW	INDICATORS	CASE A MEJOREMOS	CASE B COMUNIDAD VIVEX	CASE C ECHALE	CASE D COOPERACION COMUNITARIA	CASE E PROGRAMA VIVA	CASE F IBUILT
ROLES & STRATEGIES	IMPLEMENTER STRATEGIES	-Supervision of construction works -Development of architectural and construction project -Integration of own platform to provide a follow-up for every case they attend -Have an on-site team to assist the process closely. -Providing flexible financial schemes that fit the users	-Management of construction materials -Development of architectural and construction projects without cost to the user -Supervision of construction works -Development of housing catalog	-Implementing innovative design: 3D printing, Eco block -Promote transparency through the use of geotagging photos - Have an on-site team to assist the process closely. -Providing accessible credits -Implementing the use of quality materials -Constant evaluation methods to measure impacts	-Facilitates the use of communal land by organized groups -Implementation of evaluation methods -Have an on-site team to assist the process closely.	- Implementing showcase area	-Implementation of a digital platform to connect the different actors in IH. -Securing transparency and visibility of construction works through geotagged photos -Facilitating access to financial entities
	CATALYST STRATEGIES	-Informing the user about the procedure -Workshops to explain to the user technical and structural aspects.	-Promotion of maintenance culture -Co-design with family	-Support local economy: production of ECO BLOCK -Promotion of social cohesion in the community -Promoting technical and finance culture	-Promoting the bottom-up self-organization process promotes the use of available means on-site. -Workshop to promote the use of local materials -Engage the workforce from the area in the project that can join the project for long periods. -Manuals for self-managers	-Promotion of the bottom-up self-organization process promotes the use of available means on-site. -Workshop to promote the use of local materials -Engagement of women and kinds the process of self-production	-Support small construction stores -Training of young generations' construction techniques -Community training center
	PARTNER STRATEGIES	-Mobilizing financial resources, strong alliance with different financial entities responsible for the finance -The organization usually hires a workforce from the communities they work in. -Building a social network with other SE AIH and universities to motivate the transition from theory to practice -Building a social network with other SE AIH and finance entities to design flexible financial models which can be adapted to the user. -Building a social network with national and international entities to share experiences -Sharing experiences to influence public policy to support IH -Promote the alignment of vision towards IH among the actors involved.	-Mobilizing financial resources from national and international donors	-Establishing alliances with strategic allies -Stakeholders mapping to identify power and interest -Building social networks with other SE AIH for the mobilization of resources -Promote the alignment of vision towards IH among the actors involved.	-Mobilizing financial resources, looking for constant donors. -Building social networks with other SE AIH and universities -Sharing experiences to influence public policy to support IH, i.e., manuals, podcasts, infographics -Promote the alignment of vision towards IH among the actors involved.	-Mobilizing financial resources, looking for constant donors. -Building social networks with other SE AIH and universities -Sharing experiences to influence public policy to support IH, i.e., manuals, podcasts, infographics	-Working together with government entities -Sharing knowledge of their practice -Connecting self-manager, construction workers, and suppliers through the platform -Facilitating bargain among users and suppliers

FIG. 53: HOW: Overview of Roles & Strategies by SE in AIH (source: author).

7.3   Barriers & Enablers

This section reviews the main barriers and enablers mentioned in the selected cases studied. These could be encountered during their process and related to the context and circumstances under which the assistance was carried out. FIG 54 gives an overview of the findings.

One of the main barriers at the organization level was having limited access to talent. Also, it was mentioned that it is hard to find people committed for long periods. Having limited access to talent may result from not having enough financial resources to attract a talented workforce to the organization. Nevertheless, this factor is also related to the topic mentioned several times that architects are not taught in the university about the process of IH. Another critical barrier mentioned is the lack of constant funds, which to some extent, is related to the social network of each organization. As mentioned earlier by Austin (2012), having an extensive network may leverage resources outside organizational boundaries. Fraud in the built environment was a topic mentioned by several organizations as a barrier to their practices.

The lack of shared ambitions with the actors involved in the assistance process was mentioned several times as an external barrier. The last point is also related to the stigma existing toward incremental housing. And a lack of understanding of the process. Also, regarding the user, it was mentioned that the self-managers who work collectively (i.e., in organized communities) take a long time to make decisions. Organizations working towards rescuing local construction techniques and materials mentioned that users often do not accept this construction approach, opting instead for 'industrialized materials.' This was mentioned earlier by (van Noorloos et al., 2019; Bredenoord & van der Lindert, 2014; Montaner, 2015) that the most affordable ongoing innovations in building materials (i.e., new technologies, local materials) are the most affordable one remains to be 'concrete'. In addition, inhabitants often do not accept local techniques well since they often aim for 'modern' ways of living.

Regarding the enablers at an organization level, it was mentioned that having an extensive and multidimensional network is key to leveraging resources and guiding the process more effectively. Also, having a part of the organization's employees on the site is key to better understanding the intervention area and bonding with the assisted self-managers. Another enabler at the organization level mentioned was the development of the innovative business models. This was specially mentioned by the case ME; EC; IB that have developed business models to increase the organization's financial sustainability. Several times, it was mentioned about external enablers that working with previously organized organizations or where they find leadership can facilitate the assistance process. Also, as mentioned earlier by EC, working with business accelerators was a key enabler for the organization to start making revenue.
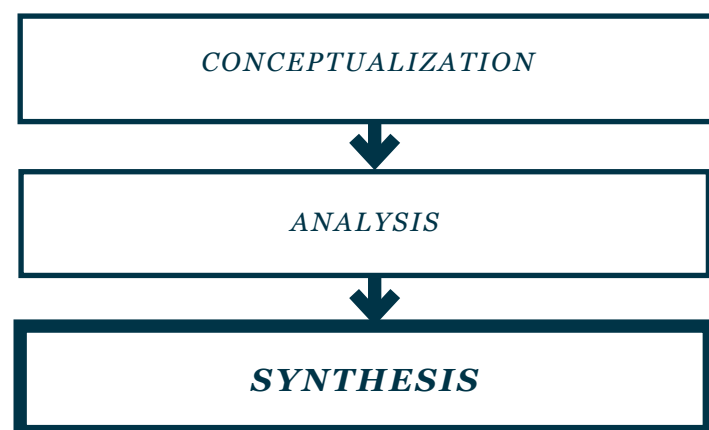
Conclusion

These findings present unique characteristics based on the variables analyzed; WHO & WHY (organization characteristics & motives), HOW (strategies & roles), and barriers & enablers at both internal and external levels. Based on these results, the next chapter aims to build a general typology to provide a picture of SE involved AIH and their contribution to the process and dimensions of IH.

BARRIERS & ENABLERS	BARRIERS		ENABLERS	
	Internal	*External*	*Internal*	*External*
CASE A MEJOREMOS	-Access to the best talent -Communication gap between the professional and the community	-Short timeframe to develop the intervention when working with public resources. -User lacks time to invest in the self-construction	-Having part of the organization team at the site of intervention -Multidimensional structure of the company (legal, finance, design, socio-cultural) -Developing close relationships among the professionals and the community	-A committed user on the topic of incremental housing -Shared vision about IH among the actors involved (e.g., financial entity, architects, users)
CASE B COMUNIDAD VIVEX	-To find constant funds -Little network out from the architecture field -Personal life -Small firm	-Lack of involvement of the user		-Self-manager is committed
CASE C ECHALE	-Lack of incentives for SE	-High interest rate for self-builders -Lack of shared vision among actors involved in the process	-Multidimensional structure of the company (legal, finance, design, socio-cultural) -Leadership within the organization -Having a research group on-site responsible for diagnosis and evaluations through the intervention -Larg experiences in IH Working together with business accelerators	-Previously organized community -Establishing an alliance with SE in the same field for the mobilization of resources
CASE D COOPERACION COMUNITARIA	-Access to the best talent -Communication gap between the professional and the community	-Private land since they often facilitate the access to communal land -Decision making among groups takes very long -Short timeframe to develop the intervention when working with public resources.	-Having part of the organization team at the site of intervention -Employees committed to AIH -Multidimensional structure of the company (legal, finance, design, socio-cultural) -Developing close relationships among the professionals and the community	-Previously organized communities (at least 10 people) -Availability of vast natural resources in the area.
CASE E PROGRAMA VIVA	-To find constant funds -"To much social work." -Small firm	-Fraud -The process of permits -Norms do not well accept local construction techniques.	-A strong relationship with the academy -Motivation to keep exploring sustainable techniques -Learning through experimentation	
CASE F IBUILT		-Fraud -Cost Estimation -New generations have no interest -People still use cash	-Digitalization -Business model innovation	-"Everyone has a smartphone."

