

Master plans and urban ecosystems: How the poor transform land-use from rigid into organic - A case from Colombia

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Abstract

In recent years, many Latin-American states have been increasingly involved in the provision of subsidized housing for the urban poor. These housing projects are usually implemented in forms of massive master planned estates located in urban peripheries. The focus on quantity of housing units built, as opposed to the good location, connectivity and functionality of the dwellings, impedes access of the residents to income-generating opportunities and reduces their socio-economic mobility.

This paper analyzes how residents in one of such social housing complexes –Villas de San Pablo in Barranquilla, Colombia—adopt and respond to these challenges in their own, informal ways. Building on empirical data obtained from interviews, observation and an enumeration survey, the author explains how the lack of jobs and economic opportunities in the area motivated many of the dwellers to convert their houses to accommodate different income-generating activities. Thus, this paper documents how a master planned project and its land-use transform from a strictly a-controlled into a diverse and organic urban ecosystem. The author argues for an urgent revision of the planning practices, inflexible zoning bylaws and outdated design principles that shape these “modern” affordable housing projects.

Keywords: Land-use planning; Informality; Social housing; Urban poor; Livelihood; Latin America

1 Introduction

With around 80% of its population living in cities, Latin America is the most urbanized region in the world. Some of the common characteristics of its urban areas are income inequality as well as informality in housing and employment. It is estimated that close to half of the working population in the region's cities are employed informally ([International Labour Organization, 2014](#)) and at the same time, anywhere between 25 and 50% of Latin American families live in informal, substandard and/or deficient housing ([UN-Habitat, 2011a](#)).

In response to the prevailing issues correlated with poverty and inequality, numerous states in the region have more recently shifted from the neo-liberal policies of the 1980s and 90s in exchange for an increased focus on social welfare ([Barrett, Chavez, & Garavito, 2008](#); [Grugel & Riggirozzi, 2012](#); [Yates & Bakker, 2014](#)). The public sectors in Latin America specifically, have played a more active role in housing and labor markets through the regularization of property and workers' rights, investments into public infrastructure projects, and an expansion in affordable housing units to confront the severe quantitative and qualitative housing shortage ([Ward et al., 2015](#)), though according to various corporate-friendly arrangements.

Particularly interesting in this context is the scale of the social housing projects that many of the Latin American states are building as part of the ‘new wave’ of welfare programs. For instance, in the years between 2000 and 2011, Mexico built up to 4.3 million new housing units, primarily in urban peripheries ([Eulich & Villagran, 2013](#)). Today, Mexico's new subsidy programs help hundreds of thousands of workers and their families to access housing in more compact and better-located developments. Similarly in Chile, which has a long tradition of subsidized housing policies, since year 2000 the government has built around 100,000 new social housing units each year ([Hevia, 2013](#)). Many of the recent projects incorporate experimental solutions, such as flexible layouts, incremental construction and indigenous design ([Aravena & Iacobelli, 2012](#)). Despite political instabilities, the Brazilian government has also been able to construct 4.2 million new subsidized housing units, which form part of the My House My Life (*Minha Casa Minha Vida*) program launched in 2009 ([Arsenault, 2016](#)). The case of Venezuela is comparable. Since 2011, the Big Housing Mission Venezuela (*Gran Misión Vivienda Venezuela*) program built over 1.5 million subsidized dwellings, which provide shelter for over 22% of the country's population ([MINHVI, 2017](#)). The ongoing economic crisis has not stop the Maduro's government with its plan to complete 3 million units by 2019 ([Telesur, 2016](#)). Lastly, in the recent years, over 100 thousand new houses and apartments have been handed out for free in Colombia, primarily to families displaced in the armed conflict ([Minvivienda, 2016](#)), and this is only one of many housing subsidy schemes in this country. These and other social housing programs are usually implemented in massive, master-planned projects and play a key role in the transformation of the urban fabric and livelihoods in many Latin American cities.

Unlike the traditional social housing arrangements, which targeted public sector and unionized workers, many beneficiaries of today's housing subsidies in countries like Brazil, Venezuela and Colombia are usually targeting the lowest income and the most vulnerable groups in the society, such as the internally displaced persons. At the same time, the labour dynamics in both formal and informal sectors experienced significant changes over the last

decades, due to such processes as globalization and technological advancement. While housing markets in Latin America remained quite stable, people increased their working mobility and change jobs more often than before, which has a great impact on the distribution of welfare and repayment of subsidized mortgages. However, the socio-economic mobility of the recipients of the reformed subsidy schemes has not yet received sufficient attention from researchers, architects and decision makers across the region.

