

FACULTAD DE INGENIERÍA

Escuela Académico Profesional de Arquitectura

Tesis

**Characterization and Patterns of Conformation,
Evolution and Consolidation of Housing in Informal
Andean Settlements: the Case of Pomachaca,
Tarma, Peru**

Julissa Raquel Espinoza Carrion
Edith Gabriela Manchego Huaquipaco

Para optar el Título Profesional de
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Characterization and Patterns of Conformation, Evolution and Consolidation of Housing in Informal Andean Settlements: The Case of Pomachaca, Tarma, Peru

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Abstract The increase in informal settlements has aroused the concern of many professionals and governments seeking to understand the emergence and expansion of these dwellings, as they currently coexist and form an integral part of our cities, especially in less developed countries, where high rates of urban expansion are often associated with the emergence of informal settlements. As a consequence, the resistance and proliferation of these settlements have become a phenomenon, in which state intervention has failed to curb their growth. This article seeks to identify those recurrent patterns that allow the conformation, evolution and consolidation of informal settlements based on evidence from the Pomachaca human settlement in the Andean city of Tarma. The methodology developed is based on a structured visual survey analyzing 224 lots, 128 informal and 96 formal. As a result, in the first place, the spatial logic to build their houses in the territory is recognized, taking into account the urban circumstances. Secondly, the orders that adapt informal dwellings in relation to their direct formal environment or to the informal user's own spatial conceptions are identified and finally 3 adaptations are determined: (i) the combination of natural environment and building, (ii) the north-south location along the street and (iii) the blend of construction materials according to

the user's economy. Therefore, the research concludes that informal settlements prove to be a valuable form of urban development as they employ spatial practices and improvements that contribute to the informal settlement becoming a dynamic and discrete entity, in a state of continuous change with its own spatial characteristics.

Keywords Informal Housing, Housing Construction, Human Settlements, Housing Adaptations

1. Introduction

The cities of the Global South present a great urban challenge due to the urban growth generated by informal settlements. To better understand this urban condition that distinguishes those cities of the Global South, it is necessary to define the term "informal settlements". According to Hofmann [1], they are those urbanizations that originate outside of municipal planning efforts, whose morphologies vary from regular grid designs to irregular organic designs. However, such a concept should not be confused with "slums". Likewise, Nassar & Elsayed [2], argue that they are those areas that have been developed by

individual efforts, which although building conditions may be good, are environmentally or socially unsafe, lacking basic services and utilities. In fact, many authors have concluded that informality is "a new paradigm for understanding urban culture" [3]. The habituality of some cities to house thousands of people in these settlements, have been incorporating more developing countries to counteract the huge influxes of people, resulting in uncontrolled population growth. For Gelder [4], in their attempts to deal with the rampant expansion of informal settlements, governments have been actively formalizing them through massive legalizations. Under this perspective, informal settlements become the other face of the formal city and potential sites for the future growth of cities, and as such, turn out to be crucial for building urban identity.

In this sense, the urban condition of most Latin American cities is directly related to informal processes that shape urban landscapes in a common and repetitive manner. It is understood that informality is the result of human pressure on cities, due to the fact that they turn out to be economically attractive for those inhabitants trying to escape from more impoverished rural areas [5]. This irreversible constant of the Latin American urbanization process, incites a significant portion of the population that does not have sufficient income to cover the prices of formal urbanized land, to acquire land that is affordable and with more convenient characteristics according to their needs, even at the potential cost of the inconvenience of acquiring this highly valued asset illegally [6]. A recurrent fact of this area, is that generally the forms of planning and production of space are deployed in hillside areas, whose habitat consolidation is often precarious, slow and devoid of public investment, due to the irregularity of the soil [7]. But, despite the fact that terrain conditions generate impediments and limitations for urban development, it is the informal settlements themselves that respond with innovative morphologies, which reduce the risk of evictions. For Wigle [8], the main impetus for informal urban expansion is the periphery, as it constitutes a fundamental part of the urban structure. Undoubtedly, the fact that informal households move to peripheral areas implies that land prices are cheaper. Nevertheless, this action creates a pattern of urban development that turns out to be highly dispersed and discontinuous.

While it is true, informal settlements may be viewed by millions in huge urban and socioeconomic areas as aesthetic achievements by some, but to others, they prove to be monstrous transformations that do not deserve to be visible [9]. Unfortunately, the negativity surrounding informal settlements restricts attempts to highlight the positive characteristics and individual expressions of these dwellings [10]. For this reason, the central focus of this article is not to celebrate informal settlements as a solution to urban development, but to identify them as the primary mode of urban production that requires attention and understanding. Although this study begins with a brief review of the literature that explores the characterization of

informal settlements, it then seeks to understand the informal spaces created by the residents themselves that incite the growth of urban informality in Andean cities, for which the settlement of Pomachaca, Tarma, Peru, was taken as a case study. Specifically, the article responds to the question "What is the characteristic order of the Andean informal city?". In this context, the article is subdivided into three parts. The first part emphasizes that the informal city is not a problem, alluding to the logic and order that usually exist in these dwellings. The contextualization of informal settlements in Andean cities is explored in the second part. The last part is devoted to the discussion of results and final conclusions on the lessons of informality. All in all, it is argued that this topic will help contribute to the reflection on informal settlements, as it is relevant not only to Third World cities, but also to developed country contexts.

