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The Case of Ownership Regularization Process in Villa 20, Informal Settlement in Argentina

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Abstract: The aim of this research is to contribute to the knowledge on the policy of regularisation of the urban informal habitat. The study focuses on analysing the approach to the process of land regularisation implemented in Villa 20, Buenos Aires, Argentina. Based on the knowledge provided by those technically responsible for the implementation and by the social organisations involved, the study shows the complexity of the land regularisation process and the fundamental role played by the participatory process in developing new instruments and reaching agreements aimed at gradually advancing towards title deeds. The multiplicity of factors that exist to achieve the goal of titling all dwellings face political, legal, institutional, technical and social barriers. Particular emphasis is placed on the lack of regulatory interventions aimed at adapting constructed buildings to current urban planning regulations, and on the pre-eminence given to the title deed as the only validated instrument to accredit security of tenure. The approach to property regularisation carried out in Villa 20 focuses on addressing issues not contemplated in the regulations, through gradual actions of urban and property regulation. The recognition of rights, security of tenure and integration into the city's urban infrastructure make it possible to find tools capable of overcoming socio-territorial obstacles. The results and discussions proposed by this research aim to contribute to the improvement of public management of the problems of access to home ownership for important sectors of the population.

Keywords: Informal settlements; Land tenure; Participatory process; Right to the city; Upgrading program; Urban development

1. Introduction

In Argentina, as in the rest of Latin-American, informal settlements have been developed by its own residents through a progressive and continuous habitat self-building process. Residents address their need for housing via mechanisms not contemplated within the formal market, and their trajectories rarely comply with current planning regulations. Subsequent adaptations take decades to materialise through ownership regularization processes which seeks to granted title deeds.

In recent years, the debate on land tenure has focused on having access to private property as the sole goal of secure tenure, overlooking the study of gradual instruments of urban regulation and social inclusion that guarantee rights and security. In Argentina, integral habitat-upgrading programmes implemented in recent decades aim to achieve tenure legal recognition through the issuance of title deeds, which is seen as the culmination of the social integration process. However, this is not always possible due to different factors, such as deficient regulatory frameworks, urban standards that disregard the social reality of those most affected by urban informality, insufficient budget for the adaptation of existing housing to make them suitable for the issuance of title deeds, and fragmented administrative structures. In the meantime, what is legally incomplete for property becomes legitimised by both residents and the state through other administrative proceedings. The goal is not just the issuance of a title deed, but a combined process of actions that, as they progress, seeks to reduce the risk of eviction and increase urban development.

Different administrative proceedings can be implemented within the framework of participatory platforms in ownership regularization processes. The participatory process allows debate, reach agreements and finally create new management instruments which bridge the gap between the informally built environment and existing regulations. The research seeks for evidence on the impact of participatory processes on the gradual transition towards regularizing informal housing. To what extent information and community involvement opens the path to increasing the possibilities for formalization urban residence.

The case of Villa 20 - informal settlement in the City of Buenos Aires, Argentina - was selected because the approach to ownership regularization found solutions for what was not built in accordance with planning regulations. Villa 20 over time, it has been the focus of various limited interventions, until 2016 when the integral reurbanization process (still in force) began. A strong participatory platform supports the process and currently aids the collaborative action of the ownership regularization process with the support of social organisations, public servants, scholars and settlement residents that have been actively involved in the decision-making process.

This article describes and analyses the approach to the ownership regularization process implemented in the reurbanization process of Villa 20. Based on the knowledge provided by the technical managers responsible for the implementation and by the social organisations leading the participatory process. Social organisations, public servants, and scholars interviewed have been actively involved in the decision-making process bridging the gap between the informally and regulations. They have all been actively involved in the participatory processes form the first moment, from different roles: territorial, legal or technical management, or as members of the different social organisations, which allows them to have complementary views. At the time of the interview, all the actors were working on defining the operations for the transfer of ownership —title deeds and possession certificates—, instruments that rule the criteria for allocation. Data collection was carried out through the review and systematization of the records of the management process implemented and qualitative tools such as structured interviews with key stakeholders with decision-making capacity, involved in the ongoing process. The focus was mainly on the difficulties and benefits of the regularization process focus in its socio-territorial, technical and management components.

Villa 20 is a test case of the social and territorial complexity that the regularization process has to face in informal low-income settlements within the cities, where technical, social and institutional adaptations converge. Legitimised by the participatory process, these adaptations result in the issuance of certificates of possession and the execution of title deeds, both of which substantially increase the residents' housing security. This is achieved through the implementation of specific operations and actions that, while ensuring access to housing and urban rights, seek to adapt

criteria and approaches in a participatory manner in order to conciliate current planning regulations with the built environment.

The study first reviews the state of the debate on land tenure security in Latin America, highlighting the cases of Peru, Colombia and Argentina as representative of three different approaches. Secondly, it records the regularization process carried out in Villa 20, the selected case study. Thirdly, it presents the social, technical and institutional information gathered from the qualitative research process carried out with key stakeholders. Finally, it presents the principals contributions of the participatory process to the ownership regularization process.

2. Theoretical background

2.1 Urban Informality

Urban development is controlled by a set of regulations that establish the characteristics of plots, housing, urban amenities, urban infrastructure and zoning[1]. These regulations ensure that all city dwellers are granted the minimum life conditions. They also determine aspects related to ownership, such as real estate ownership and registration, which includes the owners' right to hold a public deed that certifies them as the rightful owners of the property in the view of society[2].

Anything developed outside of these regulatory frameworks is considered illegal, irregular or informal. The existence of urban informality is a fact that bears legal significance, that is to say, it entails the classification of a specific urban area or a particular property in terms of non-compliance with legal regulations that control ownership relations or the development of urban areas applicable in each case[3]. Some authors argue that informality arises from the operations of a regulatory formal market, in which land supply, prices, and financing conditions make it impossible for a significant part of the urban population to have access to housing. This leaves them with no other option but to seek housing within the informal market[4].

Urban informality is a global phenomenon and can be seen in many metropolitan areas around the world, mainly in the Global South. Far from disappearing, this phenomenon is closely related to the expansion of urban development processes[5][6]. In 2014, the percentage of the world's urban population living in informal conditions was 23%. Currently, it is estimated that one in every eight people worldwide has no access to drinking water, sewer systems and electricity, among other deficiencies[7]. By 2030, the number is projected to reach 2 billion people, and by 2050, it is expected that 3 billion people will be living in deficient informal conditions[8].

In Latin America, at least 23% of the urban population lives in informal areas[9-10]. In Argentina, according to data from the 2010 Census conducted by the National Institute of Statistics and Censuses (INDEC), 14.2% of the country's population is in a situation of irregular land tenure[1]. Additionally, the National Registry of Low-income Neighbourhoods (ReNaBaP) surveyed 5,687 low-income neighbourhoods and a total of 5,280,000 residents [2]. As much as 55% of the low-income neighbourhoods registered had been established before the year 2000, and 26% were created between 2001 and 2010, a period marked by economic collapse in the country[11]. In the Autonomous City of Buenos Aires (CABA,), the population living in informal areas known as 'villas,' grew by 50% between 2001 and 2010. According to the INDEC, the number currently amounts to approximately 200,000 people[12], whereas the city has a total of 3,120,612 inhabitants.

Numerous cities have areas that do not comply with planning regulations and are not part of the formal housing market. These areas lack adequate infrastructure and are exposed to greater climate-related risks. They often present deficiencies in the electrical service, lack of natural ventilation in houses and are vulnerable to both heat waves and floods. Additionally, the residents in these areas are susceptible to diseases as a result of the overcrowded living conditions, the limited access to safe water, and the impacts of climate change.