The project described in this article attempted to study the dynamics of livelihood strategies and the changes in land use in a specific case study area being a large social housing estate Villas de San Pablo (VSP), located in the city of Barranquilla, Colombia. The overall objective was to explore how the different planning, design, and management aspects of housing and the built environment affect the socio-economic situation of the beneficiary households, focusing primarily on the accessibility to jobs and income-generating opportunities. Cities in this context are seen as complex urban ecosystems, composed of humans, as well as the built and natural environments, regulated by a set of formal and informal laws, habits and practices. The conclusions from the project contribute to the housing debates in Latin America, and provide recommendations for the planning and design of subsidized housing, and the human habitat in general.

2 Methods and research design

The choice of VSP as a case study housing project was motivated by the fact that the main donor organization, developer and operator, the Mario Santo Domingo Foundation (FMSD, for its abbreviation in Spanish), promotes it as a socially, environmentally and economically successful model and has encouraged its replication in other places across the region (FMSD, 2014).¹ On the other hand, the design, the location and the types of subsidies applied in the project constitute a rather representative example that shares many similarities with a large number of other recently built social housing estates in Latin America.

The collection of the primary data used in this article took place over two extensive site visits to VSP. The first one took place in July 2014,² and the re-visit in October and November 2016. The data for analysis include both qualitative and quantitative information. Altogether, over 30 semi-structured interviews with local residents, business owners, community leaders and administrative staff were conducted. Photographs in conjunction with an enumeration survey and a map of the economic uses in residential buildings (Fig. 7) supplement the information collected from the interviews. Research for this paper also included an extensive literature review (summarized in the next section) and a revision of applicable planning regulations, building codes and zoning bylaws for the VSP project and the rest of Barranquilla.

3 Livelihoods and housing in Latin America

As already mentioned, housing and employment in Latin America are accessed through both formal and informal means. In case of housing, the main difference is whether the property rights issued to the occupants or owners are legally binding, usually by an official notary public seal. Formal employment implies taxation on wages, as well as certain guarantees, such as worker rights, medical insurance or paid holidays. Informal work arrangements do not include those benefits, usually in order to avoid taxation and other fees, which increase the actual costs of employment. In that sense, this investigation looks at how the transition from informal to formal housing affects livelihoods and, vice-versa, how do formal and informal jobs impact living conditions and housing arrangements.

'Livelihood' is defined as "means of supporting one's existence, esp. financially or vocationally" (Random House, 2010). Livelihood strategies, therefore, are actions and approaches to secure income and ensure satisfaction of basic needs of a person or a household. In order to access shelter, food and other basic necessities, urban poor in Latin America still rely on the informal sector, which is embedded in social networks and oral agreements (Hernández et al., 2012).

Altrock (2012) explains how urban informality takes different forms and shapes, depending on two dimensions: the strength of imposed regulations and the degree of negotiated agreements. Street gangs and drug sale are perhaps the most extreme examples of non-regulated and non-negotiated types of informality. Nevertheless, most urban income-generating activities are 'hybrid' forms that have characteristics of both formal and informal arrangements (Altrock, 2012). For example, farmers' markets might be formally regulated, but informally negotiated types of income-generation. Informal rental arrangements or extralegal businesses that are not officially registered, but operate according to commonly accepted rules, are examples of highly negotiated, yet not regulated activities. These formal and informal survival strategies have always been an integral part of urban livelihoods, and Latin America is a good place to study these phenomena.

Researchers who studied urban livelihoods tend to focus primarily on poverty and the intangible aspects of human, social and financial capital. It seems that little attention is paid to the spatial dimension, as well as the built environment, housing condition and location, as assets and constraints in livelihood development. This paper argues that, the study of urban morphologies and the processes of housing production is crucial in understanding the current challenges of urban poverty and livelihoods. Unfortunately, the decision makers and designers who stand behind the master-planned housing seem to pay little attention to the successes and failures in housing developments in the region. This probably results from: the persisting ignorance; the lack of initiative to update the old and rigid building codes and zoning by-laws; and the abundance of over-generalized theories on housing as compared to the lack of well-documented and relevant case study analysis, as indicated by Gilbert (2013a). This paper provides an in-depth case study analysis of one of such master-planned housing projects.