1.1. The Spatial Orders of the Informal City

Informal settlements are perceived as disorderly and disorganized given their spontaneous growth and according to the need and economy of their inhabitants. For example, Jones [11] has documented that the occupants of these settlements have been seen as undesirable, law and order-breaking havens. For Loukaitou-sideris and Mukhija [12], these landscapes of informality continue to be portrayed negatively by authorities, who wish to remove, regulate or simply neglect them. Thus, these spaces are associated with complex physical, visual and social chaos, including disorder and "lack of discipline", contributing to what policy makers and academics have labeled as "dysfunctional" urban patterns [13]. However, informal settlements always have a spatial logic and significant levels of ingenuity in their consolidation and design, which makes them sites of aspiration, change, and manifestations of individual and collective longing capable of transforming social relations and personal identities. This suggests that many of these informal practices turn out to be ingenious, innovative and highly organized, in which it is the inhabitants themselves who seek to use local rules and processes that best suit the circumstances. Thus, despite being self-organized they are not chaotic, but are made up of a complex set of logical reasoning.

As such, informal settlement morphologies often follow a logic that allows them to produce highly attractive and productive urbanism [14]. For Jones [10], the logic of squatting is reflected in 5 factors: (i) fluid boundaries of public or private spaces that residents contest in the absence of state enforcement; (ii) squatting patterns where the introduction of buildings comes first, followed by basic infrastructure networks; (iii) a strong reliance on local socio-cultural values and their norms that interact with the place; (iv) squatting on the grounds of access to basic networks, adaptability of materials and low financial

capital; (v) strong and vibrant market in customary and state land transactions. This suggests that land affordability, access methods and connectivity that are defined by proximity to social, built and economic infrastructure in some cases determines the location of an informal settlement [15]. It should be noted that the logic employed by the user is also related to the insertion of the incorporation of their housing into the land, which is why Dovey and King [16], argue that there are three main modes of insertion of settlement housing in the territory: (i) settlement in unclaimed and unlimited land, (ii) insertion in uninhabited, abandoned or surplus fragments of urban space and (iii) attachment, where informal housing is attached to the housing structures of the formal city. Therefore, a recurrent characteristic of this reasoning, is that the construction of housing occurs, at the same time the space is inhabited. This means that the inhabitants within the framework of their limited resources attempt to create urban forms that are as close as possible to the dominant conventions, thus interpreted as an effort to achieve formal respectability and order.

According to Jones [10], every urban structure usually has its own sense of order, either of the systematic or characteristic type. The former is easily recognizable, coherent and quickly discerned, in which housing designs are based on consistent repetitive blocks of existing dwellings, their heights and styles, as seen in urban and suburban contexts of planned cities. The second is emergent, generated by contextual social norms and values that allow people to produce their own unique spatial and physical forms and layouts, which are very evident in informal settlements. In a similar sense, Roy [17], presents informality as an alternative urban order, a pervasive sociospatial logic, and a different way of organizing space and negotiating citizenship. The research conducted by Kellett [18], argues that the inhabitants of informal settlements are not trying to imitate, but on the contrary to develop original copies that demonstrate both their origin and sufficient uniqueness and originality. In the same framework, Harris [19], asserts that in a settlement amateur builders are blameless, whereas, in a city they may become unacceptable. In fact, informal residents can build remarkably coherent structures following relatively simple rules [20], which results in dwellings that are sometimes difficult to distinguish from formal dwellings. All in all, it becomes clear that informal settlements often provide good examples of self-organization, as they begin with the efforts and initiatives of the residents themselves, leading to the formation of new spatial arrangements at different levels.

These prevailing orders in informal settlements are not impositions generated by the state, but a choice by residents to follow a certain way of life based on strong local socio-cultural orders [10]. According to Kellett [18], what appear to be essentially physical changes not only symbolize progress and achievement for informal residents, but embody more fundamental social and

economic changes. Although, these improvements are made progressively, as income and savings allow [21], they turn out to be a savings channel for the household itself. Even Pruijt [22], argues that informal occupants do not stigmatize themselves as losers, but take pride in a housing solution created by themselves. This is why informal settlements are the result of several decisions that have accumulated over time and comprise flows, parts and dynamic processes [23]. In general, the fact of observing and following these changes gives them an opportunity to adapt their housing with greater individual expression in accordance with the resources and concerns of the informal dwellers themselves. It is then possible to affirm that informality cannot be considered as an equivalent of poverty, but an inspiration to imagine the urban future.

1.2. Informal Settlements in Latin America

Informal settlements are a constant part of Latin American cities, whose role contributes as a starting point for the expansion of cities. Where, informal settlement processes are now the dominant form of housing production in the rapidly expanding cities of Latin America [24]. Informal settlements constitute not only a large part of Latin American cities, but are also a dynamic part of them in physical, social and cultural terms. That is why urban informality is inextricably interwoven with the city as a whole, at all scales and levels [24]. Informal settlements are also seen as innovative and creative, thus recognizing the creative genius of the urban poor to take advantage of culturally specific opportunities to survive and improve their living conditions. According to Hernandez [24], there are two salient characteristics of these informal settlements: First, the production and use of space is a process of permanent transformation; and second, the participation of the locals is crucial in this production, and it follows that the informal growth of Andean settlers is a strategy they use to cope with their daily economic, social and cultural realities, where formal and informal activities are highly interconnected.