The figure below (**Figure 1**) illustrates two scenarios for Villa 20. The first one is (a) the initial urban situation, a settlement self-built by its own residents over a period of more than 60 years, and the second one is (b) the goal of the reurbanization process, a result of the participatory design agreed upon by all the parties involved, which guarantees that everyone will have

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1 The survey of informal settlements conducted by the NGO Techo indicates that in the majority of the country's informal settlements, 84% of the cases do not possess a sales agreement.

2 Information based on estimates from the Secretariat for Social and Urban Integration, a division under the Ministry for Social Development of the Nation.

access to urban benefits. The adaptations necessary for Villa 20 to transition from urban informality (a) to urban formality (b) require adjustments in norms and regulations in order to progress. [13].
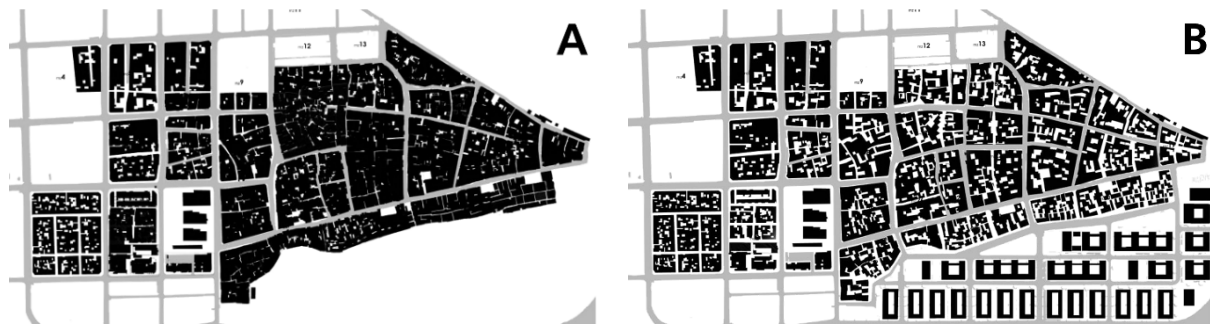

Figure 1. (A). Initial self-built situation, (B). Goal reurbanization plan.
Source: PIRU Villa 20 Coordination Team.

The residents of informal areas or slums lack full rights over the land where they have built their houses, as well as the financial resources necessary to access the administrative and judicial system. The extended absence of legal tenure recognition can hinder provision of formal public services, access to urban infrastructure and the general legal status of the urban residence[14]. Moreover, even though informal settlers do not have rights to the land, they do have the right to be fairly compensated for the buildings they have raised and the facilities they have installed, in case they were to be relocated.

2.2 The Importance of Title Deeds and Secure Tenure

Conforming existing self-built developments to the current regulatory framework in order to achieve full ownership regularization entails a great level of difficulty. Many studies have concluded that title deeds are not really significant, and what actually matters is how residents perceive secure land tenure. It has been demonstrated that the perception of security through administrative processes encourages families to take ownership of their homes and improve them[15]. Nonetheless, title deeds are important for residents since they protect them against evictions and occupations, reduce vulnerability to shifts in political power and facilitate the resolution of neighbour, domestic or inheritance disputes[16]. Additionally, they provide access to credit, serve as a rental guarantee and offer better job opportunities. Possessing a title deed is also advantageous for the city as whole, as it helps stabilise land markets, leading to more rational and

coordinated ways of public intervention. This includes, for instance, delineating the boundaries between private and public property, regularising infrastructure operations and maintenance, and implementing parcel-based taxation[17].

In 1996, during the Second United Nations Conference on Human Settlements, known as Habitat II held in Istanbul, secure tenure was established as one of the two fundamental goals that governments worldwide should actively pursue. Security of tenure was described as an agreement between individuals or groups that grants them the right of access and use to land or residential property. This agreement must be governed and regulated by a legal and administrative framework and a person or household can be said to have secure tenure when they are protected against eviction from their land or residence. It is usually believed that security of tenure entails the absolute individual ownership of a private property, however, it is just one of the many forms that security can adopt[18].

Title deeds or property titles are the result of a legal framework, whereas the administrative instruments that currently acknowledge land tenure are the result of social struggles and agreements with the governing administration[19]. This incremental process requires organisation and active participation and constitutes the steps of the ownership regularization process. Although the ideal goal is the registration of title deeds for each property, during this often lengthy period of time, each step of the ownership regularization process guarantees the security of the residents. The goal is not just the issuance of a title deed, but a combined process of actions that, as they progress, seeks to reduce the risk

of eviction or occupation[20].

Furthermore, it is important to underline that, while the legal recognition of individual title deeds can promote legal security for individuals, it does not guarantee social and urban integration. This can only happen when the process of issuing title deeds is integrated into a series of public policies that tackle the upgrading of urban, housing, sanitary, social and economic conditions.

2.3 The Ownership Regularization Processes in Latin America

In Latin America, different policies have been implemented to regularise urban informality, following two main paradigms:

a. Legalisation of tenure through the issuance of title deeds, by means of a programme or law with specific temporary scope. This paradigm posits that legalisation acts as a catalyst for development, as it promotes access to financing, economic activity and housing upgrading.

b. Integral regularization programmes that combine the issuance of a title deed with the upgrading of public utilities, job creation and the implementation of community support structures in specific locations.

Both paradigms have to face complex socioeconomic, urban and environmental realities, and they deal with multiple legal aspects concerning land and property registration, in addition to financial and urban considerations. During the implementation process of both paradigms, various institutional and social actors interact as they collaborate in the same area or work. Due to the number of different situations in existence, there is no definite answer or universal solution. Evidence shows that successful regularization initiatives must be tailor-made for each informal sector, in particular, and for each country, in a broader sense.

The different approaches that aim to bring a solution to the low-income settlement situation in Latin America have been implemented for decades, such as slums reurbanization or upgrading, regularization or titling, among others[21]. We could name the programmes implemented in Argentina, Colombia and Perú, over the last twenty years. These three countries have followed the major paradigm shifts in housing policies observed in Latin America: the eradication, establishment and integration of slums. However, they have adopted distinct approaches, addressing their own national contexts, which reflects the range of policies implemented in the region. Peru was one of the first countries to grant title deeds on a large scale, while constantly overlooking housing upgrading policies for low-income settlements[22]. Colombia, on the other hand, focused on urban planning and urban renewal, implementing the issuance of title deeds as the culmination of major urban transformation processes. Notably, it was not until the year 2000 that a specific policy to grant title deeds took place. As for Argentina, the country takes a hybrid approach by combining upgrading strategies with the issuance of title deeds for both land plots and residencies[23]. Only recently, Argentina introduced a new intermediate housing certification instrument for the purpose of overcoming the difficulties and delays the issuance of title deeds entails. In all cases, the completion of ownership regularization processes entails numerous challenges, leading to decades of insecure tenure for the most vulnerable parts of the population.

In the case of Peru, the large-scale state programmes of title deed issuance—which had been extensively discussed since the 1990s—promoted the regulation of the administrative procedures for legalising ownership[24]. Nonetheless, these initiatives were not combined with an upgrade of the inhabitant's living conditions[25]. Based on a study conducted in the low-income settlements of Lima, Perú, Ramírez-Corzo & Riofrío (2006) show that a decade after the acquisition of title deeds, these documents have only served to validate ownership, failing to bring a solution to the housing problem. In the settlements where title deeds were granted[26], the precarious housing situation and the lack of infrastructure persist and, according to Calderón (2008), the large-scale issuance oftitle deeds was carried out without taking into account urban, environmental and social considerations[27,28].