Although each human settlement develops in its own particular way, different scholars identified some common features and patterns in housing development in Latin America.

It is estimated that since the demographic boom in Latin-American cities started in 1940s, the majority of housing was built informally, through self-help construction and land invasions (Ward et al., 2015). These irregular settlements developed outwards from the historic centers, creating rings of residential suburbs, which today include the older and denser innerburbs, and the newer, more precarious exburbs located in the peripheral areas (Ward et al., 2015). Even Brasilia, arguably the most master-planned city in the region, proved not to be self-sufficient and functional, and could not avoid uncontrolled informal suburbanization in adjacent municipalities (Dowall & Monkkonen, 2007). Uneven economic growth and massive rural-urban migration caused further emergence of new squatter settlements in many cities, often in flood-prone areas and on steep hillsides (Fig. 1). According to Lucio Kowarick (1977), this what appears to be a 'chaotic' development is caused by an uncontrolled capitalist system, which leaves out too many people with incomes that are too low to access market housing, and at the same time, the pace of rural-urban migration made it impossible for the governments to keep up with the demand and build enough public housing units.



Fig. 1 Consolidated informal settlements on the hills of Lima, Peru. Photo by the author.

alt-text: Fig. 1

The consolidation of those settlements is still an ongoing process. It normally occurs in the reverse of the conventional housing development, in which planning and land allocation is followed by the provision of services and infrastructure, construction of proper houses, and finally, user occupancy. In case of informal settlements, the occupants first acquire land through organized invasions or informal subdivisions and purchases, they settle, and then they start building a permanent house on site. Once they are established, they usually expand the dwelling according to their household and livelihood needs, and lobby the local politicians for recognition as well as the provision of infrastructure and services (Baross, 1990; Hamdi, 2010).

Originally, most governments in Latin America were hostile towards informal settlements, and attempted to eradicate them or replace with formally constructed housing. However, this approach started to be challenged in the 1960s by such practitioners as Abrams (1964) and Turner (1972) who opted for policies that support incremental and self-help housing development. With their proposals acknowledged in 1976 at the first United Nations Conference on Human Settlements in Vancouver, policies for regularization and upgrading of informal settlements were adopted in most Latin American countries in the following years.

Generally, formally constructed housing developed in 'patches' or 'hot-spots' in well-serviced areas between irregular settlements, which constitute the major part of urban areas of the cities (Gilbert, 1994; Ward et al., 2015). In most cases, private developers targeted upper and middle-income families, which and often resulted in the development of exclusive, gated communities. The older social housing projects were centrally planned by the government, which are usually responsible for the design, construction, and delivery of housing with or without private sub-contractors (Gilbert, 2004). Many of those schemes targeted public sector and unionized workers. By 2001, public housing constituted around 15% of all housing stock in most Latin American cities (Gilbert, 2001).

Poor governance and almost non-existent development control led to further squatting and illegal construction, while inadequate maintenance caused the deterioration of the majority of social housing estates. In 23 de Enero, a modernist public housing project in central Caracas (Venezuela) built in the 1950s, squatter settlements and informal construction emerged in most of the designated public open spaces between the original high-rise apartment blocks (McGuirk, 2014).

The second wave of social housing and welfare programs (of which some examples were given in the introduction) followed the economic downturn and a period of neo-liberal restructuring in Latin America in 1980s and 90s. Most of the new subsidy schemes apply a more decentralized, corporate friendly scheme, in which the governments provide capital subsidies for the poor and let the private sector take care of the design and construction of housing. This approach was inspired by the Chilean model implemented during the Augusto Pinochet's dictatorship, and was later promoted by the Inter-American Development Bank and the World Bank (Gilbert, 2004).

It is interesting to note that many of those new schemes do not require any contribution from the beneficiaries, which means that they are often targeting the 'poorest of the poor', though in reality it may not be the case due to the widespread corruption and political clientelism in Latin America. Furthermore, many authors recognized that the main aim of these policies was not necessarily to provide shelter, but to support the construction industry and reduce the rates of unemployment (Bouillon, 2012; Gilbert, 2013b; McGuirk, 2014). This might be a valid reason if we consider that the massive construction of housing can be a relatively fast and efficient way for the implementing governments to show tangible results within only one or two political terms, as opposed to, for example, supporting income-generating activities, vocational training or education, whose real impact may only be measured in a much longer perspective.