Inadequate land occupation processes and rural-urban migration have generated informal settlements in the Andean cities of South America. Similarly, increasing global threats including population growth, increasing poverty (especially in certain Third World regions), inadequate land use planning and environmental disturbances lead to urban encroachment [25]. As mentioned by Jones [26], rural to urban migration continues, and settlements grow and expand to accommodate a growing population in urban areas. Increasingly, rural dwellers are attracted to Andean towns and smaller cities, with the possibility of finding a better life for themselves and their families. Many who hope for a better lifestyle and some form of utopia invariably end up in despair, which is reflected in rising levels of urban poverty and an increasing number of illegal and informal

settlements. This shows that the displacement of rural dwellers to intermediate cities is to improve their quality of life. This, however, leads to the formation of a new spatial organization of their dwellings that must be better understood. For Roy [27], the locus of the new informality is the rural-urban interface, which leads to a complex hybridization of functions between rural and urban forms. For example, a detail that is often found in an informal settlement is the emergence of small stores where pedestrian flows are greater than elsewhere, making it possible for these non-residential activities to emerge along the main roads. Under this approach, it is claimed that these informal spaces are seen as alternative and autonomous urban orders [28], or to what Jones [10] assigned as characteristic order, since the adoption of this perspective is the opposite of the formal city and constitutes a way of life for the informal residents themselves, who through their improvisation and habitational skills foster their entrepreneurial spirit to help themselves. Even now, government attitudes are changing from initial hostility to seeing groups of informal residents as "real builders and designers of large parts of cities" [29]. This implies that informal settlements integrate environments that are truly complex, since it is the good practices of these occupants that drive the development not only of these self-initiated dwellings, but of the city itself in general.

2. Materials and Methods

2.1. Case Study

The case study was developed in the province of Tarma located in the Junin region, specifically in the Andean mountains of central Peru. The city of Tarma has a population of approximately 89 590 inhabitants [30], an altitude of 3053 m.a.s.l., which not only allows it to be categorized as a Meso-Andean city (this ecoregion ranges from 3000 to 4000 m.a.s.l.), but also places it within the Quechua region (which is located between 2300 and 3500 m.a.s.l.). In fact, this natural area includes one of the most populated regions of the Peruvian Andes, since it is bordered by the Andes mountain range and composed of inter-Andean valleys, which means that the city of Tarma has a rugged terrain with steep slopes parallel to the Tarma River. Therefore, being a valley nestled between hills, it has a unique natural landscape with extensive plantations of herbs and aromatic flowers, which is why it has been called "The Pearl of the Andes" by the Italian

geographer Antonio Raimondi. Also, the main productive activities of this city such as agriculture, floriculture and commerce, as well as its strategic location and connectivity allow it to consolidate as an indispensable link between the Peruvian highlands and the Central Peruvian jungle.

Tarma presents an urban expansion of informal character of 92% and only 8% is comprised of formal development [31]. Therefore, it is one of the cities with the highest informal character at national level. Under this context, according to Herzog [32], the population tends to live in highlands that are usually spatially separated from the main urban areas, due to the limitations generated by the nature of the topography of the city. The informal settlement chosen for the analysis is Pomachaca, as it is one of the areas that has the most disjointed urban fabric of the formal city (Figure 1). The consolidation and growth of the Pomachaca informal settlement is due to the fact that in the last 15 years there has been an increase in informal housing due to the emergence of new job opportunities in the vicinity of the Manuel A. Odría Agricultural and Livestock Center, known locally as the Mega Project. This perspective verifies the analysis of Abbott [33], who emphasizes that the reason people move to informal settlements in the city is mainly economic.

The peculiarities of Pomachaca are: (i) it has an organic, dense and irregular morphology; (ii) the development of the settlement is parallel to the central highway, which creates an evident impact on the informal urban image from 2005 to the present; (iii) the dynamics that develop in this area not only affect the formal city of Tarma, but also the interregional level; and (iv) it has a steep relief. This indicates that the topography of the city is a factor that can create conditions that allow the informal hillside settlement to become a relatively visible part of the urban landscape from a distance. Although the expansion of this settlement is restricted by the steep inclines of the territory, the growth of informality still persists, prompting housing to have only two main options for expansion, i.e., sideways or upwards. Under this same approach, a research study conducted in Mamera (Caracas), reflects a high degree of adaptation of informal housing towards the steep slopes in which it is located, which has originated a constant organic pattern [34]. Such similarities between these settlements, proves that informal residents are not hindered by these topographic factors. Then, the self-organized production of housing in this Pomachaca settlement, has evidenced the progressive changes that the resident has been undertaking through the years.