As regards Colombia, Law 388 of 1997, the Territorial Development Law (Ley de Desarrollo Territorial or LDT), introduced a 'cascade system', starting with the Land Use Plan (Plan de Ordenamiento Territorial or POT) as the main planning tool for territorial development[29]. It established and defined the planning and urban actions to be implemented by cities in urban and urban expansion areas of the territory by means of Partial and Zonal Plans[30]. The LDT also introduced other planning, land management and financial tools to execute the plan and improve the

living conditions in low-income settlements. As major cities increased their municipal autonomy, they also improved their fiscal strength —through property tax contributions— and their technical capacities for urban planning. This led to the creation of local plans, the strengthening of public utilities, more flexible planning regulations —for instance, allowing smaller land plot sizes—, and a more efficient process of settlement regularization or legal recognition, a necessary step for subsequent interventions[31,32]. It was only in the 2010s, together with the development of settlement upgrading programmes, that a programme for the issuance of title deeds was implemented to address the issue of publicly-owned land plots occupied by social housing, accounting for approximately 21% of the cities' urban land[33].

In the 1990s, Argentina saw the implementation of a set hybrid of programmes that combined the construction of traditional housing with new alternative policies[34]. This period also witnessed the privatisation of state-owned enterprises and services and the application of focused policies. Thus, there was a change of scenery in the way public policies addressed low-income settlements, and local governments tackled the problem via the implementation of various programmes. These included the provision of urban infrastructure, serviced plots, self-built core housing and microfinancing, which were primarily carried out by NGOs throughout the country[35]. Progress was made in matters of ownership regularization and the issuance of title deeds for low-income settlements located on state-owned lands. This was facilitated by the national programme Arraigo and National Law 24374, and others provincial programs implemented, although these measures were of limited scope and secondary importance.

As the 2000s approached, new programmes emerged, providing the funding for integral settlement-upgrading projects in low-income areas. These initiatives facilitated the investments in infrastructure that were required to regularise the resident's situation, such as Settlement Upgrading Programme (PROMEBA)[36], initiated in 1997 by the National Government of Argentina, and Rosario Hábitat (RH), launched in the year 2000 in the city of Rosario, in the province of Santa Fe, becoming the first programme to be executed in the country by a local government. As for the City

of Buenos Aires, large-scale urban transformation processes have been in progress since 2015. They are Integral Reurbanization Process (PIRU) implemented among others in Villa 20.

Furthermore, at the national level, the Secretariat for Social and Urban Integration (SISU)—whose main precedent was the ReNaBap[37]—introduced a significant advancement in the urban integration of these areas, promoting the Digital Formalization Certificate (CeDIF) as an intermediate tool to progress in the formalization and urbanisation of settlements [38,39]. The CeDIF is an official registration certificate for housing units in the Electronic Document Management System, that guarantees secure tenure and grants access to public services until title deeds are issued.

While historical contexts, public policies, and government administrations may have different approaches, all countries aim to progress in the ex-post formalization of the built environment. This involves overcoming multiple barriers in order to turn possession into ownership, providing a solution to the dispute between those who actually reside in the dwelling and those who appear to be the owners on paper. Moreover, efforts are made to rectify existing situations that do not comply with urban regulations, regarding urban, construction, and hydraulic standards, among others.

All obstacles delay the already lengthy process of regularising the existing informal settlements. As the ownership regularization process extends, new obstacles arise. The families living in a residence might vary, for instance, due to the purchase or sale of houses, or because new residences were built on plots already surveyed, or new occupants might arrive at regularised plots, among other possible obstacles. This is why it is important that regularization is not considered only as the individual delivery of titles, however long it takes, but as a tool within an adequate technical, legal, financial and urban planning framework, with the objective of achieving social and urban integration in low-income settlements.

3. Material and Methods

3.1 Case Study Description

3.1.1. Process-project and participation as a framework for ownership regularization

The ownership regularization process of Villa 20 takes

place within the framework of a participatory process that provides a platform for building consensus. This type of agreement is necessary to guarantee and facilitate progressive urban upgrading and ownership transfer to all the residents[40].

In Argentina, depending on the type of political or administrative agency, the responsible for the ownership regularization process are local or municipal governments and the City of Buenos Aires. In the case of Villa 20, the City Housing Institute (IVC) is the agency in charge of implementing the PIRU, regulated by Law 5705, which was passed in 2016[41]. This law regulates the participatory process for the reurbanization of Villa 20, as well as the special regulatory aspects for its urban restructuring and regularization[3](**Figure 2**).

Figure 2. Villa 20 localization, City of Buenos Aires, Argentina, Latin-American.
Source: PIRU Villa 20 Coordination Team.

This participatory process is based on a 'process-project' planning model, in which the desired results of the intervention are not always fully defined from the beginning[42]. Instead, they represent a goal that guides all actions, allowing for modifications along the way in both the path taken and the strategies employed[43]. For this purpose, the process follows two main guidelines. Firstly, it recognises the built environment created by the residents as the starting point for the reurbanization process and progressive upgrading. Secondly, it guarantees the exchange of knowledge to inform decision-making and to collaborate with PIRU (involving the community, social organisations, government agencies, etc.) in the generation of structural changes at various levels. This model has an intersectoral, interdisciplinary, and collaborative approach, with the capacity to create a greater impact and modify deeply rooted practices.

3.1.2 BOX 1 Villa 20. participatory platform

Participation is instrumented through a set of devices that seek to strengthen the interaction among different social actors at various levels of complexity. These mechanisms are designed, modified and adapted to create a process of dialogue and decision-making that takes into account all the actors participating in the process, and and guarantee the exercise of rights, transparency and the sustainability of short, medium and long-term processes[44].

The set of devices developed (**Figure 3**) is flexible and horizontal in nature; as it adapts to the process-project and does not constitute a hierarchical structure. Conversely, it seeks to promote different forms of participation, according to the nature of the issues addressed and the actors involved. These devices include both informative spaces and instances of joint management. Each device adapts to the different stages, steps and scales of the reurbanization process.

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[3] Villa 20 has been the focus of various partial intervention by both national and local government. In 2016, an Integral reurbanization process (still in force) began, with a strong participatory platform that supports the reurbanization process. In 2016, there were 27,990 inhabitants, constituting 9,1116 families that lived in 4, 559 residencies. The census conducted by the IVC in 2016 showed that 24% of the families were tenants, 63% were young people (under the age of 29), 70% of the households had ground floor and first floor, 90% had access to basic utilities under deficient conditions (illegal connections), and most of them were built using good quality materials (IVC, 2016b)
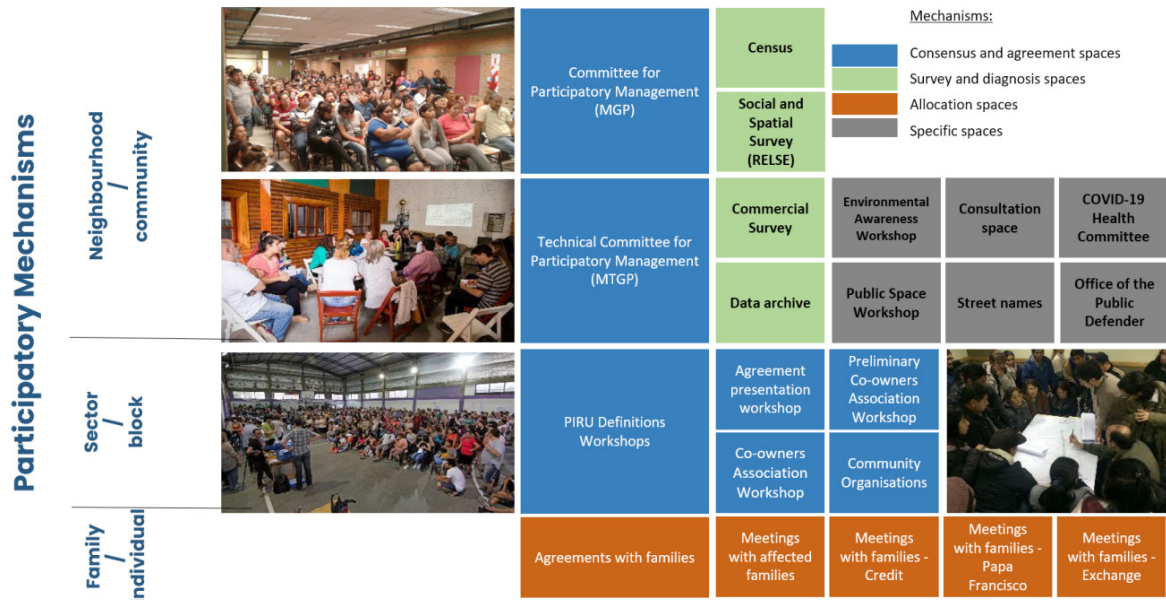
Figure 3. Participatory diveces