FIG. 54: Overview of Barriers & Enablers by SE in AIH (source: author).

FIG. 55: Social Production of Housing (Comunal, 2021)

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┌─────────────────────────────┐
│      CONCEPTUALIZATION       │
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┌─────────────────────────────┐
│          ANALYSIS            │
└─────────────────────────────┘
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│          SYNTHESIS           │
└─────────────────────────────┘
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SYNTHESIS

This section aims to anwer the following research question:

What is a typology for Social Enterprises in assisting Incremental Housing?
What are their contributions to Incremental Housing?

FIG. 56: Social Production of Housing (Comunal, 2021)

Introduction

Based on the cross-case analysis results, this chapter provides a typology of social enterprises assisting incremental housing. The following paragraphs aim to describe each typology further and map the main actions taken by each SE type towards Incremental Housing.

Chapter 8
Towards a Typology of Social Enterprises Assisting Incremental Housing

8.1 Social Enterprise A | Technical Led

This type of SE is represented by CV, VI. This organization is usually composed of a small group of individuals who occasionally assist IH. The motives behind their activities are usually to counteract the environmental impact. The last is due to their relation with the architecture and construction background. Often comprises young professionals exploring alternative solutions (e.g., implementing sustainable techniques or housing prototypes). Their intentions are motivated to achieve social value.

They usually started this practice by assisting the incremental housing process of people already in their network. For instance, construction workers that have previously worked with the organization. They often focus on aesthetics, providing safe and sound architecture. Due to their interest in design, they are often engaged with constructing new build housing and bringing new solutions (i.e., developing a housing catalog, a showcase of sustainable construction). However, less emphasis is given to the maintenance and use phase in the built environment. This actor is usually working with individual cases.

This actor is recognized as an implementer, especially in deploying technical innovation (e.g., design, building materials) to facilitate the process and ultimately deliver safe, sound and aesthetic architectural solutions. Compared with the other two typologies, these organizations often have few resources and a limited network. Also, compared with the other typologies, these organizations do not count on an advisory council to guide their assistance process. FIG 57 and FIG 58 show and map the most common activities deployed by SE A | TECHNICAL LED towards IH.

	PHASES	ACTIVITIES	INCREMENTAL HOUSING DIMENSIONS
TECHNICAL LED	**Diagnosis**	Development of catalog with housing prototypes	Technical – design
		Mobilization resources: construction materials	Technical – building materials Resources
	Participatory design	Co-design workshop with family	Socio-cultural – action capacity Technical – design
	Strategic planning		
	Construction	Construction by beneficiary | supervision of construction works by organization	Technical – design
	Use & Maintenance		
	Evaluation		

FIG 57: WHAT: TECHNICAL LED: activities according to IH dimensions and phases (source: author).
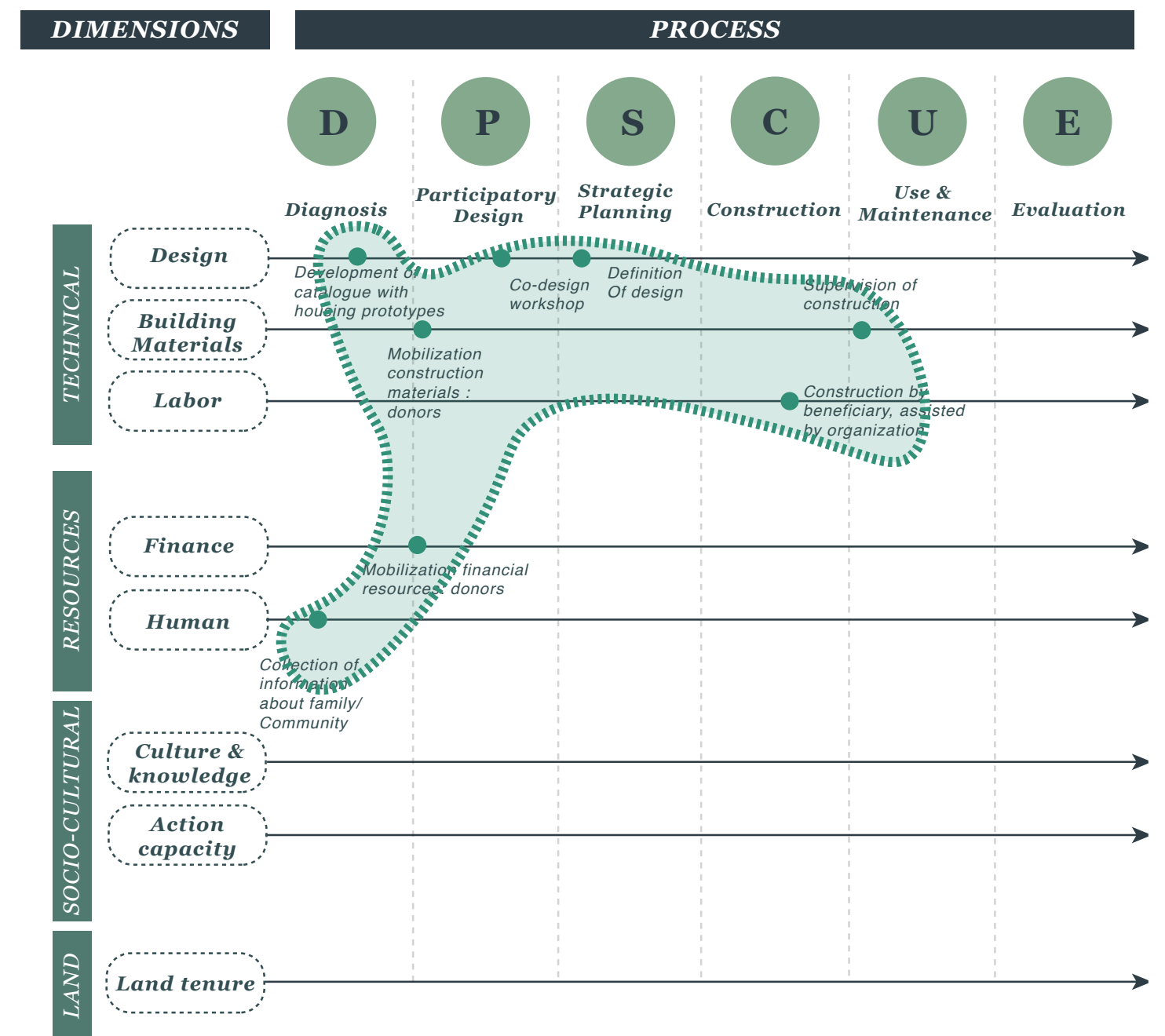

FIG 58: Overview of the contribution by SE A TECHNICAL LED : activities according to incremental housing dimension and phases (source: author).

8.2 Social Enterprise B | Community Led

This type of SE is represented by the case CC, and its commonly defined as a civil organization appealing for social value. By differentiating between A and C, they have emphasized their roles as catalysis since type B is highly interested in implementing bottom-up self-organization and capacity restoration approaches (Mens et al., 2021; Adler, 2012). For instance, by rescuing local and traditional ways of construction or connecting the community through assemblies to facilitate the decision making. This organization focuses on collective efficacy and the community's capabilities (Adler, 2012). Contrary to SE type A and C, who often enter a process when resources (e.g., land) are already available, type B will often facilitate access to communal land. In this regard, most strategies taken by this type of organization can be categorized in the catalyst role. They barely take the role of implementer regarding the process of IH.

Considering the latest, a vital requirement of this organization is that the community should participate in the intervention. They support the access to specific resources, but the community implements the actions over the BE. An essential part of their activities is creating a solid internal network within the community intervened. In this regard, community building is an important activity carried out by this organization and one of the most important means to mobilize further and deploy resources. Contrarily to A and C, this organization relies less on external entities (e.g., financial agencies and government entities).

A and C have a stronger focus on transferring the product to the final owner, which may mean little bonding with the specific place of intervention. On the other hand, type B usually will stay longer at the intervention site, generating a solid connection with the locality. This organization usually works with communities since they strongly believe in habitat generation through collective efforts (Ortiz, 2012, Anaid, 2022). FIG 59 and FIG 60 show and map the most common activities deployed by SE B | COMMUNITY LED towards IH.