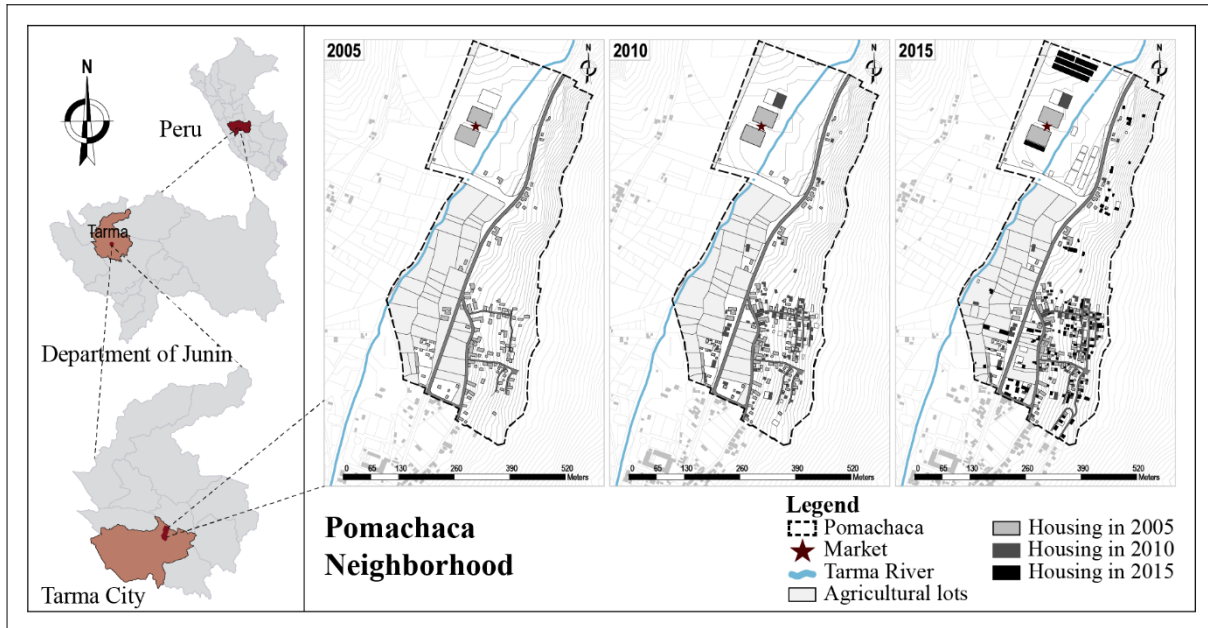


Figure 1. Location and urban evolution of Pomachaca

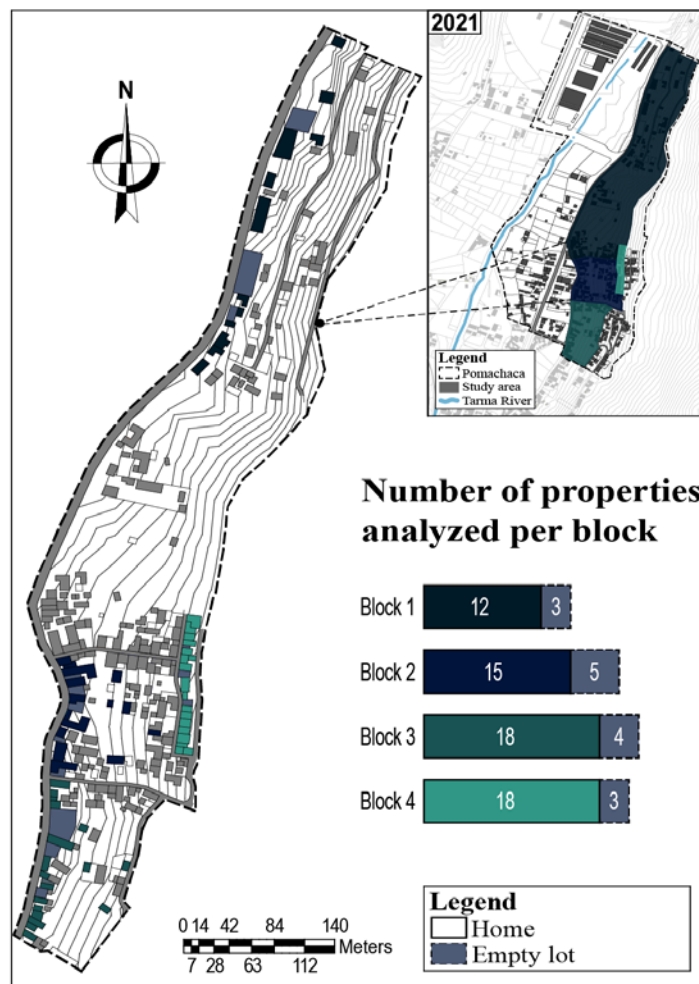


Figure 2. Map of properties analyzed

2.2. Data Collection

The Pomachaca settlement is made up of 224 homes, with 128 being informal properties and only 96 formal dwellings. This article analyzes 4 atypical blocks that have a form of urban growth imposed by the topography, which make up a total of 78 properties between empty lots with projection to be homes and homes already constituted (Figure 2). The fieldwork was carried out during a period from October 30 to November 08, 2021, in framework of which different instruments were adopted that made it possible to develop an approach to the study phenomenon. Quantitative data were collected through a structured visual survey with the observation sheet instrument subdivided into two parts. The first part made it possible to analyze the full houses on: (i) construction quality; (ii) technical advice; (iii) age; (iv) size; (v) number of floors; (vi) materials; (vii) state of the environment; and (viii) the configuring order of each informal dwelling. The second one set out to explore the vacant properties with regard to: (i) their location; (ii) relevance; (iii) topography; (iv) size; (v) adjacency; (vi) pre-existences and (vii) their configuring order. The indicators that were proposed in the instrument, made it possible to investigate the context in which the informal settlement develops and the impact that the different attributes of the housing generate in the spatial arrangement.

3. Results

The results obtained from the structured visual survey for the spatial logic component of the houses in Pomachaca are shown in Figure 3. There are a total of 63 informal houses, 76% of which present the logic of settled housing, whose main material is the tapial, a construction system based on a formwork of wood and clay soil extracted from the same place, which is then arranged in layers to form walls with stability and resistance that will form the building. Despite the fact that the tapial is similar to adobes as they are constructions whose main materiality is earth, they should not be confused, since their mechanical behaviors are totally different. So, there is no doubt that this construction method is not only the most constant in Andean cities, but it is also cheaper for the economy of those who wish to have their own house. One of the most outstanding characteristics of this logic is that they usually have up to two levels, since this is the maximum height that the construction material described above allows to reach. In addition, the other recurrences of these settled houses are usually gabled roofs that vary from steel sheets (calamine) to clay tiles, small windows, wooden balconies and ornaments developed by the user himself. Also, at least 22% represent those houses with inserted logic, where most of the houses are in the process of construction, since they are recent buildings and tend to

be located in the higher parts of the sector. The material that characterizes these inserted housing varies from baked clay bricks to concrete constructions; therefore, the maximum height they usually reach is two stories plus a rooftop terrace. Finally, within the logic of the attached type, only one dwelling was identified, which constitutes 2%. The distinguishing characteristics were the construction and adaptation of new rooms with low-cost materials on the already consolidated masonry housing, in order to solve new spaces required by the user. The materials that identify these attached housing are usually wood for walls and calamine for the roofs, consequently, all this leads to the fact that this new construction differs greatly from the facade of the house.