While there are some major differences in the financing models, the old and new social housing schemes share many common aspects. Most importantly, in both cases the housing units tend to be implemented in standardized, master-planned mega projects built according to the principles of the Athens Charter.

Just as the social housing projects from the first wave were blamed for failing to improve the living conditions of the low-income households in Latin America (Gilbert, 2001; Hall, 1982; Hamdi, 1995; Turner, 1976; UN-Habitat, 2001), the new generation also receives a lot of criticism. For example, according to Gilbert (2013b), the Colombian Free Housing (*Vivienda Gratuita*) program, which is one of the schemes applied in the case study project, offers badly designed housing and contributes to urban sprawl. Some of the shortcomings pointed out by other experts include poor location, use of cheap prefabricated materials, overcrowding, lack of commercial uses and common spaces, as well as inadequate provision of schools, hospitals, and police surveillance (Correra, Cuevas, Silva, & Baena, 2014). In Mexico, despite a major housing shortage, close to one in five new subsidized housing units are left abandoned, due to bad location and long commute to employment centres (Eulich & Villagran, 2013).

A common criticism of large-scale public housing projects is that they contribute to income polarization and socio-spatial segregation (Gilbert, 2013b; Hall, 1982; Hamdi, 2010; Turner, 1976). Madanipour suggested that those issues could be mitigated by "building more inclusionary housing units for low- and moderate-income households in neighbourhoods they could otherwise not afford" (Madanipour, 1998, p.187). Such social mixing is already part of housing policy in many countries in Europe and North America, where the provision of housing subsidies is used as a motive to increase density and revitalize underutilized inner-city areas. This, however, only starts to be tested and applied in Latin America (Ward et al., 2015).

Another criticism of housing policy throughout the region is that it puts too much emphasis on promoting home ownership, which "is creating sprawling and divided cities" (Gilbert, 2013a, p. 634). Meanwhile, the issue of rental housing has been ignored by policy makers throughout Latin America and, as argued by Gilbert (2001), UN-Habitat (2011b) and Ward et al. (2015), solutions to encourage investments in rental stock and improve social mobility deserve more attention.

One of the strongest proponents of formal house ownership was the Peruvian economist Hernando De Soto, who claimed that giving formal property titles to the poor is the best solution to housing and poverty problems, as it would enable the creation of 'invisible capital' that adds surplus value to properties through recognizing them not only as physical commodities, but also as assets that can operate in virtual financial systems (De Soto, 2000).

However, according to Turner (1972), the top priorities of the poorest sectors in society are neither formal house ownership, nor modern standard shelter, but rather the proximity to unskilled jobs and a relative tenure security. For them, formal title is of secondary importance and in some cases may even be inconvenient, as it might 'artificially' raise their housing related expenditure. These priorities start to change when the family's socioeconomic situation improves. Only when the household's status raises to middle-income, they may want to live in a more secure and better neighbourhood, and enjoy full property rights (Turner, 1972). For Turner (1976), the best solution was ensuring tenure security in informal settlements and assisting the poor in self-help construction and consolidation of their neighbourhoods. The World Bank and UN-Habitat (2016) promote a similar approach, claiming that in order to enable housing markets to work, governments and local authorities should "subsidize people, not houses" (UN-Habitat, 2016, p.50), and stay away from building master-planned public housing projects.

Another issue that is typical to Latin America, though it has not received sufficient attention, is that the division of space and time dedicated to work and family life often becomes 'blurry', meaning that many homes are used for a variety of income-generating activities, particularly by women (Gilbert, 2001). Converting some parts of houses into commercial and even small-scale industrial uses is a common practice throughout the region. As McGuirk (2014) nicely put it, in "Latin America, people will find a way to put even the most unpromising or unlikely places to social and economic use". According to Ward et al. (2015), the economic potential of the dwelling is among the most valuable resources of the urban poor and in many consolidated settlements in Latin America, up to 40% of properties include spaces for productive activities.

However, the design of the majority of the new social housing projects neither recognizes nor responds to those practices. Local land use plans and management too often make it illegal to operate any kinds of businesses or economic activities from home, which limits the already narrow livelihood opportunities of the poor. This suggests that the housing policy in Latin America generally fails to consider the livelihood and income-generation aspects, which are essential to enhance household prosperity and quality of life.