	PHASES	ACTIVITIES	INCREMENTAL HOUSING DIMENSIONS
COMMUNITY LED	Diagnosis	Find active organizations and natural leaders in rural areas	Socio-cultural – action capacity
		Community diagnosis, mapping risks	Socio-cultural – action capacity
	Participatory design	Assembly to define the project with the community	Technical – design
	Strategic planning	Providing construction training	Technical – labor Resources – human Socio-cultural – culture/knowledge
	Construction	Collective construction, engagement of women, kids, and elderly	Technical – labor Socio-cultural – action capacity
	Use & Maintenance	Training on self-construction and maintenance culture	Technical – labor Resources – human Socio-cultural – culture/knowledge
	Evaluation	Assessments are carried out to know if the community is learning about construction systems	Technical – labor Resources – human Socio-cultural – culture/knowledge

FIG 59: WHAT: COMMUNITY LED: activities according to IH dimensions and phases (source: author)
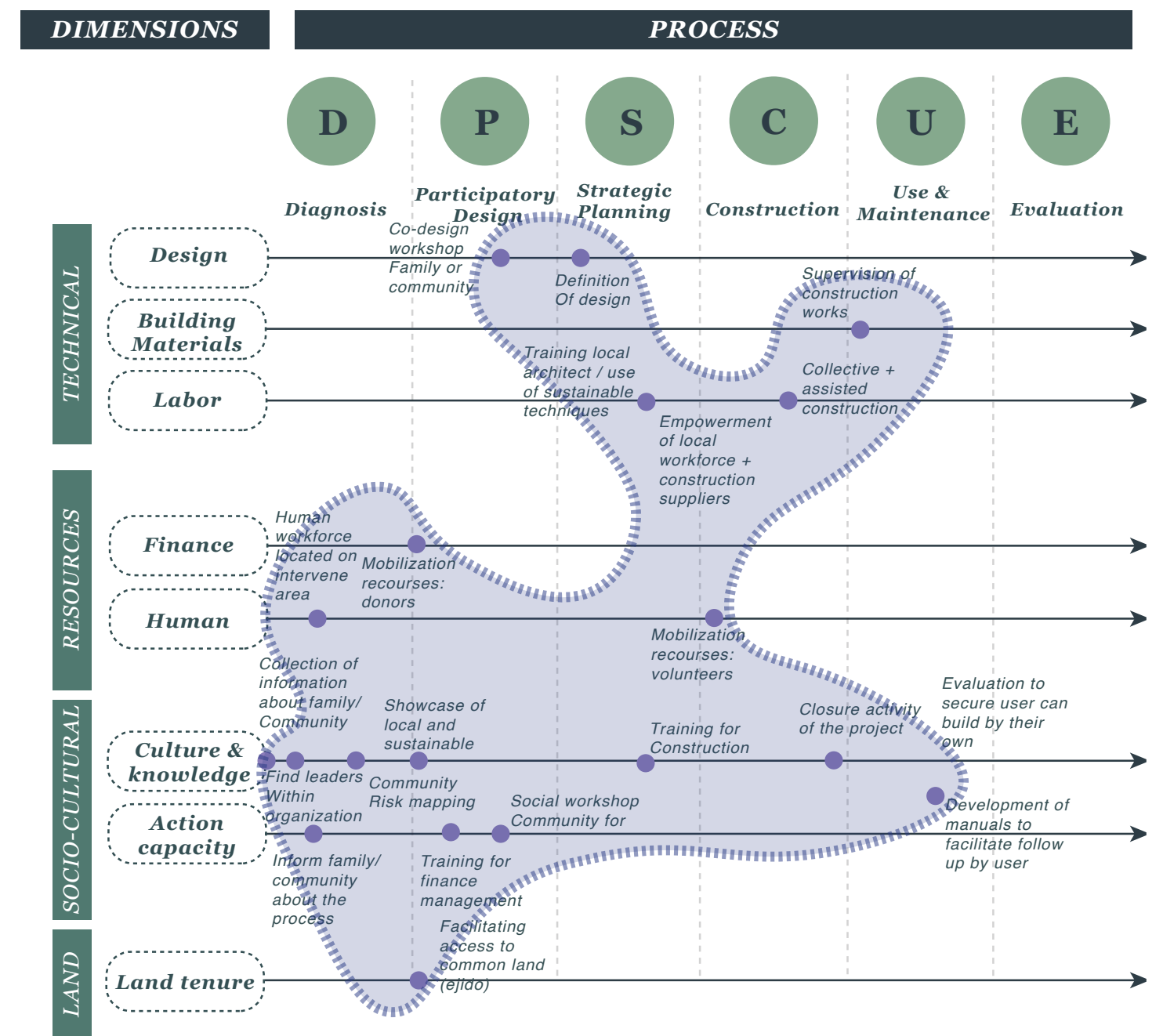

FIG 60: Overview of the contribution by SE B COMMUNITY LED: activities according to incremental housing dimension and phases (source: author)

8.3 Social Enterprise C | Project Management Led

The presented data shows a type of SE that strongly emphasizes the management aspect of IH. This organization is represented by cases ME; EC; IB. Therefore, it is represented as a consolidated company with mixed/hybrid motives (i.e., social + economic) and has developed a model to assist the IH process, which is replicable. This typology has a stronger emphasis on implementing the partner role (Lewis, 2002). This actor is known for building social networks to mobilize resources (Mens et al., 2021). Therefore, it has a primary function to intermediate between the actors involved in the incremental housing process (e.g., financial entities, community organizations, workers, material suppliers), for instance, through the facilitation of meetings interpreting and connecting goals and interests (Mens et al., 2021). They constantly seek mutual benefits during their intervention. This actor has a strong focus on the resources dimension of IH. Especially regarding the financial aspect. For instance, it has focused on developing financial and project management solutions by implementing diverse socio-technical innovative strategies.

This type of organization is well known for taking the risk to integrate socio-technical innovation within their assistance (e.g., providing mixed financial schemes, implementing new construction technologies, and integrating technology in the self-built environment). Also, they learn by doing. They implemented trial-and-error learning, exploring new solutions and developing and implementing those ideas throughout a creative process. Therefore, this organization constantly evaluates its performance, makes changes, and implements new ideas. They are also known for recognizing opportunities to create value that is not being provided by government or market actors. Type C has built a significant network with strategic relationships based on trust and reputation. This is recognized as a 'boundary spanner,' an actor skilled in establishing cross-sectoral collaborations, 'bridging' different interests, negotiating, and establishing trust within a network (Williams, 2002). For instance, they have built a strong relationship with actors in the same field with which they often work on sharing knowledge and working on programs to increase their visibility. Also, they have built strong relationships with international organizations (e.g., business accelerators, international funds), which have facilitated their intervention towards incremental housing.

Since they have a strong relationship with governance actors, this organization is identified by performing the role of a 'policy entrepreneur'; for instance, government actors sometimes contract them. Therefore, the deployment of their activities is highly motivated by the promotion and execution of housing programs. FIG 61 and FIG 62 map the most common activities deployed by SE C| PROJECT MANAGEMENT LED towards IH.

	PHASES	ACTIVITIES	INCREMENTAL HOUSING DIMENSIONS
PROJECT MANAGEMENT LED	Diagnosis	Inform the household about the procedure	Socio-cultural – action capacity
		Collecting information about the community	Socio-cultural – action capacity
		Identification of community needs and resources	Resources – finance & human
		Evaluation of the property in case of extension of renovation	Technical – design
		Informa about financial schemes	Resources – finance
		The user defines financial schemes, installments amounts	Resources – finance
		File integration with a financial entity	Resources – finance
	Participatory design	Defining needs within the household	Socio-cultural – action capacity
		Definition of design	Technical – design
		Provide final design and construction drawings	Technical – design
		Workshop – social cohesions and participatory design	Socio-cultural – culture and knowledge
	Strategic planning	Providing accessible credits	Resources – finance
	Construction	Construction carried out by household	Resources – human Socio-cultural – action capacity
		Works are supervised	Socio-cultural – action capacity
	Use & maintenance	Workshop – housing maintenance Workshop – waste management	Socio-cultural – culture and knowledge
	Evaluation	A technical platform that allows controlling the construction to be carried out on time/quality and cost	Resources – human & finance

FIG 61: WHAT: PROJECT MANAGEMENT LED: activities according to IH dimensions and phases (source: author).