The spaces of participation are designed to support the neighbourhoods of Villa 20 throughout the 10-step process of social and urban integration and upgrading (**Figure 4**). The Participatory Management technical table (MTGP) serves as the central space for defining the ownership regularization process. It is integrated by representatives from different government agencies, and social leaders from different political groups present in the settlement–such as Espacio de Encuentro Territorial, Frente de Integración Social, Mesa Activa and Unidad Vecinal-. Periodically, members from the academic field and NGOs collaborate and provide their advice.
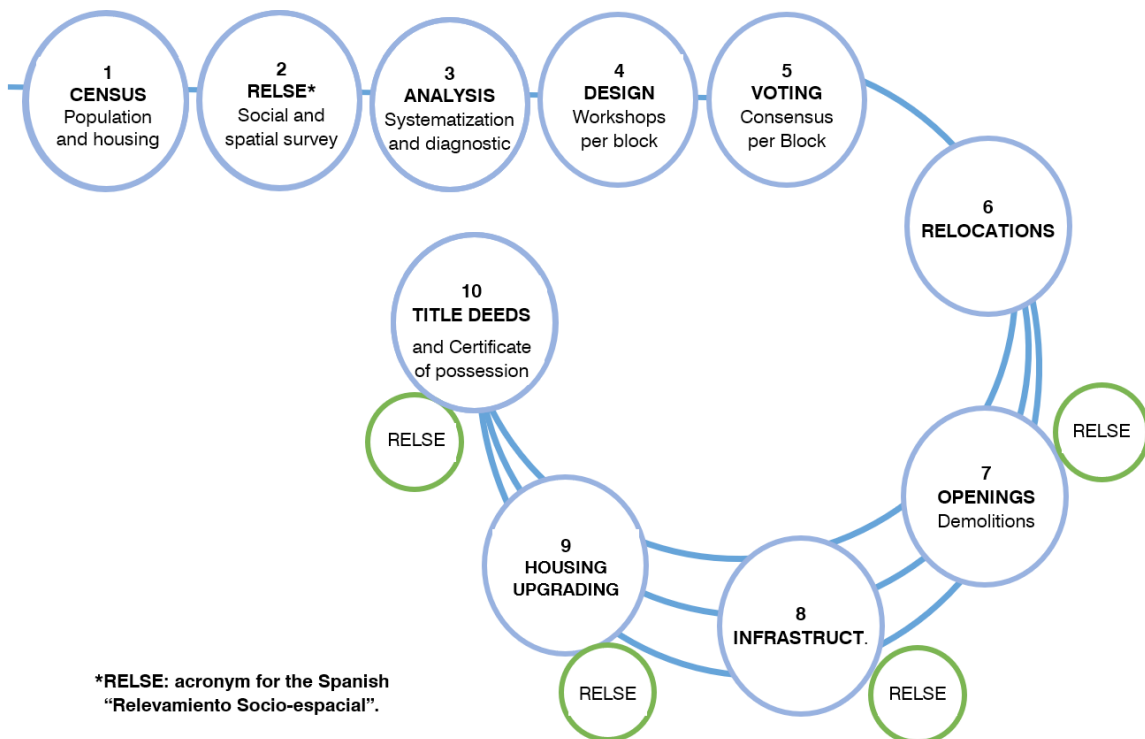

Figure 4. Participatory devices and steps of the Reurbanization Process of Villa 20.
Source: PIRU Villa 20 Coordination Team.

The participatory platform is the foundation for each of the stages of the intervention process in general and of the ownership regularization process in particular. This intervention begins with the opening of streets and alleys, the constitution of free areas to generate future "patios" or small yards, and the provision of infrastructure[4]. In order to create openings and free space in each block, it is necessary to build new housing to ensure the relocation of those families that occupy the spaces to be freed. At the same time, as a result of collective construction, the ownership regularization operations are defined. This involves the registration of title deeds and the issuance of certificates of possession, as well as the allocation criteria for homes within the historical settlement.

The reurbanization process supports the ownership regularization process and the gradual formalization progress through all of its stages: a. ownership, which must be registered by the legal responsible for the PIRU, b. block plan, once that streets and alley have been created, c. subdivision of each block into individual plots and horizontal property, once that patios have been cleared and families have agreed to their formation, and d. issuance of title deeds in favour of the residents.

New actors intervene in the ownership regularization process, such as the Cadastre Department, the Land and Property Registry, the Revenue Department and surveyors. Typically, none of them takes place in the intervention of low-income settlements, nor in the rationale behind the participatory process-project.

3.1.3 Systematization of the ownership regularization process of Villa 20

The aim of the ownership regularization process of

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[4] Due to its characteristics, dimensions, and context, the PIRU of Villa 20 is a complex intervention that requires a high degree of coordination among the various participating agencies and a methodological strategy designed and agreed upon by the local actors involved in the process. Over the course of 6 years of intervention, the PIRU has successfully relocated 1416 families to new homes. This relocation facilitated the demolition of 16% of the existing housing units within the historical settlement, allowing for the opening of 4 streets and 10 alleys. This enabled the completion of 70.03% of the infrastructure work—which includes the provision of drinking water, sewer service, drainage and electricity systems—and the connection of one sector of the settlement to the public water supply system.

Villa 20 is to gradually issue title deeds for every household in favour of the families living in the settlement. This implies a complex, multidisciplinary process that takes into account institutional, technical, legal and social aspects. It also requires government entities and community members to work together in a cross-disciplinary way.

Although the regularization process is complex, it can be outlined in five major stages, for the purpose of presenting a clear description: a. ownership and cadastral regularization at a macro level, b. subdivision into blocks, c. parcelling, d. survey plan for each housing unit in horizontal property (PH) where applicable, and e. issuance of title deeds (**Figure 5**). The first and second stages involve surveying the polygons that constitute the settlement, drafting the corresponding plans, and transferring ownership to the entity responsible for implementation. In the subsequent stages, progress depends, to a large extent, on the execution of a set of technical and social actions in the area.

It is important to consider the technical and social work that takes place prior to the issuance of title deeds for each household, as this is not always reflected in the plans, programmes, and budgets addressing the regularization processes in low-income settlement. The final issuance of title deeds for existing housing units entails not only surveys and physical adjustments, but mainly social agreements and consensus-building for the process to progress. These can only be achieved based on accessing information on each family, the transferring of knowledge, and trust-building in the reurbanization process. In this sense, the participatory platform provides the support for these agreements to advance.