An important step forward towards a change in this approach has been taken at the United Nations Conference on Housing and Sustainable Development - Habitat III, which took place in Quito in October 2016. The New Urban Agenda, which was unanimously ratified at the event, recognizes that:

... housing enhances capital formation, income, employment generation and savings and can contribute to driving sustainable and inclusive economic transformation at the national, subnational and local levels (United Nations, 2016, p.9).

While well-planned and designed housing can boost household prosperity, inadequate housing often results from poverty and the lack of employment opportunities. As explained by Gilbert:

Most of the difficulties afflicting the housing sector do not originate in the sector itself. Many begin with the poverty of so many people in the region and it is no coincidence that poor people generally live in bad housing. If we were to reduce the amount of poverty, the housing situation would improve automatically. If we do not reduce the amount of poverty, it is difficult to do much about housing (Gilbert, 2001, p.6).

Therefore, it can be concluded that the best way to help the urban poor in Latin America is by facilitating access to employment and creating income-generating opportunities, and any government subsidized housing programs should not just focus on providing shelters, but instead, they should prioritize livelihood and enhance socio-economic mobility of the beneficiaries.

4 The masterplan: Villas de San Pablo housing project

As explained before, the choice of VSP as a case study was purposive. On the one hand, it is very similar to many other master-planned subsidized housing projects in the region, particularly in terms of its size, design, subsidy scheme and the location within the corresponding urban agglomeration. On the other hand, the management of FMSD, which donated the land and now operates the project, is attempting to promote it as an innovation in housing by presenting it as a sustainable model that should be replicated in other places.

VSP is located in the municipality of Barranquilla, which is the centre of the largest metropolitan area in Northern Colombia, with over 2 million inhabitants. The project was developed on a flat, large piece of land located around 5 km outside of the built up area and around 13 km away from the historic centre of Barranquilla (Fig. 2). VSP is surrounded primarily by a semi-desertic vacant landscape with very limited agricultural activities. There are also an informal settlement called Pinar del Río and a few smaller subsidized housing estates located within a close proximity to VSP.

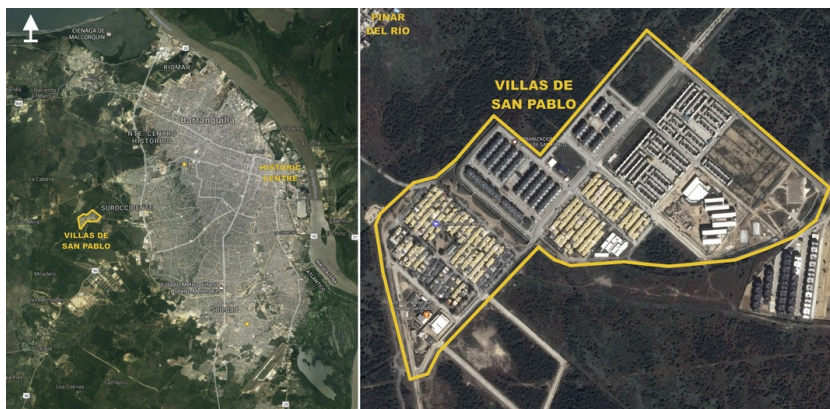


Fig. 2 Satellite images showing the location of the VSP housing project in the Barranquilla region and its local context. Adopted from 2017 Google Maps images.

alt-text: Fig. 2

VSP is located in the “urban expansion” zone of Barranquilla (Secretaría Distrital de Planeación, 2012), though the Ministry of Housing, City and Territory of Colombia classified it as one of the 16 special ‘macroprojects’ in the country. These projects are designated for high concentration of social housing and they normally receive direct subsidies from the federal government (Minvivienda, 2014b). As a macroproject, VSP could potentially be subject to special conditions and more relaxed land-use ordinances in the local Spatial Plans (POT, for its abbreviation in Spanish), although in this case no radical changes have been made, which was officially acknowledged by the FMSD (2014).

The construction of the VSP housing project started in 2008. The streets were laid in a regular grid pattern, with minimal consideration to the existing landscape features, particularly the stream that runs across the lot making a gentle curve. As a result, the only road that existed on the land before the construction of the project (Carrera 13), which ran along the stream, has been removed, while the stream itself was partially straightened and incorporated into the stormwater drainage system.

The permitted land use in VSP is almost exclusively residential, with a few lots designated for public space and only four units designated for commercial uses (Secretaría Distrital de Planeación, 2012). In the new revised masterplan, a large lot has been designated for a supermarket, yet by the time of writing this article, no agreement with any of the investors has been reached and the lot remains empty.