DIMENSIONS		PROCESS					
		D Diagnosis	**P** Participatory Design	**S** Strategic Planning	**C** Construction	**U** Use & Maintenance	**E** Evaluation

TECHNICAL

Design — Co-design workshop Family or community / Definition of design / Integrating innovative construction / Supervision of construction works

Building Materials

Labor — Empowerment of local workforce + construction suppliers / Collective + assisted construction

RESOURCES

Finance — Beneficiary defines Amount $ /installments / / Blended financial models: beneficiary + financial entity / Entity provides finance or by a external financial entity / Platform to secure facilitate communication of actors and / Use of geotag photos / Evaluation / control group vs treatment group

Human — Human workforce located on intervene area

SOCIO-CULTURAL

Culture & knowledge — Collection of information about family/community / Training for Construction

Action capacity — Inform family/ community about process / Training for finance management / Social workshop Community for social cohesion
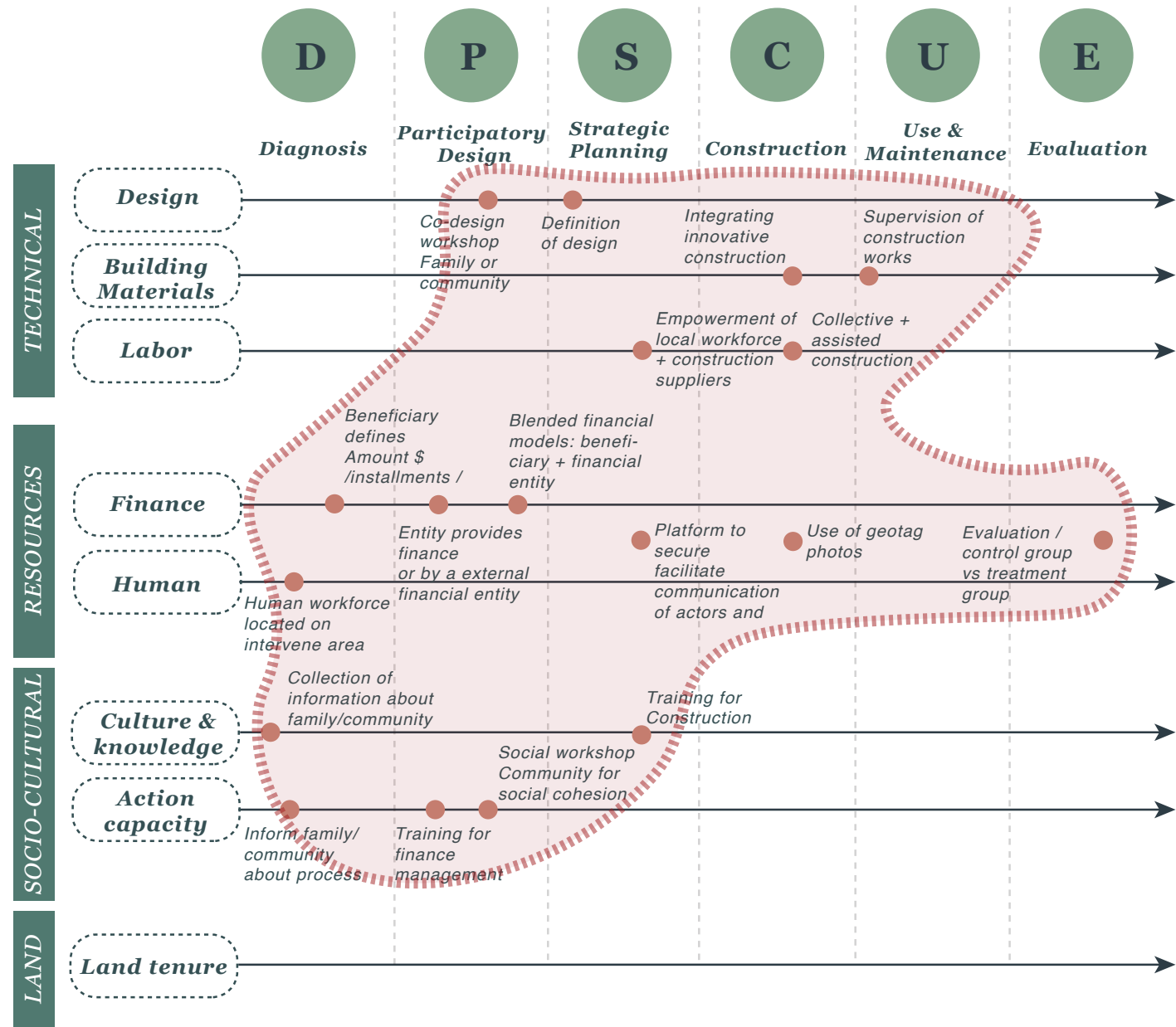
LAND

Land tenure

FIG 62: Overview of the contribution by SE C PROJECT MANAGEMENT LED: activities according to incremental housing dimension and phases (source: author).

8.4 What Contributions to Incremental Housing

Organizations selected have different focus areas that are strongly related to the characteristics of each organization and the roles they have taken. For instance, CV; VI strongly emphasizes the technical dimension from the diagnosis to construction. However, fewer activities were mapped under the use & maintenance, and evaluation steps. This is also related to the fact that this organization mainly focuses on newly built housing, but its follow-up strategy is unclear. ME; EC; IB they were mapped together since the three strongly focus on the resources dimension, especially in finance (i.e., providing credits, promoting mixed financial schemes for the self-builders). They also implement several activities in the socio-cultural dimension (i.e., diagnosis, promoting savings culture). CC emphasizes the socio-cultural dimension, for instance, carrying out a diagnosis to identify leaders and social organizations within the area. After comparing the previous case studies, three clusters were identified: 1) Technical-led, 2) Community-led, and 3) Project management-led.

FIG 63 summarizes the typology suggested, including all variables from the framework: WHO/WHY, HOW, and WHAT.

Social Enterprise Type	WHO / WHY Characteristics and motives	HOW Role / strategies	WHAT The incremental housing assistance process
TECHNICAL LED	-Group of individuals assisting sporadically incremental housing projects -Appeal to goodwill motives: social value -Background: architecture + construction	IMPLEMENTER: +++ CATALYST: + PARTNER: +	TECHNICAL: +++ RESOURCES: + SOCIO-CULTURAL:+ LAND: - *-Aesthetics -Providing safe and sound architectural solutions*
COMMUNITY-LED	-Formalized, legal entity, "civil organization." -Appeal to goodwill motives: social value -Background: architecture + social + academy	IMPLEMENTER: + CATALYST: +++ PARTNER: ++	TECHNICAL: + RESOURCES: + SOCIO-CULTURAL:+++ LAND: + *-Socio-cultural aspects -Promotion of sustainable construction techniques -Community restoration*
PROJECT MANAGEMENT-LED	-Formalized legal entity: -Mixed motives: social + economic value -Developed a replicable model to assist incremental housing -Background: architecture, social sciences, economics	IMPLEMENTER: ++ CATALYST: ++ PARTNER: +++	TECHNICAL: + RESOURCES: +++ SOCIO-CULTURAL: ++ LAND: - *-Innovative financial schemes -Securing visibility of the value chain -Capacity building*

FIG 63: A typology of Social Enterprises assisting Incremental Housing (source: author).

FIG 64 gives an overview of the contributions of each typology toward the process and dimensions of IH.
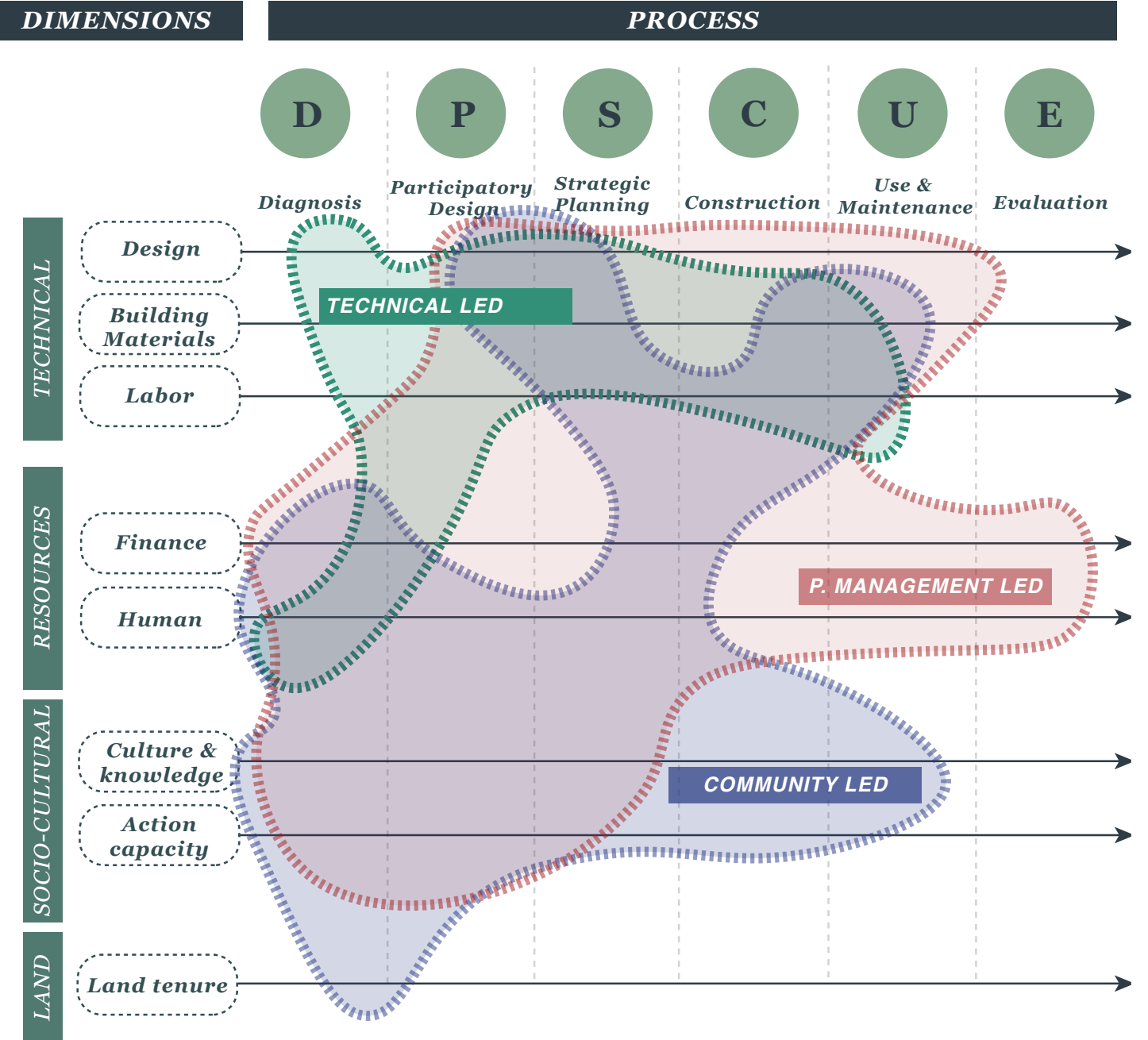