The sectors of Villa 20 to be regularised have different characteristics: a. Cooperative sector, comprising 10 blocks owned by Cooperativa 25 de Marzo, b. Consolidated sector, encompassing 4 blocks which, through different government administrations, reached development regularization (opening of streets and infrastructure), c. Historical settlement-sector, comprising 16 blocks with no planned development interventions by the state until 2016 (**Figure 6**). [5,45]

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[5] For further information on the context of Villa 20, see Motta, J. M., & Almansi, F. (2017).
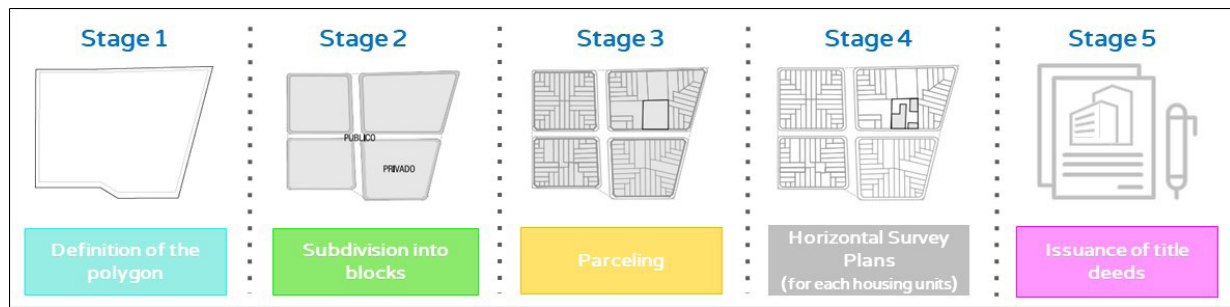
Figure 5. Stages of the regularization process of Villa 20.
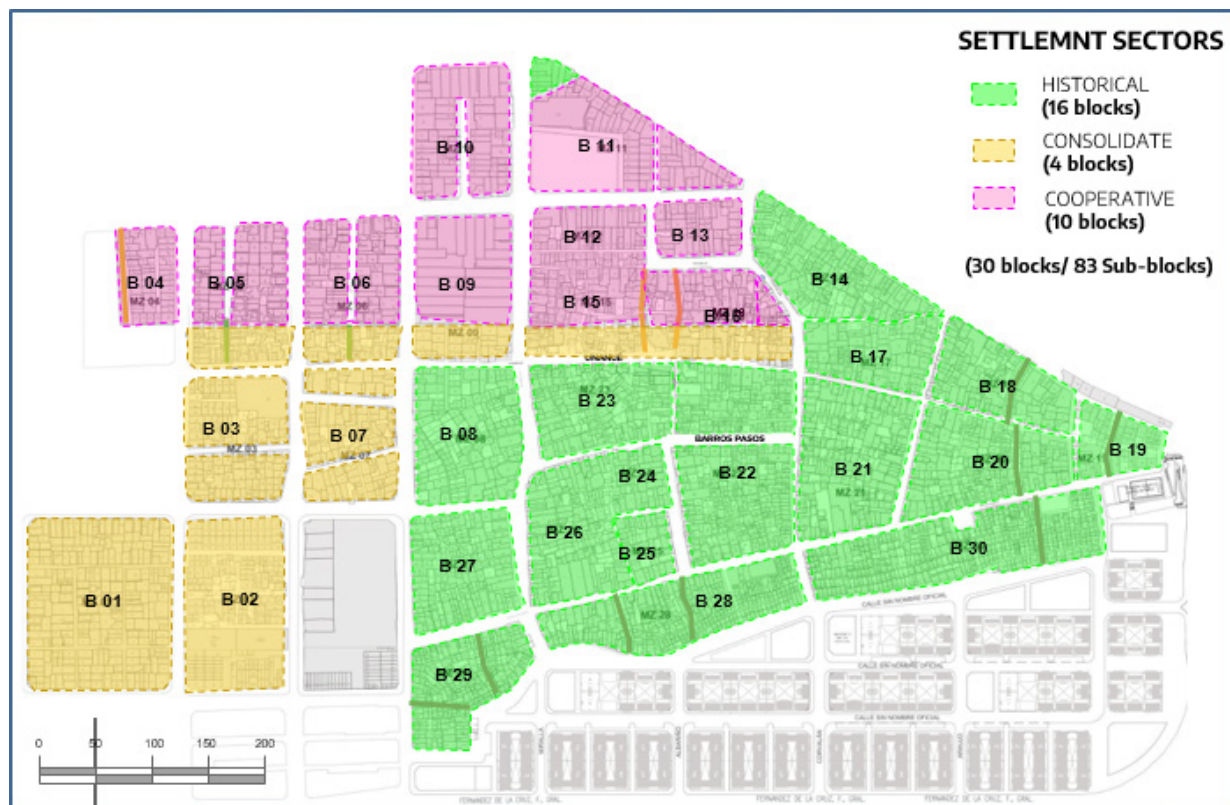Source: PIRU Villa 20 Coordination Team.

Figure 6. Urban-ownership sectors in Villa 20.
Source: PIRU Villa 20 Coordination Team.

The social and territorial approach to the ownership regularization process in Villa 20 entails interacting with the 9,200 resident families at different scales (individual, per condominium or horizontal property, per block and at a settlement level). Each of the actions is strictly related to the advancement of the urban planning developed within the PIRU. **Table 1** shows a detailed description of the actions that make up each of the stages and their interrelation with the advancement in the physical transformation of the settlement.

Table 1. Stages of the Ownership Regularization Process

STAGES	TECHNICAL AND SOCIAL ACTIONS
Stage 1: Title and cadastral clearance (macro level) and ownership transfer to the sector in charge of the reurbanization process	
- Define the ownership polygons that form the settlement. - Survey the polygon and the existing paths. - Carry out the analysis of titles and record gathering. - Draft and register the polygon's plan project.	

Continuation Table:

STAGES	TECHNICAL AND SOCIAL ACTIONS
- Decree of transfer to the relevant organisation. - Plans record and title transfer.	
Stage 2: Subdivision into blocks	
- Once the design for public space has been freed through relocations and demolitions, draft the block plan project. - Draft the block plan. - Register and record the block plan.	- Construction of new housing. - Social and spatial survey of every housing unit and resident family. - Participatory resolution of the transformation of each block (opening of streets, passageways and patios). - Resolution, in participatory workshops, of which families are to be relocated into the new housing units. - Relocations and demolitions for the opening of streets, passageways and patios.
Stage 3: Parcelling	
- Update the technical verification of the existing structures. - Adjust the parcel plan project considering existing structures. - Carry out the works for the adaptation of functionality to the plots or housing units. - Survey the parcels. - Draft the parcel plan. - Register and record parcel plans.	- Training and sensitisation of the resident families on the topic of ownership regularisation. - Update of the social and spatial survey of each of the recipient families and the existing housing units - Physical adaptation of the housing units to prepare them for subdivision (by means of improvements). - Definition and consensus on the plot and housing units distribution with the resident families in the different sectors of the 30 blocks. - Settlement of conflicts arising from the clash of interests within families or between different families who co-own a horizontal property space. - Adjustment of the final subdivision survey plan.
Stage 4: Horizontal survey plan of each housing unit for horizontal property (PH by its initials in Spanish) plots	
- Devise the operation procedures and carry out preliminary co-owners association workshops with PH residents. - Draft PH plans. - Register and record PH plans.	- Training and sensitization of the resident families on the topic of horizontal property subdivision. - Participatory consensus process for the regulation of the ownership regularization operation. - Agreements between families residing in housing units which share a PH plot. - Physical adaptation of the housing units to prepare them for subdivision (by means of improvements.) - Execution of PH agreements.
Stage 5: Issuance of title deeds (allocation per family)	
- Prepare and approve the title deed operation. - Gather data and documents necessary for the issuance of title deeds. - Execute title deeds.	- Training and sensitization of the resident families on the topic of issuance of title deeds. - Participatory consensus process for the regulation of the title deed operation. - One-on-one work with each recipient family with the aim of gathering documentation and solving intra-family interests. - Carry out the housing allocation. - Carry out the preliminary co-owners associations workshops and define the PH condominiums.