Regarding the configuration order in the informal sector (Figure 4), on the one hand, it was observed that 76% of the informal dwellings present the features order, because the design of their dwellings is based on the perceptions of the users who inhabit them. Where, the form and distribution of environments are developed by the inhabitants themselves who seek to solve their housing problems through habitual practices to face them and thus be able to regulate their daily lives. However, the features order of these dwellings is not only limited to the spatial characteristics that the user needs according to their activities, but goes beyond that, since it is the same users who interfere in the finishings of the facades of their homes with the implementation of architectural components that make them coherent works, despite not being experts on the subject. Among these elements we have the gabled roofs, windows with various shapes, the incorporation of wooden balconies, perimeter walls with rooftops, etc. Generally, the material composition of the walls consists of adobe and compacted earth, characteristics that relate to the settled dwellings. Therefore, we consider that these contributions developed by the user turn out to have a great impact on the urban landscape that is consolidated over time and that, despite being informal dwellings, we cannot say that they have been built in an unpredictable manner, but rather that their physical improvements lead to economic and social improvements. While on the other hand, 24% of these houses present a systematic order, whose designs differentiate them from the other informal houses sector, since these constructions try to imitate the design of the formal houses, copying their spatialities and finishes, which is why they turn out to be deceptive to the visual perception. Within the materiality used, they tend to use more expensive materials such as brick, and incorporate larger windows and terraces that are often used for domestic tasks such as drying clothes, and these informal dwellings tend to present the logic of insertion. All in all, informal settlements do not turn out to be abominable transformations, but in some cases, such as this one, they result in artistic achievements that complement the formal city and encourage its growth.