FIG 64: Overview of the contribution by Social Enterprise typology to Incremental Housing (source: author).

Conclusion Synthesis

This part of the report aimed to develop a typology after a cross-case analysis developed in CH 07. Finally, this chapter answers the following questions: What is a typology of social enterprises assisting incremental housing? What are their contributions to the process and dimensions of IH?. According to their focus, three types of organizations were identified and described based on the analytical framework suggested in CH 03. Firstly, SE type A: technical-led is a socially driven organization adopting roles as an implementer, focusing on design and material solutions. Their intervention is sporadic, facing challenges such as a limited network, resources, and motivation to achieve goals. Secondly, SE type B: community-led, is a socially driven organization adapting roles as a catalyst and partner, focusing on the bottom-up process of self-organization and building social networks on a local scale, facing challenges such as the lengthy decision-making process among groups and the minor involvement of the users. Thirdly, SE type C: project management-led; adopting roles as catalysis, implementer, and partner, has an extensive network with strategic allies and sufficient resources to achieve goals, challenges faced are limited access to the best talent and actors involved in the process not having a shared vision towards IH.

FIG. 65: Social Production of Housing (Comunal, 2021)

Chapter 9
Discussion and Conclusion

Introduction

This report aimed to fill the gap in knowledge on bottom-up initiatives in urban development in Mexico. This was achieved through the analysis of Social Enterprises assisting Incremental Housing. This report argues that a better understanding of these actors can contribute to developing future strategies to propel the practices of these organizations through government programs and inspire new ventures in the field. This final chapter summarizes the outcome of this thesis project. SEC 9.1 contains the answers to the subquestions, and SEC 9.2 answers the main research question driving the overall research.

Further discussion are presented in SEC 9.3., including the scientific and societal contributions of this research. Finally, SEC 9.4 provides recommendations. For both, further research and for practice (i.e., social enterprises and policymakers).

9.1   Answers to Research Questions

What roles and actions can be distinguished regarding the contribution of Social Enterprises to the assistance of Incremental Housing?

This thesis started by bringing knowledge of what IH housing means. It is important since the literature provides many terms designated to define this housing approach. For instance, 'aided self-help housing,' 'sites and services,' 'evolutionary homes,' 'pay as you go', 'social production of housing.' among others. While these terms are not interchangeable, they can be placed under the 'incremental housing' umbrella term. Incremental Housing (IH) was defined as a process by which a shelter is constructed step by step and improved over time in terms of quality and size depending on the available resources. In Mexico, this term is better known as SPH, which involves the construction of Housing directed by its users through an individual or collective form. IH has been acknowledged for its benefits, i.e., flexible to the user's needs and affordable without the resource of public subsidy. However, some disadvantages come with this housing approach, i.e., extended length of the projects and low quality due to a lack of technical assistance. Literature suggests that a big part of this housing approach's success is related to the degree and form of the household's participation. Therefore, this research brings the concept of Assisted Incremental Housing (AIH) and defines it as follows: a bottom-up process of making the built environment that organizations facilitate through assistance.

The process of IH has been described as 'process-based nature', which generally lasts for many years, and often it never ends. Also, it was described as an 'open system' in which the user participates by choosing between various options throughout the entire process. Based on the literature around IH and based on the results from the analysis of SE in IH, the process of IH comprise the following steps: 1) diagnosis; 2) participatory design; 3) strategies planning; 4) construction; 5) use & maintenance; 6) evaluation. Also, based on a literature review and results from the market analysis, the dimensions of IH were defined as follows: 1) technical: building materials, labor; design 2) resources: micro-financing, saving groups; human resources; 3) sociocultural: culture & knowledge and action capacity; 4) land tenure.

In Mexico, in 2020, the process of self-production represented 57.3% of the country's inhabited private dwellings (VivPH, viviendas particulares habitadas), and around 58% requires renovation or extension. The Mexican government has launched different efforts toward assisting incremental development since its known that a big part of IH was developed without any technical assistance. However, no program, no strategy has come to stay. An interesting finding is about the ENA (National Self-Production Housing Strategy) launched in 2021. This national strategy is developed to guide families in the self-production of housing through different aspects: 1) access to land, 2) finance, and 3) technical assistance. However, based on the findings, this strategy did not consider the views of SE in its development.

Also, it was argued that it was only directed at families, not at organized communities. In addition, it was criticized for suggesting standardized housing solutions and not accepting building with local materials. Another critical finding was that SE are gaining more attention in their role in assisting IH, and are building alliances among them to mobilize resources further. For instance, CONVIVES has been working to mobilize funds from International Corporations towards IH in Mexico. In general, the topic of IH is gaining more visibility. Also, it was found that some universities are designing specializations programs on the topic of IH.

Based on the first research question findings, AIH has been knowledge as the most affordable and intelligent way of providing sustainable shelter. SE was recognized as a critical actor in guiding its process. The latest took this research towards identifying the organization's characteristics of SE in AIH and the roles and strategies taken towards assisting this process. The latest characteristics and roles were analyzed through a perspective on Social and Product Innovation (e.g., mobilization of resources, collective learning processes), Social Entrepreneurship (e.g., boundary spanner, policy entrepreneur, niche entrepreneur), and Intermediary roles (i.e., implementer, catalyst, partners).

In this research, the SE is used as an umbrella term including the following organizations: voluntary organizations, community groups, cooperatives, mutual societies, non-profit organizations, and for-good and for-profit organizations. Also, architects assisting this process fall into SE. The decision to consider architects was based on the findings on the current situation of IH in Mexico, where architects, sometimes better called 'social architects' or 'community architects,' are contributing to this topic through several approaches.

An analytical framework is proposed to understand how SE contribute to the process of Incremental Housing. The framework consisted of WHO/WHY, which concerns characteristics and motives. The HOW variable concerned the roles and strategies deployed by the actor.

The roles of implementer, catalysis, and partner were adapted from Lewis (2002) and analyzed. For AIH, the implementer role mainly focuses on deploying goods and services (e.g., construction, design, evaluation platforms). The catalyst role mainly focuses on improving the target group's capacities (e.g., providing workshops for construction and finance). Finally, the last role, partner, focused on improving the self-managers capacities to organize themselves (e.g., community meetings). Also, the parter role involved the strategies taken by the SE to build strong relationships with critical allies (e.g., collaborating with SE in the same area of expertise). This framework includes the identification of the main barriers and enablers of the practice of these organizations at the internal (i.e., organization) and external levels (i.e., context, users, norms).

The WHAT variable consisted of mapping the actions taken by the organization concerning the different dimensions of AIH through the different phases of IH. These actions were mapped using the diagram which resulted from CH 02 .

How do Social Enterprises assist Incremental Housing in Mexico?

As mentioned earlier, different types of organizations contribute to IH in Mexico. Based on the market analysis CH 05 in the first part of the analysis part, civil organizations, NGOs, for-profit and for-good, and some architecture firms were identified. 6 cases were selected to fully describe their characteristics, background, and motives behind their interventions toward Incremental Housing. Important financial sources for this organization are national and international donors, some organizations are contracted directly by financial entities, and others provide consultancy on the topics of IH.