Source: PIRU Villa 20 Coordination Team.

While these five stages are consecutive, they might be implemented differently in each of the settlement's sectors, depending on the history and degree of consolidation, on the partial interventions carried out previously and on the different ownership sources within the polygon. At the beginning of the reurbanization process (2016), a large percentage of the historical settlement lacked ownership, as it did not reflect the registration, cadastral and physical situation of the sector. Currently, out of the 30 blocks that comprise the settlement, 2 are in the process of being transferred to the IVC, 18 blocks belonging to the historical settlement have recently been incorporated to IVC, 8 blocks' subdivision into parcels has been approved, 3 blocks are in the process of being subdivided into parcels and 123 plots have a title deed. In addition, as mentioned above,10 of the blocks belong to the Cooperative sector, 7 of which are in the last stages of the block and parcel subdivision. The approach in this sector is different, considering that the transfer of ownership happens between Cooperativa 25 de Marzo and its members.

Once the ownership regularization process is completed, the 30 blocks will be subdivided into 83 sub-blocks, with the opening of pertinent streets and alleys. The figure below shows the current stage of the ownership regularization process (**Figure 7**).

Figure 7. Ownership diagnosis plan, 2023.
Source: PIRU Villa 20 Coordination Team

The plot divisions to be performed were decided in the per-block project design participatory workshops, in previous stages of the reurbanization process. In these workshops, the intervention projects for each block were developed collectively; they involved the opening of alleys and inner-block patios, as well as the design of the plot diagram (**Figure 8**).

A   B

Figure 8. Project for block n°16: A. Results of the survey of existing living conditions, B. Agreed-upon reurbanization project.
Source: PIRU Villa 20 Coordination Team

In each of the settlement's sectors there are housing units and parcels with deficiencies in terms of consolidation, which also invade public space or a neighbouring plot, or are waiting for patios to be freed, etc. These plots, not fit for title issuance, will have to wait for the necessary adaptations to be carried out, so as to comply with current regulations. In these cases, a certificate of possession is issued as a provisional

title that secures tenure until the issuance of the title deed. In order to diagnose the current conditions of the housing units, the MTGP created a "traffic lights" matrix whereby green parcels are fit for title issuance, yellow parcels require minor interventions to achieve title issuance status, and red parcels require major interventions.

The approach to ownership regularization comprises 5 specificity areas:

a. Land surveying, consisting of the preparation of survey plans (block plan, parcel plan and PH) for the settlement's sectors already intervened by the opening of streets and passageways;

b. Socio-territorial, pertaining to sensibilization and awareness-raising about the community's ownership regularization, and micro-scale monitoring of every block and plot with the aims of parcel consolidation, forming of PH plots, settlement of conflicts, and articulation and interdisciplinary approach to address such situations as gender violence, migratory issues, etc.

c. Technical-territorial: adaptation of housing units and plots in order to enable the subdivision into parcels.

d. Communication through different channels aiming at conveying knowledge about the regularization process and the rights and obligations of the title-issuance process.

e. Legal, pertaining to the transfer of ownership and the issuance of titles.

The 10 components that structure the ownership regularization process are:

1. Operation for the transfer of ownership of the historical settlement's established housing units: it is a fundamental regulatory instrument in order to move forward in the definition of criteria and in the ownership regularization processes. The operations were designed in the MTGP.

2. Participatory workshops per block seek to provide information and address queries regarding the ownership regularization process.

3. Socio-territorial approach per housing unit with regular visits and in situ interviews with the families that are going to be granted title deeds. The teams provide advice about building regulations and their compliance, recognise the plot's private and common spaces and answer particular queries. In horizontal property plots —which share common spaces— the teams and the families devise the rules for coexistence.

4. Technical assistance for plot adaptation with a technical team, support and advise neighbours regarding the adaptation of structures to the building regulations in force. In addition, a draft of adaptation to regulations is devised.

5. Communication piece that explains, in a clear and didactic way, the information concerning the ownership regularization process. It is distributed to every family.

6. Parcel diagnosis: not all parcels are in the same conditions to be regularised. Based on technical and social diagnoses, different variables are analysed: the need for interventions in the parcel in order to constitute the PH, infrastructure connections, habitability conditions and the invasion of public space.

7. Allocation of patios: inner-block areas which have been freed are used to generate patios which can be allotted to individual plots or to several housing units. The technical and social team, in consensus with the families, officialises the handover of patios. This is a key step in the definition of the plots to be regularised, since it enables correct ventilation of the housing units and compliance with the urban regulations.

8. Block and parcel diagrams: based on the survey, openings, creation of patios and definitions at a parcel level, the preparation and record of land-surveys comprising subdivision is performed, along with the cession of thoroughfare for each block. The land-survey plan is a fundamental milestone in the advancement of the ownership regularization process. In order to take the measurements, both for the parcel and the PH plans, the land surveyor needs to enter the housing units. This requires coordination in advance with the family and the social team. Once the plans are finished, the administrative procedure for their record and register begins.

9. Placement of plates for parcel numbering: in order to assign the street number plates, a preliminary territorial survey is carried out, with cadastral validation of the georeferenced plan of doors and numbering proposal.

10. Issuance of title deeds: work moves forward in those plots legally fit for title issuance; required administrative documents are gathered.

The set of components is implemented in different stages in each of the settlement's 30 blocks, depending on the level of progress of multiple factors, such as the

opening of streets and alleys, the development of urban infrastructure, the creation of patios, the agreements on individual and PH plots, the habitability state of the housing units, the intra-family agreements, etc. It can be noticed that a number of organisations and institutional areas take part in different stages of the process; not all of them are acquainted with socio-territorial work.

4. Results and Discussions

The actors involved in the ownership regularization process in Villa 20, found solutions for what was not built in accordance with planning regulations, identifying the obstacles present in the process. Social organisations, public servants, and scholars interviewed have been actively involved in the decision-making process bridging the gap between the informally and regulations. They have all been actively involved in the participatory processes form the first moment, from different roles: territorial, legal or technical management, or as members of the different social organisations, which allows them to have complementary views. At the time of the interview, all the actors were working on defining the operations for the transfer of ownership —title deeds and possession certificates—, instruments that rule the criteria for allocation. The main points that were discussed concern the pertinence of issuing property titles for housing units that do not meet the building standards or that invade neighbouring plots and/or public space, as well as the definition of the criteria to be eligible as a recipient taking into account register situations in the 2016 census, certificate of current residence, inheritance, among others.

First of all, it is important to position the actors from the point of view of the objectives pursued by the regularization process in Villa 20. This assessment and their role in the process highlights the obstacles and benefits identified. Complementary perspectives are provided, highlighting the recognition of rights, the formalization of possession and integration into the city's urban infrastructure:

The objective is to "formalise the residents' habitat, acknowledge their history in the settlement and give them the opportunity to formalise. The biggest step is the title deed, but to achieve formalization of the block plan is also key. Regularization is the final step

of the reurbanization process. We ask for the State to acknowledge residents as legal persons who have the right to adequate housing and for people to be informed about this" (Interview with the territorial team from the city government, 2023).