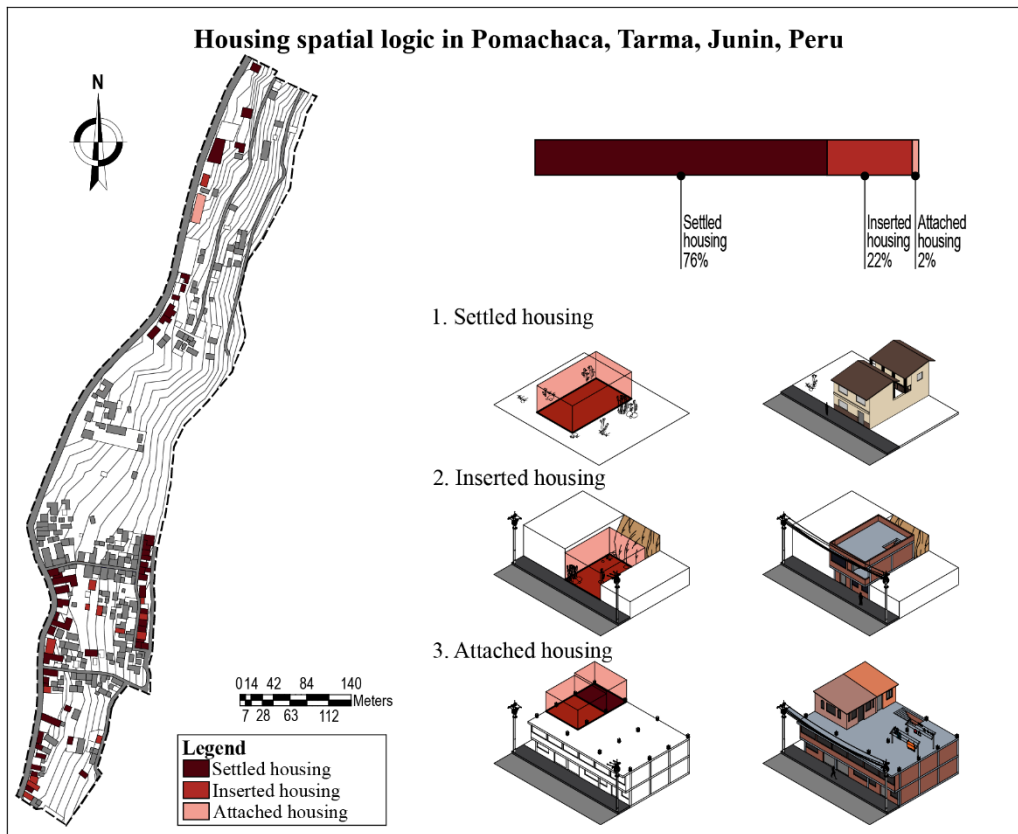


Figure 3. Detail of the housing spatial logic in Pomachaca, Tarma, Junin, Peru

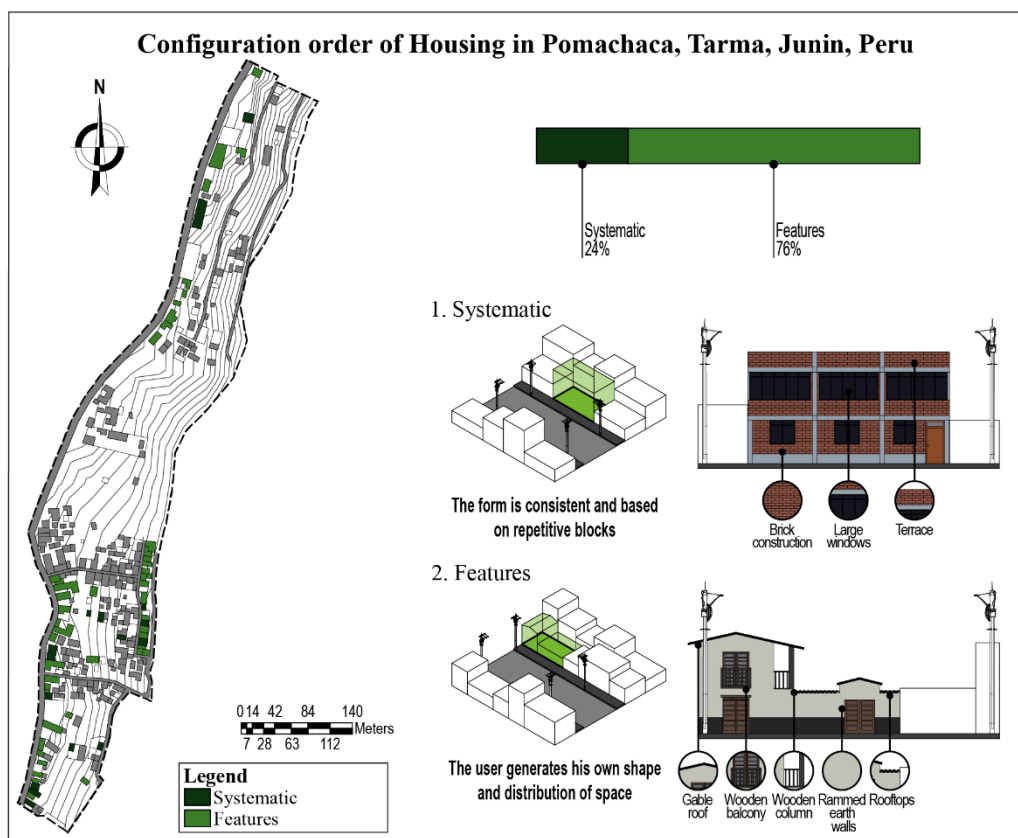


Figure 4. Detail of the configuration order of housing in Pomachaca, Tarma, Junin, Peru

The results of the vacant lots in the study sector are shown in Figure 5. The pre-existence of the 15 vacant lots can be observed, which are crucial to understand the current state of these properties, since in the future they will become spaces that will encourage the growth of the settlement. It was observed that 54% are empty areas, which over time have been formed mainly due to the rugged topography of this area, although this will not prove to be an impediment to the consolidation of future housing. In fact, throughout the article presented, it has been shown that for the informal user, even though the topography plays a relevant role in the construction of new houses, it will not hinder or limit these settlers to build their houses in a few years. Also, at least 33% of the vacant lots are destined for cultivation, which are generally enclosed by walls made of brick that serve as protection for the products. As the last empty lot characterization, we take into account the private yard that represented 13%, because the user from Tarma is always building new spaces based on the needs that he is experiencing, so we have no doubt that these vacant lots in the future will be transformed into new constructions that will modify the urban view.

Finally, in the analysis of the case study, three recurrent adaptations have been recognized in informal housing, which are described in Figure 6. Adaptation 1 generates a

combination of topography and construction that turns the house into a unique and very striking work seen from the outside. As for Adaptation 2, it is observed that its concentration is along the north-south streets, since these have a greater flow of people. In this type of adaptation, the function/use of the housing changes according to the growth of the sector, since the residents themselves are conditioning their homes to new commercial spaces that satisfy the activities that are emerging. Some examples are the creation of small commercial stores. Subsequently, these small-scale interventions usually have an impact on the spatial environment, since in some cases these new spaces tend to invade public spaces of transit pedestrian and till road. Finally, in Adaptation 3 the user tends to mix the construction materials due to different factors related to the user's economy, since the second floor is always built with a low-cost material. Later, when the economy improves and conditions are more favorable, it is rebuilt with more expensive materials. However, in spite of the fact that this practice is not conventional, it is possible to recognize that the user's ingenuity leads him to implement new improvement solutions so that his houses resemble more closely formal buildings. So that, the common factor of these adaptations described result in being evolutions, where the constructions are given stage by stage and gradually.