The selected organizations are composed of individuals from architecture and construction backgrounds. Furthermore, they are often supported by an advisory board composed of people from different backgrounds and with an integral and broad experience in IH. Their aims and target are diverse; however, all of them are driven to generate social value in the context of low-income housing in Mexico.

SE in IH often deploy implementer, catalyst, and partner strategies. Implementer and catalyst mean that these actors address the case of IH by enhancing the user's capacities (i.e., community, household) and contributing to the level of the built environment (e.g., providing design solutions for new built or renovations). The partnership role involves building strategies and relationships with other actors to facilitate the mobilization and access to resources. Also, the partner role involves SE's actions towards aligning goals and vision among the actors involved in the IH process. The last point is critical since one of the main barriers mentioned was that actors involved in IH do not have a shared vision of IH. Together, all these roles have the ultimate goal of creating autonomous families and communities. The self-managers have the tools and knowledge to carry out their projects collectively or individually and to be able to manage their limited resources efficiently.

What is a typology for Social Enterprises in Incremental Housing? What are barriers and enablers of their practice?

Considering WHO/WHY and WHO, a typology of SE in IH is suggested based on a cross-case analysis.

The first, type A: technical-led, is a socially driven organization with a high focus on its role as an implementer. Since type A often comes from a background in architecture and construction, their strategies often involve delivering designs and construction supervision. This type of organization is often composed of 2-10 young architects. Their assistance towards IH is sporadic and often parallel to an alternative project (e.g., architecture services). Barriers this actor faces include limited network, few resources, and lack of motivation. The second type, type B: community-led, is also socially aim driven, adopting roles as a catalyst, focuses on the bottom-up process of self-organization partner, building social networks at a local scale. Often is composed of people from diverse backgrounds (e.g., architecture, social sciences, politics, academy). Barriers faced by this actor are; the long decision-making process among groups and the minor involvement of the users. Finally, the third type C: project management-led, focused on adopting catalysis, implementer, and partner roles. They were often driven by social and economic values and known for integrating socio-technical innovation in the process. Type C has a strong focus on the dimension of resources. It is well known for its extensive network and strong reputation. Barriers faced involve having limited access to the best talent, and actors involve not having a shared vision towards IH.

The main barriers of these organizations include having limited access to talent and a specialized workforce on IH. Also, a lack of a shared vision among the actors involved in IH. The main enablers mentioned; having a multidimensional network is key for the mobilization of recourse, having part of the organization on the intervention site, and working with a previously organized community.

9.2   Answers to the Main Research Question

To what extent does the type of Social Enterprise and its strategies facilitate the Incremental Housing process?

The previous research investigated the case of Incremental Housing in Mexico. IH represents an important part of the building stock in Mexico and has come with many impacts on the quality of the homes, related in part to the lack of technical assistance. This research introduces the role of SE as a part of the solution in this aspect. Based on the vast literature on IH and SE, this research identifies areas of action for SE in IH: 1) technical; 2) resources; 3) socio-cultural; 4) land. After developing an analytical framework for SE in IH practice, the research explored the practice characteristics and roles taken by different organizations assisting Incremental Housing in Mexico. Strategies found from the cases studied are multidimensional and are deployed under the capacity of SE as intermediaries. They can either act as a catalyst or implementers by improving the capacities of the self-managers during their IH process. The role or partner is highlighted as SE's skill to establish cross-sectoral collaborations, 'bridging' different interests and goals among the actors involved in the process.

After the cross-case study of 6 SE assisting IH in Mexico, three different types of SE are suggested. Their contributions to IH are influenced by the characteristics of the organization and the roles deployed. For instance, type A: technical-led is a socially driven SE adopting roles as an implementer but lacking the position and power to achieve goals, emphasizing IH's technical dimension in the construction phase. Type B: community-led is a socially driven SE adapting roles as a catalyst, focusing on the bottom-up process of self-organization and adopting the partner's role, building social networks at a local scale. Showing a stronger emphasis on the diagnosis and participatory design phases within the sociocultural dimension. Type C: project management-led, adopting roles as catalyst, implementer, and partner, and has an extensive network with strategic allies, showing a stronger emphasis on the resource's dimensions from diagnosis to evaluation phases.

9.3 Discussion

Speaking about the roles and strategies taken by the organization, the diagnosis seems to be one of the main actions taken by the organization. The literature also suggests this. On the other hand, the household and SE's evaluation and follow-up methodologies were little mentioned in the literature. However, it is a critical aspect of the assistance based on the findings.

Also, according to the dimensions suggested in the literature, 'time' was little mentioned. The cases' findings show that time as a resource plays a key role. This is because it was mentioned that dwellers often face issues in dedicating time to building or managing their house projects due to work conditions and long commuting times. Therefore, the time that the user can deploy to the building or management of its dwelling becomes a critical point in IH.

Also, in the Mexican context, it was mentioned that fraud in the construction industry is one of the main challenges. Several organizations mentioned that they are working on increasing the transparency of the construction process, primarily through the integration of digital tools. Nevertheless, according to the literature reviewed, fraud in Incremental Housing is a topic that has not been researched in detail.

Also, this research investigated the role of the organizations assisting IH. This was since this research argued that the users play a critical role in developing their house. However, this research identified that actors such as materials suppliers and workers are also key actors in bottom-up urban development. Therefore, some analyzed organizations contribute to facilitating communication among these three primary entities (i.e. construction workers, material suppliers, and dwellers). Based on that, this report that assistance by SE toward IH is not only about improving the users' capacities, but also about enhancing the capabilities of the main actors in the construction chain; material suppliers and the workforce.

9.3.1 Research Contribution

Societal Contribution

This report has demonstrated that SE may play an important actor assisting the process of IH. In Mexico, this type of organization is gaining more visibility, which may lead to opportunities and specialization in IH—investigating the role of this actor through the theory of Social Innovation positions these actors as an alternative solution to IH by providing services and products that the government and the market have failed to provide. Providing a typology of SE in IH in Mexico contributes to shedding light on how these actors contribute to the IH process in Mexico. By sharing this knowledge, this research aims to attract the attention of government entities designing strategies toward IH to acknowledge the role of these actors and better integrate them through the development of policy instruments to propel their practice considering their different strategies. Finally, this research and its output might influence SE assisting IH and/or inspire the development of new ventures toward AIH.

Scientific Contribution

The combination of the concepts of Incremental housing and Social Enterprises has rarely been discussed in the housing debate as an alternative solution to social housing, especially in the Mexican context. This research has contributed to filling the gap in knowledge in the Mexican and Latin American literature regarding Assisted Incremental Housing and Social Enterprises. Firstly, Incremental Housing was explored, identifying the main steps for its consolidation and defining the main dimensions toward its assistance, namely; 1) technical, 2) resources, 3) socio-cultural, and 4) land. This thesis proposed a typology of SE AIH as a result of a cross-case study developed from the individual analysis of 6 organizations assisting this process. Also, using concepts such as Social Enterprises and Social Innovation in developing countries enriches the housing debate between top-down and bottom-up approaches.

Firstly, the current case of IH in Mexico was explored. This led to the relevance of SE assisting IH through different and innovative approaches and their ability to recognize an opportunity and create social value that either market or government actors have not yet provided. Secondly, this research focuses on innovation from a social, technical, and managerial approach, emphasizing the process but not the final result.

Another contribution of this research is developing an analytical framework that can be further implemented to analyze these types of organizations' characteristics, roles & strategies and outcome. This framework could be helpful in the self-assessment of SE in the area of interest. In addition, suggesting a typology of these actors recognizes various actors' roles and intentions shaping the cities in a bottom-up approach. Little research has been found regarding the latest, especially in Mexico. This research also adds to that gap in the literature.

9.3.2 Limitations

This research referred to SE as an umbrella term and aimed to provide a broad overview of the actors within the Incremental Housing field and their contributions. However, the generalization of the findings (i.e.typolgy) could be questionable since the given typology may differ if a larger population of organizations were studied. Considering SE meant an external actor assisting. However, it also would be interesting to add the efforts done by community organizations, therefore focusing on informal ways of organizations. Another limitation of this research is the analytical framework, which did not implement the user perspective to analyze the assistance process provided by the actor of interest. This framework is developed from an onside view (i.e., SE) which might significantly impact the analysis results. Also, triangulation was only done by comparing the outcome of the interviews with information found in documents and websites from the organization. However, interviews were carried out with only one professional representing each organization. In addition, the contextual characteristics of each case were not explored broadly. The latest might impact the reliability of this research.