"The goal is to bring urban formalization to the settlements, to be able to have streets, basic services, doors numbers. To be a part of the city. Regularization is yet another layer of urban formalization. For the residents, to have a title deed means a big change, they stop being occupiers and become owners, and to become an owner in Argentina you need possession and a title deed" (Interview with the Director of Ownership Notarial and Condominium Regularization from the city government, 2023).

"A cultural change of mindset that makes it possible to establish what is public and what is private. You can pay municipal tax and have access to water and sewers, transportation, firemen, ambulances, police. To be able to have an address. In my opinion, the final step is the title deed, which states: this is public, this is private. It is indisputable, both for the state, which needs a register of all the real estate, and for each family" (Interview with the Land Surveyor from de city government, 2023).

"The title deed is the final step of the reurbanization process. It does not come before homes are liveable and all public services are ensured. After leading a life in which most of your rights have been abused, the title deed needs to guarantee a liveable home. We are deeply affected by the process, we have a specific posture, and every one of us is going to bring what affects them or what they know" (Interview with a member of social organization N°1 taking part in the Technical Committee, 2023).

"It is clearly stated in the law, what could be done in Villa 20, even if fellow residents may have different opinions, this is our land and, beyond ideology, we have a goal. The title deed is essential because it dignifies the families. And if something happens to the father, the mother feels safe because she knows she cannot be invaded, because that is her habitat, her home. It is a guarantee that your home is yours" (Interview with a member of social organization N°2 taking part in the Technical Committee, 2023).

"It is all about adding value to tenure that residents have held informally for so many years, from which

they have suffered evictions. Residents themselves have developed the places in which they live, and the last stage is to regularise the land. Land has an owner; it belongs to someone. Ownership is the ultimate right in rem. ¿Why regularization? Because we are regulating that which belongs to residents, but not just now because we give them title deeds; it already belonged to the residents because they had been regularising their settlements and making adaptations to inhabit them. They developed, built their homes, lived and now need titles that state that they are the owners and make them feel safe" (Interview with a member of social organization N°3 taking part in the Technical Committee, 2023).

The results of interviews are present highlighting barriers and benefits of the ownership regularization process in Villa 20, from the different specific topics involved such as political, legal, institutional, technical and social. The multiplicity of factors that have a bearing on the progress show the complexity in achieving the aim of title issuance for all the housing units.

4.1. Barriers of the Ownership Regularization Process in Villa 20

The main obstacles in the implementation of the regularization process, identified by the inquired actors can be organised in categories as follows: information, social aspects, management aspects, technical limitations and political limitations (**Table 2**). However, it is information, and lack thereof, the category which underlies every obstacle referred:

Table 2. Obstacles in the Ownership Regularization Process in Villa 20

Obstacles	Description
Information	-Mistrust as a result of the lack of information. Regularization is a long process, entailing diverse measurements inside the housing units in different stages. The lack of knowledge about the different stages of the ownership regularization process leads to mistrust. -Lack of information may lead to situations such as a resident signing a wrongful title deed and becoming a potential victim of a real estate deal; of someone coming and offering him very little money and him accepting, intending to buy some place cheaper in the province of Buenos Aires. But in reality he will not be able to afford anything or if he does, it will be something without a title deed and whose legal conditions will be unknown to him.
Social	-Intra-family conflicts regarding inheritance rights or the designation of title holders, which are not settled among the family members. -Lack of gender perspective; address of gender violence issues. For instance, a man living in the front house within a PH plot blocked the way to his female neighbours who lived at the back; he built a wall, he closed the door with a key.
Management	-Lack of human resources; difficulty in finding land surveyors willing to work in low-income settlements. There are not many land surveyors, they are generally in high demand by the private sector, and it is not usual for them to be acquainted with the work in low-income settlements. -Simultaneity of processes: overlapping of different actions of the reurbanization process. Different stages occur simultaneously: relocations, building of new housing units, creation of patios, improvement of housing units and measurements for the preparation of the block plans. Measurements may progress while moves or yard creation are pending. Simultaneity of processes along with regularization may produce confusion and resistance among families.
Technical	-Lack of knowledge about the technical differences between forming individual plots and horizontal property plots —horizontal property, in turn, is confused with a kind of condominium that limits the independence of each owner, of which there have been experiences in Villa 20. -There are obstacles in entering the housing units in order to take measurements to draft the subdivision plans and the horizontal property plot plans. Families often refuse to let surveyors inside. They do not know them, since they are new actors in the process. In order for them to be able to enter and take measurements, a lot of people have to have talked to the families beforehand.
Political	-The political dynamics are an obstacle; there are voices that produce fear, mistrust. Complex words are quick to produce confusion. There is a need to simplify the technical concepts and when other voices get involved they produce fear and insecurity. It is not easy to debunk myths. There is a constant need to prove that what is being done is for the settlement's sake and is a step forward, and there always arise voices that push backwards. This produces frustration in the work teams as well.

Source: Developed in-house based on interviews with members and participants of the process.

Information and limitations imposed by technical language in the regularization process are barriers when trying to communicate the community the steps to follow. Social leaders highlight it as follows:

"Before this process, I had no idea of what ownership regularization meant, it is hard to understand. Now if you speak of title deeds it is different; you know you are the owner of your house when you have the title deed; I only learned it when I had my house —2 or 3 years ago—, before that I had no idea". (Interview with a member of social organization N°3 taking part in the Technical Committee, 2023).

"Neither had I. No one living in the settlement's informality knows about that. I have lived in Villa 20 my whole life; I am 40 years old and I have never had any paper that certifies that the house is my house; that worries me. In this place, there is squatting and justice does not support you. It took my dad many years to build the house". (Interview with a member of social organization N°2 taking part in the Technical Committee, 2023).

"Consider yourself lucky if, after a meeting, 4 people have understood what horizontal property is, or what a plot is; it is very complicated. And it is us that first need to understand it to be able to bring it to our neighbours who are not as much into the topic". (Interview with a member of social organization N°3 taking part in the Technical Committee, 2023).

"They understand its purpose —I am not an owner unless I have a title deed. They kind of know that the slum is informal, that they own their houses and there is a legal issue that they solve by having a title deed, but of all the technicalities, they have no idea. They do not understand what a plot is, what horizontal property is, what a subdivision is. It takes a lot of work". (Interview with a member of social organization N°2 taking part in the Technical Committee, 2023).

Clear information and alternative approaches are key in order to be able to advance in solutions that provide intermediate instruments that ensure housing tenure while the conditions for the delivery of the definitive title are being adapted. The participatory platform guarantees the dissemination of information for decision making

4.2 Benefits of the Ownership Regularization Process in Villa 20

The obstacles bring to the fore the complexity of the process, especially the socio-territorial complexity. In every account there is an emphasis on the scarcity of knowledge regarding all the steps needed to reach the goal of the title deed. In a way, the obstacles also offer an explanation as to why steps take so long to be completed: multiple surveys, street openings, adjustment of plots and housing units, information required to make decisions, family conflicts, etc. However, it is important to note that not one obstacle poses the impossibility of reaching the goal of the issuance of title deeds. This becomes even clearer when contrasted with the benefits identified by the inquired actors, who chiefly highlight that ownership regularization represents a big step forward in terms of social integration and tenure security (**Table 3**).