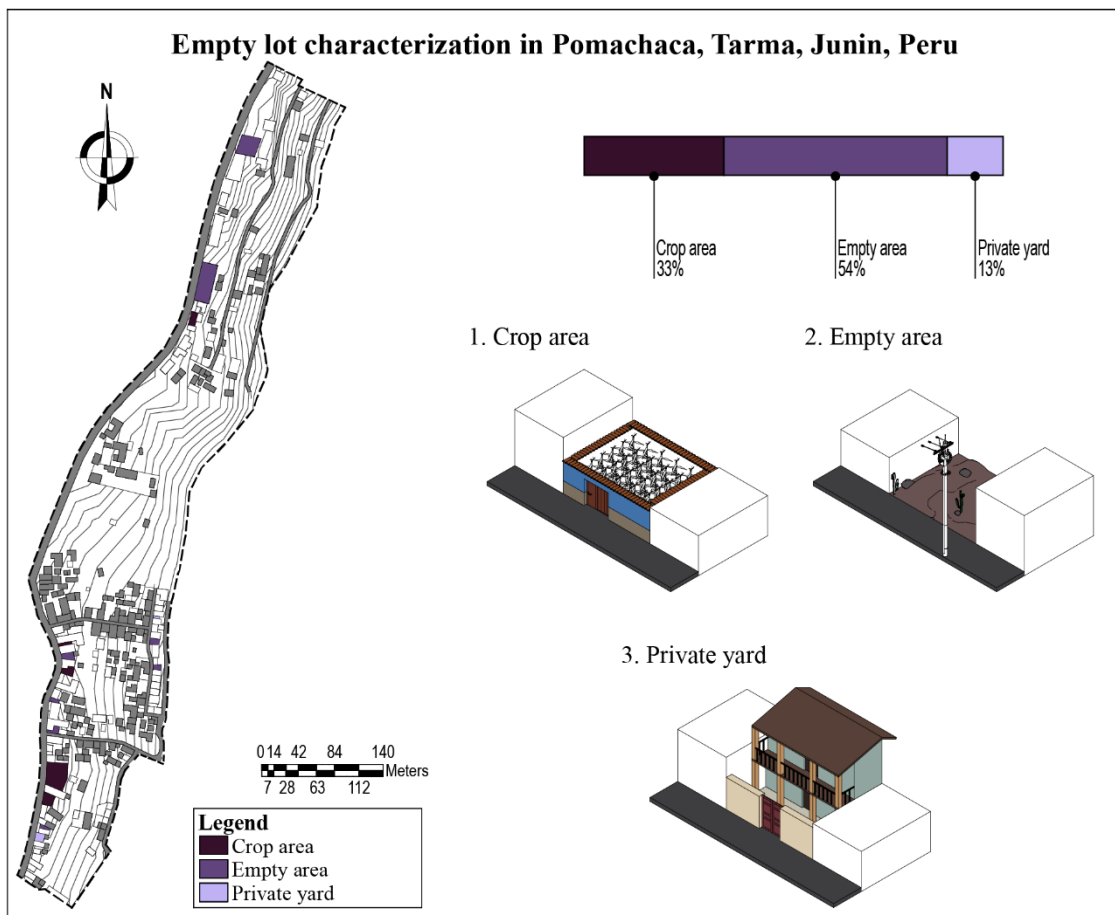


Figure 5. Detail of the empty lot characterization in Pomachaca, Tarma, Junin, Peru