9.4 Recommendations

9.4.1 Further Research Recommendations

Further research on SE assiting IH could be carried out regarding the analysis of the assistance process from a user perspective. Several approaches from SE consider the implementation of online tools designed for the users. It could be interesting to identify:

How do self-producers receive and implement the knowledge and capacities acquired by the actions deployed by SE in IH?, To what extent are the capacities acquired by the user/organizations maintained through the years after the assistance has ended? How is the user sharing knowledge regarding these acquired capacities? As Incremental Housing is such an important practice in Mexico, it would be interesting to investigate the extent to which this represents a business opportunity for young architects.

This thesis supports the idea that architects can highly contribute to the IH process, but little is known about business models that architects could implement for this aim. Therefore, more research is suggested on developing and validating business models for SE assisting Incremental Housing. Also, research has emphasized on the user role. However, material suppliers and construction workers play a critical role within the construction chain. Research on their roles and how to improve their capacities is suggested as well.

Extensions by dwellers often are related to the integration of a business into their house (e,g, grocery store). However, little was mentioned on this topic by the SE. This is an important topic since the support to the local economy could play an essential role in contributing to the Incremental process. Therefore, research about the integration of the business into the house is suggested, and how SE could facilitate this process. Also, little was mentioned regarding specific strategies by SE for the development of urban areas (i.e., streets.) It suggested diving into the strategies by this organization at different assistance levels (e.g., transformations, renovation, maintenance, newly built houses, urban).

9.4.2 Recommendations for Practice and Policy

Finally, based on the findings, this research provides recommendations for practice and planning policy. First, this research highlights those Social Enterprises contribute to the process dimension of IH through different approaches; these approaches are diverse based on the organization's characteristics and roles deployed. Recommendations will be given for both practice and planning policy.

Practice of Social Enterprises

New actors in IH (i.e., type A) usually assist Incremental Housing infrequently. This is related to limited resources and limited networks. This thesis supports the idea that type A can highly contribute to the IH process by implementing innovative ideas and practices. First, collaboration among the different types of SE identified is recommended for lesson sharing. Specifically for Type A having an advisory council is suggested, given the multidimensions of IH. Also, it was mentioned that there is a lack of motivation by Type A toward assisting IH. Some suggestions include the development of a platform where actors can share their activities toward IH (e.g. strava)—having some incentive (e.g., status) while and after their assistance is important to motivate these actors. Also, the development of business models to assist this process is suggested to have a financial incentive. Given the interests of this research on entrepreneurship and social innovation, this report suggests that Type A works strongly with young generations and academia to develop social-technical innovation towards IH. Also, in general, a suggestion given to SE assisting IH is to widen their assistance or specialize their assistance toward material suppliers and construction workers.

Practice of Social Enterprises

Based on the contribution and expertise of that SE on the IH process. This research recommends that entities responsible for the design and implementation of IH strategies and programs (i.e., SEDATU, INFONAVIT) find a way to recognize the ideas by SE. Also, this research suggests integrating them within programs toward IH to propel further their practice based on the specific needs of each type of SE. The latest could be done by the implementation of policy instruments that focus on the following quadrants:

1) **Shaping;** shaping the decisions environment of SE by setting a broad context for market actions and transactions
2) **Regulating,** constraining the decision environment of SE by regulating and controlling market actions and transactions
3) **Stimulating,** and expanding the decision environment of SE by facilitating market actions and transactions
4) **Capacity building,** enabling SE to operate more efficiently within their decision environment and so facilitating other policy instruments' operations

Note: recommendations aimed to be developed and validated further. The idea is to carry out a virtual workshop among participants for this research (i.e., SE professionals, experts in the field of IH, policymakers) to bring ideas on how to propel the practice SE in assisting IH in Mexico.

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Appendix

INTERVIEW PROTOCOL FOR SOCIAL ENTERPRISES

PURPOSE OF THE INTERVIEW

This part of the research aims to provide knowledge about WHO, WHY, and HOW social enterprises assist the self-production of housing in Mexico. To further identify WHAT the main contributions of the organization are towards the IH process. For this, the data will be collected through the following activities:

DATA COLLECTION

1. Semi-structured individual interviews with experts in the field
2. Review of organization documents
The experts selected to carry out these interviews actively work in social enterprises assisting the self-production of housing in Mexico. They are directors or co-founders of the selected organizations. The result of these interviews will allow different explanations of the experience by the interviewees to identify and allow the researcher to identify similar patterns of their practice.

WHO & WHY
CHARACTERISTICS

• Could you tell me about the organization? How do you describe the type of organization?

MOTIVES AND OBJECTIVES

• How did the organization start? Could you tell me the main reasons and drivers for starting the organization?
• Who were the initiators, and what was their professional background?
• How were private time and resources invested, also to what extent were they prepared to be able to work for a long period of time without any return on investment?
• How was the family and friends involved at the beginning of the organization, in what way was their contribution?
• According to the following options, where would you classify the organization? Could you explain why?

a) state-driven	(strongly influenced by state policies, regulations, and finances)
b) market-driven	(strongly influenced by housing market demand and financial opportunities)
c) community-driven	(strongly influenced by preferences and financial means of residents, local stakeholders, local government and local community, and third sector organizations)

TARGET GROUP
• Could you describe the target group or the problem your service/product is designed for?
• How do you think the target group has changed since the organization's beginning until now?

HOW
ROLE

According to the following options, what roles do you think the organization plays? Could you explain why?
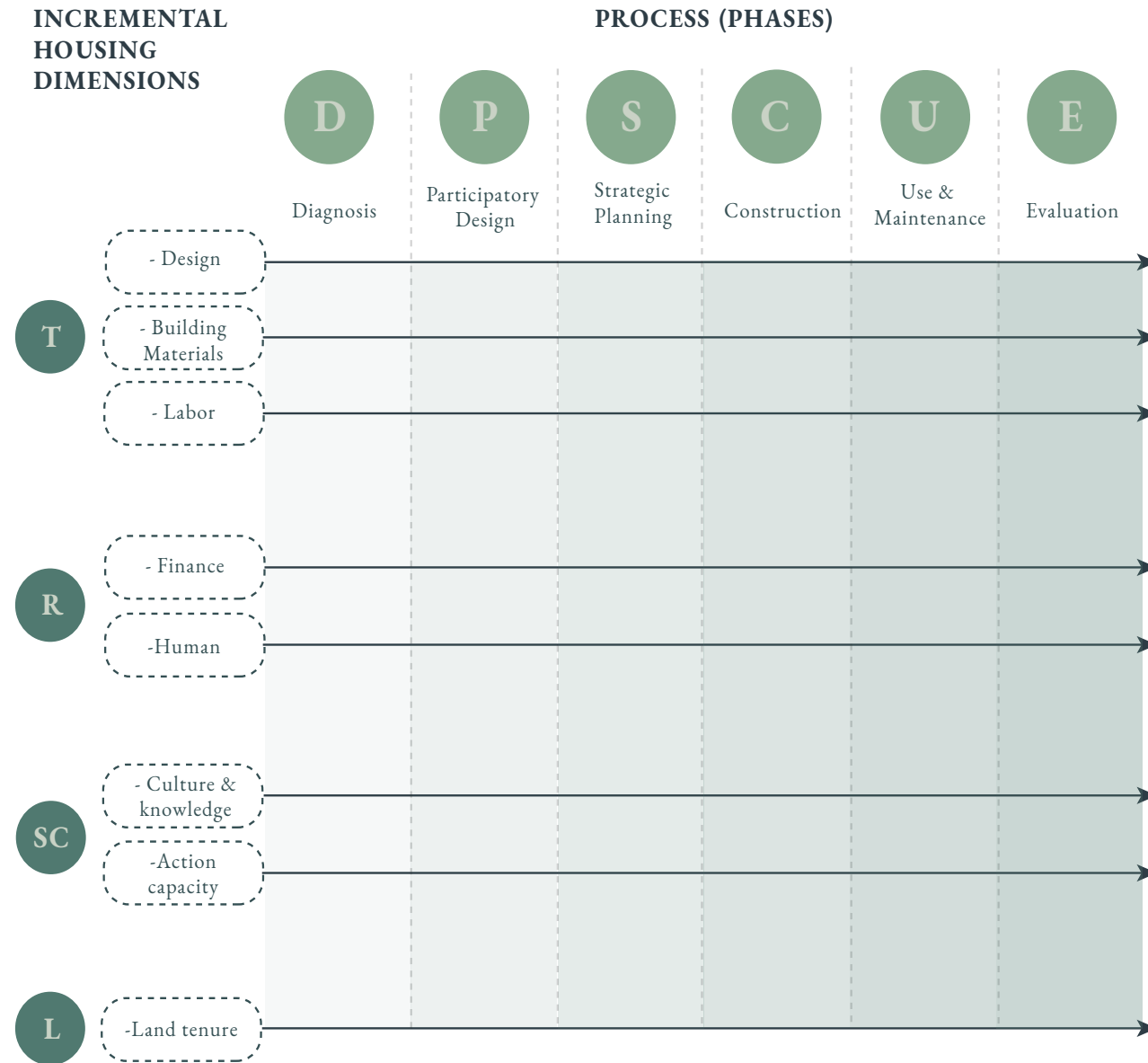
a) Implementer	focus on services and good provision to improve the physical quality of existing housing or to start new construction on the housing
b)) catalyst	contributes to bringing change, implementing socio-technical innovation that aims to improve the capacities of the self-builders
c) partner	focuses on improving the capacities of the community organization to carry out implementer or catalyst interventions throughout strategic alliances

POWER AND POSITION
• Could you explain the strategic relationships necessary for the start/development of the organization?
• What do you think were vital resources for the development of the organization?