Table 3. Benefits of the Ownership Regularization Process in Villa 20

Benefits	Description
Social Integration	-To have an address, associated with finding employment. To name the street and be able to identify the address in Google Maps. -Expansion of rights, security for the family and their descendants. Also, holding property changes the way of taking care. There arises a social responsibility. A father can be the guarantor of his son's rental. -The fact that it is called a slum is stigmatising, even if you can show that you are an owner, who pays taxes, votes and takes care of the city just like every other citizen. But we are expected to be constantly proving that we are capable. -Squatters know that they are, but now you can resort to justice because you have rights, you have a paper which is the title deed. -Inclusion, for everyone to have access to utilities and a title deed. The possibility to stop being an outcast. -When laying a brick, one is thinking of tomorrow, and the title deed allows you to say "this is mine", I have a paper that proves it and no one can do improper things inside my house. That entitles us to the same rights as every other citizen. Without that, anyone could bring your door down.
Legal	-The State has a better register of things concerning ownership and cadastre, and there is progress in formalising what is being physically transformed in the settlement. If formalization falls behind, that is sure to entail future obstacles. -In the cooperative, we have been working with the residents for years. Everyone knows it is the main goal and no member is afraid of losing their home. For instance, there is a member of the cooperative whose house has been occupied, and she is waiting to have the title deed so as to take legal action against the squatter. Members become title holders, even if they are not currently living in their houses because they have been occupied.

Continuation Table:

Benefits	Description
Security	-Granting people security over land rights is essential. It is not just the little piece of soil in which their house is built, but also a right to the land, to habitat and to the city. Residents need to be included in the city's general plan. Right to the bus, to security, etc. -Law enforcement agencies feel free to do as they please because it is a slum. Most cases of trigger-happy behaviours take place in slums, and that is also a consequence of informality. -Families are vulnerable, not having papers as required by the law. There are forceful entries in which they break everything, and if afterwards they find out they were mistaken, they pay for nothing. Outside the slum, if they break your stuff upon a wrong order by a judge, they compensate you for what gets broken. Here nobody makes reparations. Outside, you can have a lawyer and they will have to pay. That helps you become less vulnerable. And you live without worries; having a title you are safeguarded. -The recognition is essential because it dignifies the families. And if something happens to the father, the mother feels safe because she knows she cannot be invaded, because that is her habitat, her home. It is a guarantee that your home is yours.
Economic	-To have assets. When you ask for a loan or anything they ask for an electricity bill, and this and that, and if you do not have those things, you are out, you do not have tools. Your children want to rent and there is nothing you can do. Formalization helps you to have more rights, because you can show that you contribute. We contribute in a different way, through unappreciated work; everything falls under the umbrella of informality. But when you make a contribution, you exist and you can demand that your rights be recognised. -If you made a great effort and managed to build a nice house in a slum, it is like having a stolen car, because it may be very nice but it has no papers. And the house you built with great effort, one brick at a time, does not have value as it would if it were anywhere else in the city. It is made with the same exact bricks, the same exact plaster, but the value is lost because it is built in a land which is not yours. But time makes me the owner too, because I have been there for 30 years, I am 63 now and do not have the title yet.
Formalization	-When chaos gives way to a sort of orderly state, it is beneficial for the people living there. To be able to open streets for vehicles, water and sewers —everything tends to improve your situation. As for coexistence issues, it is going to take time, it will not change in 1 or 2 years —to change people's mindset, to create regulations, and for the State to help the people coexist in better terms, and to have a record of the works that are carried out. -There is a huge divide between the formal and the informal city. If you are in the city and want to upgrade your house, you set the sign and the dumper truck and that is it, and the State has means to detect clandestine constructions. In informality contexts, the State has renounced entirely. -The fundamental change in the State's position today is saying "ok, this has to be done in a participatory committee". For all its difficulties, it is better than the State making unilateral decisions as it was before, which was the reason for things not to move forward. Processes take longer but are more sustainable in time, and people have to give their opinions. This way, changes are more institutional and less exposed to the decisions of a specific government administration. Now, administrations may change but the committee remains the same.

Source: Developed in-house based on interviews with members and participants of the process.

The benefits identified refer mainly to the impact of having a home or employment, not suffering stigmatisation, accessing urban services or formalization, and defending oneself from the threat of occupation or destruction of housing. These benefits do not only require obtaining title deeds in order to be achieved. The inclusion in a redevelopment process and the advancement of the steps towards the formalization of blocks, lots and streets, gain rights. Another important point to highlight is that in all cases the regularization process is identified as one of the stages of the reurbanization process, and is intrinsically linked to it:

"The opening of streets which is fundamental for the development of infrastructure, but it is so too to draft the block plan. They tend to be seen as segmented actions, but they share a common goal". (Interview with the territorial team from the city government, 2023).

"You cannot think of regularization without considering the associated reurbanization process. They go hand in hand, formalising the physical transformations of the settlement —the block, the parcel, the housing unit". (Interview with the Director of Ownership Notarial and Condominium Regularization from the city government, 2023).

"To regularise is to go from irregular to regular, and if you consolidate that which is extremely irregular, I am not sure whether you are regularising". (Interview with the Land Surveyor from de city government,

2023).

"The reurbanization process consists of adapting the housing unit in the best possible way for it to conform to the building regulations and be formalised. Before, it was not possible to register plots located in slums; it is a change of mindset as well. The ordinance by Cadastre did not change, but it was superseded by more up to date regulations which are the slums-reurbanization laws, and now Cadastre understands the situation in a different light, and the plots, now protected by law, can be registered". (Interview with the Land Surveyor from de city government, 2023).

5. Conclusion and Challenges

The study outlines the challenge and approaches of ownership regularization processes in informal settlements carried out in Argentina and other representative countries in Latin America, which serve as a framework to understand the current process in Villa 20. After 40 years, the percentage of the population living in informal conditions continues to grow, and policies have not been able to respond to the formalization of informal settlements. Although academic debated and the majority of governments supporting regularization programs, the growth of informal settlements remains a barrier to the development of cities.

The necessary adaptations that the regularization process undergoes in Villa 20 to achieve urban formality, as in many other informal areas in cities, require physical and regulatory transformations, in addition to the availability of resources. A multitude of factors influence this progress and demonstrate the complexity of issuing titles deeds for all housing units.

The process faces political, legal, institutional, technical, and social barriers, which are important to consider in order to advance in overcoming them. The appropriate mechanism involves having a set of tools specifically tailored to the socio-territorial dynamics within the current regulatory framework, progressively ensuring the issuance of tenure certificates and titles deeds.

In Villa 20, the ownership regularization process begins with the opening of streets and alleys, the construction of new housing units for the relocation of families, the release of space to form individual and horizontal property plots, and the provision of infrastructure, among others. Intermediate steps, such as the registration of the block plan and subdivision plans, represent a significant step towards regularization, considered beyond individual security as a process of social and urban integration on a large scale.

Ownership regularization is identified as one of the stages of the reurbanization process, intrinsically connected to it, adapted to the socio-territorial and institutional context, and linked to progress in the urban planning of the settlement. Villa 20 shows that the challenge lies in designing an urban formalization process based on demand, supported by appropriate legal instruments and incorporating participatory urban management devices.

The access of families to information, the transfer of knowledge, and the construction of legitimacy in the regularization process are the main challenges. The issue of information, along with the multiple simultaneous urban adaptations required by the complex regularization process, constitutes a barrier that can only be overcome with the active participation of all stakeholders, to steadily build the coherence and consistency necessary to legitimize the process. Collective decision spaces progressively build a shared vision and allow the advancement of the regularization process.

The study allows reflection on the socio-territorial challenges presented by the lengthy processes of ownership regularization in informal settlements and lays the groundwork for a debate on new instruments to overcome the remaining obstacles. Regularization processes embedded in participatory platforms are a possible path to advance in the integrated and inclusive development of cities. The research aims to advance in the design of a protocol for action in the regularization of informal settlements, including new instruments, a necessary tool to adjust policies in the new urban agenda.

Acknowledgement

Conflict of Interest

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