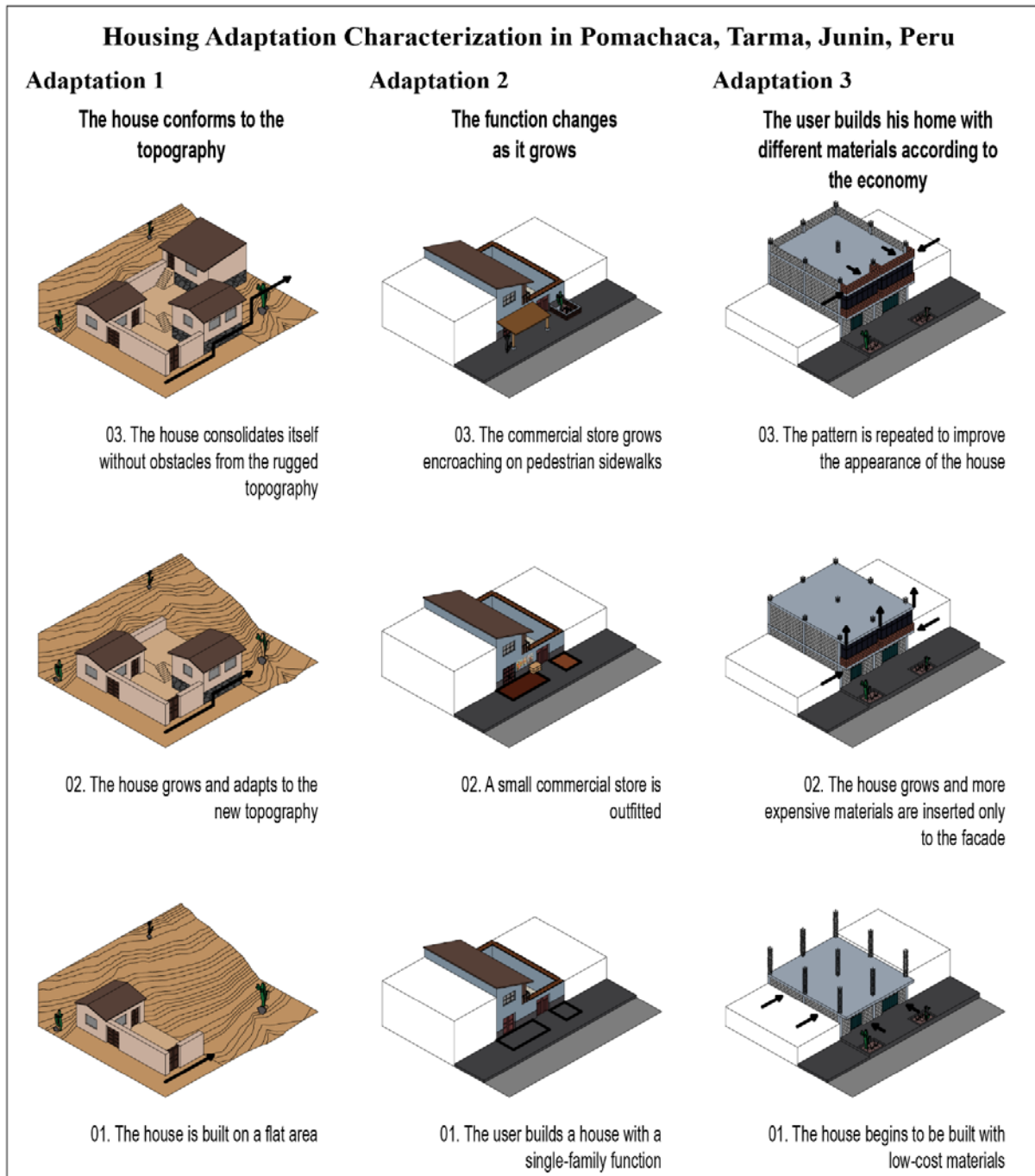


Figure 6. Description of the housing adaptation characterization in Pomachaca, Tarma, Junin, Peru

4. Conclusions

Like many Latin American cities, Tarma represents a rapidly developing urban city that is undergoing a transformation on many levels and continues to grapple with the consequences of informal growth. The urban image of this informality has not only become pervasive and persistent, but also drives residents to occupy the city's peripheries due to the limited amount of available flat space. The result is reflected in the occupation of natural landscapes such as hills and slopes through the

construction of new housing without professional support, with inaccessibility to public services and fragmentation of the land. Undoubtedly, the adoption of these alternative practices and characteristics of informal spaces has clarified the point of view of Meth [35], who argues that the inhabitants of informal settlements have been struggling for decades to convince the formal city of their values, functions and contributions, although this habit proves to be a constant daily ordeal. Thus, the concern that the informal sector is the dominant mode of urban expansion in most Latin American cities means that its key

protagonists turn out to be low-income people whose voices are rarely heard [36]. Therefore, understanding informal dwellers makes it possible to read and understand the complex processes that lead to the formation of informal settlements and the social values that these spaces represent for people who are often hidden from more formal gazes.

Informal settlements are an overwhelming reality not only for Tarma, but for most Latin American cities and the rest of the world, which has become in a longtime challenge. The challenge now is to harness the productive power of urban informality, and to understand how and where they function, so that in this way a better future for the urban poor can be produced [14] and it is that for half a century, many studies have looked at informal settlements and attest to the importance of self-built informal settlements. In fact, Roy [28], points out that urban informality is a mode of production of space and a planning practice. That is why the interest of this article has clarified that informal settlements turn out to be a valuable form of urban development. Even in the researched literature it has been found that the informal sector turns out to be adaptable, responsive and has been providing buildable urban land to the majority of urban dwellers. Thus, the fact of repairing or replacing some construction materials in the informal dwellings analyzed in this article shows that these signs of change not only improve the visual quality of the dwellings, but also enhance them. Therefore, it is the user himself who performs progressive maintenance to ensure the durability of his constructions over time. This implies that the informal sector is rapidly learning from the formal sector, although the formal is not learning so much from the informal. Despite that, it seems to be gradually recognizing and accepting the crucial role that informality is playing [29]. Although this process leads to the growth of this informal sector and represents a great current and future threat, it deserves to be analyzed, understood and recognized, since all this development leads to a more authentic urbanism shaped not by abstract plans, but by the uses and improvised daily practices of the occupants themselves.

It can be assured that urban informality is an important epistemology for planning [27], which allows for a better understanding of the relationships between the formal and informal city at different scales. Anyway, it is expected that the process of physical improvement will be step by step as the resources of the residents themselves allow, even though this progressive development may last for many years, in which not only the form of the housing will be transformed, but will also lead to the establishment of economic and social changes that will improve the townships, making them more attractive to more people. Certainly, these practices and spatial improvements contribute to the informal settlement being a dynamic and discrete entity, with a state of continuous change with respect to its building footprint, but with its own spatial characteristics [33].

The adaptive spatial practices developed in settlements are indispensable for informal dwellings, as they become an asset that cannot be replaced. There is a daily struggle from informality based on the defense of their self-created dwellings and urban spaces, which compose a livelihood that deserves to be recognized. Many planners have even considered that something important is lost when natural urbanism is ossified with professional plans, since there is always an important value in these everyday unplanned cities. This research shows that informal settlements house thousands of low-income people at very low cost and their contributions are not minor. Indeed, their ways of life allow for incremental practices that enhance the urban landscape over time. In fact, for Devlin [37], informality has become a technique for planning with flexibility and responding to the fragmented and unpredictable city of the 21st century, emphasizing that a "good" city is one that reflects the authentic will and desires of everyday residents. Thus, informality has a social basis that deserves to be recognized by the formal city, both because it contributes to the urban economy and because its practices represent a symbiosis between space and people. Therefore, informal settlements are important not only because of their size in the formal city, but because they are unique spaces in which it is the user himself who has a logic and an order that he tries to follow to create elements and scenarios that support his culture, given that the growth of informal settlements is linked to the people themselves. It is essential that these processes are understood. Although informal settlements are not ignored today, it is the *laissez-fair* attitudes of many urban administrations that allow these to exist and grow, which are reflected in consequences in urban services and infrastructure. With all this, it can be concluded that this study is a critical reflection to the current planning practices of our cities; however, we still have to rethink the struggle of informal users to solve their problems of acquiring an adequate basic infrastructure and based on this, have a clearer understanding of the management of these operations at a more micro scale; therefore, these questions deserve to be answered in subsequent studies.

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