WHAT
Based on the following dimensions and phases, could you describe the main activities and strategies carried out by the organization?

INCREMENTAL HOUSING DIMENSIONS — PROCESS (PHASES)

D — Diagnosis
P — Participatory Design
S — Strategic Planning
C — Construction
U — Use & Maintenance
E — Evaluation

T
- Design
- Building Materials
- Labor

R
- Finance
- Human

SC
- Culture & knowledge
- Action capacity

L
- Land tenure

T : Technical
R : Resources
SC : Socio - Cultural
L : Land tenure

INTERVIEW PROTOCOL FOR SOCIAL ENTERPRISES

BARRIERS & ENABLERS

• What do you think are the main barriers that impact the assistance process by the organization?
• What do you think are the main enablers that could impact the assistance process by the organization?

OTHERS
LEARNING PROCESS

• Could you describe the learning process of the organization?
• Could you describe how you evaluated the results? How does the organization perceive its performance? If the organization has evaluation tools, what parameters do they measure?
• What do you think are the weaknesses of the organization model?
• How do you implement the results for the following projects?
• Are users satisfied with the organization's performance? What activities or characteristics of the organization are considered good? Which not?
• How does the organization define a successful outcome?
• Do you share learning with educational/professional institutions or your community within your practice? If yes, how does the organization do it?

INNOVATION

• Which ones could be considered innovative based on the activities and strategies mentioned?
• Could you describe the process of designing innovative strategies?
• Have you invested in research to innovate in your area of work or has innovating been an easy task for you? How do you implement the research done in academia into your current practice?

FUTURE TRENDS

• From your point of view, what future trends do you think may impact how social enterprises assists the self-production of housing in Mexico? new laws etc.
• How do you expect the needs of your target group to evolve in the future?
• What new projects does the organization have in mind for the future?

CONCLUSION

• From your point of view, do you consider the organization is it an entrepreneurial company? If yes, why?
• What is your recommendation for third sector organizations: NPOs, social enterprises, or architecture firms that want to impact the self-production of housing as you are doing? Which is the first step?

Those would be all the questions for now. Thank you for your time and participation!

Note: All interviews, transcripts, and letters of consent are available upon request.

Reflection

The following part of the report aims to reflect on different aspects related to the development of this graduation project from the researcher's point of view. This reflection comprises several themes from which lessons for the following research are drawn.

/graduation

TOPIC AND LITERATURE REVIEW

Finding a relevant topic was one of this thesis's main challenges. The researcher expected to do something different and unique and got overwhelmed by the amount of literature. Also, while defining the research topic, the researcher was naturally drawn back to bring solutions and strategies to the case of Incremental Housing due to its natural design drive related to its background in architecture.

The topic of Incremental Housing was selected due to the researcher's interest in bottom-up approaches to urban development and self-produced housing in both developed and developing countries. Also, this topic was initially selected due to the interest in 'doing more with less'. For instance, IH usually starts with a core unit (a scarce but sufficient structure). However, the topic of Incremental Housing was more complex than expected and overstudied. The topic of Social Enterprises came due to the researcher's interest in social entrepreneurship. Both concepts: incremental housing and Social Enterprises, offer various terms within the literature, challenging their understanding (e.g., sites & services, social production of housing, third sectors, NGOs).

Some lessons learned for future research regarding the selection of topic and literature review involved selecting one line of research currently in study at the university, mainly due to the researcher's background in architecture design.
For the next research, the researcher aims to carry out early phase interviews with people on the topic of interest to identify a gap in research. Therefore, conduct informal interviews even months in advance to identify a relevant topic. One of the main lessons learned is about the process of taking notes. Efficient note-taking was one of the essential skills while working on a thesis. For the next research, reviewing literature from the place of interest from early phases of the research will be done, together with limiting the number of papers to review.

RESEARCH METHODS

This research was carried out through a case study analysis that required interviews. While conducting interviews was enriching, sometimes it was hard to carry them out. For instance, the interviewee will extend the conversation to provide an answer to the question. The latest had a consequence in collecting the necessary data. The latter was partly due to a lack of expertise of the interviewer and the length of the questionnaire. In addition, 6 organizations were selected to conduct the research, but collecting information was somewhat inefficient and had some consequences in diving into detail in each case. However, it is important to mention that the interviewees were very happy to be part of the research in most cases.

Secondary data collected (e.g., organization documents, website) was less time-consuming and more efficient but not as enriching as the semi-structured interviews. The researcher did not use Atlas. Ti, due to a lack of familiarity with the software. The latest also represented more time for data analysis. For future research, the researcher will integrate multiple options questionnaires when answers need to be concrete, and the research involves many cases to make the data collection more efficient. And also, Atlas. Ti will be implemented from the early phases of the research to have all data in one place.

Also, transcripts take much time to do and sometimes there are questions that can be more efficiently answered through multiple answer questions. For future research, the questionnaire will be tried and improved after some trials; this might positively impact collecting the necessary data without needing to get in touch again with the interviewee when there is missing information.

Reflection

RESEARCH PROCESS

The research process has been shown to require more patience than expected. Also, the researcher often worked with a hardworking style rather than smart working. However, it was learned that breaks and patience are among the best allies while working on research projects. Breaks are needed to get the ideas together and have a refreshed mind. Patience is needed because, like incremental housing, the research process looks like a non-ending, dynamic process and keeps changing (See FIG 66).
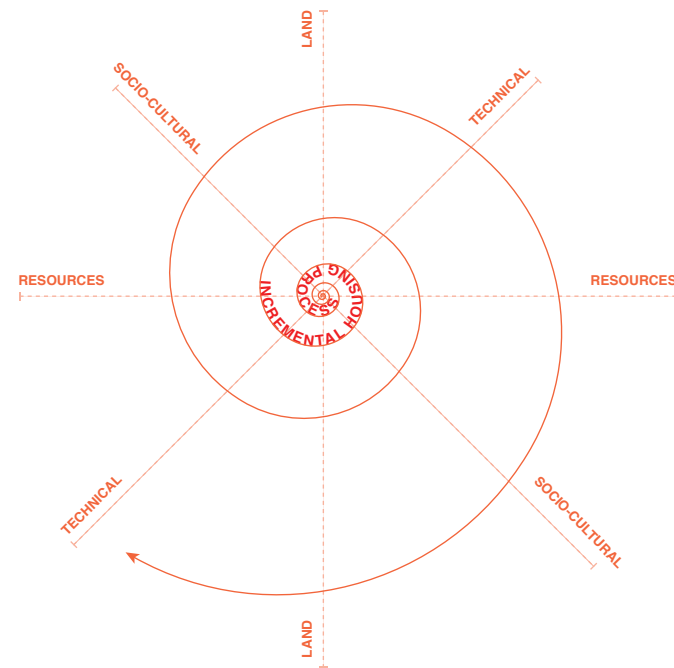

FIG 66: Research process (source: author)

/MSc

During these two years, the researcher has developed strategies for different challenges within the built environment, for instance, circularity in the built environment, the future of the university, and the housing challenges in developing and developing countries. In all these cases, the researcher has often returned to 'doing more with less.' This is related to coming from a 'scarce environment,' making the most out of everything and drawing attention back to the basics, leaving the superfluous behind. For those reasons, the researcher suggests that the idea of scarcity applied in the BE can significantly change the way decisions are taken. Also, through these projects, collaboration has consistently been shown to be a key aspect when it comes to reaching goals.

The researcher has developed an interest in user experience, social innovation, sustainable renovation, and entrepreneurship from her previous background and outcome of the MSc in Management in the Built Environment. In this regard, the researcher highlights that entrepreneurs have been recognized for contributing to global challenges by implementing service and product innovation in the processes related to the built environment. Therefore, by concluding this MSc program, the researcher hopes that its views towards the BE can inspire architects to focus more on the management and social aspects to better contribute to global challenges within the BE.

BACKING
INCREMENTAL
HOUSING

The role of Social Enterprises
assisting Incremental Housing

MSc. Graduation Thesis
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