The project was designed and built by sections, each of them with a different typology and subsidy scheme. Apparently, the actual designers of the general layout and all the housing sections were primarily civil engineers, with no formal training in urban planning.

The first two sections were single-family one-storey row houses (Fig. 3) that were accessible to the recipients of different subsidy schemes through the Family Compensation Funds (*Cajas de Compensación Familiar*) programs developed in cooperation with the municipal government. These schemes were originally designated for low-income families with the ability to save, which usually required confirmation of any form of formal income from employment, pension or other government benefits. However, these programs were discontinued after the reforms in 2010.



Fig. 3 Single-family row houses in VSP [before occupation](#). Photo by the author.

alt-text: Fig. 3

The next two sections consist of 16 four-story apartment blocks, designed according to the modernist principles in architecture and planning (Fig. 4). As part of the Free Housing program, all the housing units in these blocks were fully subsidized and given free to forcibly displaced families from the areas affected by the armed conflict as well as the victims of natural disasters in the region.³ About half of all residents of VSP live in these fully subsidized apartment units.



Fig. 4 Apartment blocks in VSP [before occupation](#). Photo by the author.

alt-text: Fig. 4

The most recent sections (of which some were still under construction during the second site visit), are composed of two story ‘incremental’ row houses that allow for expansion of the building towards the back. These housing units are part of the program called the Priority Interest Housing for Savers (*Vivienda de Interés Prioritario para Ahorradores*).

The project is constantly growing. In November 2016, there were 6450 residents in the project living in 1506 dwellings.⁴ After the planned expansion, the entire project will have the capacity to house up to 20,000 dwellings, or 80,000 people. The upcoming new section, which has just been approved, will again consist of apartment blocks, but this time the housing will be accessible to recipients of the new subsidy scheme My House Now (*Mi Casa Ya*) for families with savings.

In addition to the Free Housing units, where the majority of the households are registered internally displaced persons, many of the recipients of other subsidy schemes in VSP were also displaced or come from similar vulnerable backgrounds.

Besides housing, there is an increasing number of community infrastructure buildings and institutions in VSP. One of the landmarks of the project is the state of art kindergarten and preschool donated by the FMSD and the Japanese embassy. Also included are a recently opened computer-learning centre, a library and a small police station on site. A new hospital and a school for primary and secondary education with the capacity for 1440 students were under construction in 2017.

According to a recent survey, up to 75% of the residents of the project use buses as their main mode of transportation (FMSD, 2016). There are two bus lines connecting VSP to Barranquilla and its sister city Soledad, with a relatively frequent service during working days, but inadequate coverage at night and on weekends. A one-way trip to central Barranquilla or Soledad takes up to one hour during the morning and afternoon peak traffic periods. The inadequate connectivity of VSP forces many families to leave the project or return to their previous dwellings, especially when they find other jobs somewhere else in the city. The problem of abandonment, however, is not as severe in VSP as it is in many similar projects in Mexico, which turned into ghost towns only a few years after first occupation.

“We as a foundation firmly believe that giving a house to the poor does not take them out of poverty” - said [Ronald Silva Manjarrés](#), the Social Awareness Director at FMSD in Barranquilla. He admitted that due to high costs of land in the city, VSP housing project was developed in a poor location outside in the desert and now, their mission is to get the best out of it. His office at FMSD is responsible for the design and implementation of a comprehensive community accompaniment model called the Integral Development of Sustainable Communities (DINCS, for its abbreviation in Spanish). It is based on a set of community programs and activities that offer social support and psychological assistance before, during and after moving into a new dwelling, as well as better integration with neighbours and newcomers.

In terms of social sustainability, DINCS works in three different dimensions: the dwelling, social infrastructure and community support. The Foundation commits itself to support the community by ensuring security, and providing access to health, education, sports, recreation, as well as religious and cultural facilities (FMSD, 2014). They put emphasis on empowering the residents, by helping them establish community committees that are responsible for each of those components.

Environmental sustainability is another important aspect in the DINCS model. The FMSD educates the residents about the benefits of reducing energy consumption through the application of prepaid electricity meters, and encourages solid waste recycling and water saving.

Achieving economic sustainability is perhaps the biggest challenge in VSP. Among other initiatives, the FMSD attempts to link the job-seeking residents to employers in the area by facilitating access to computers connected to the Internet and arranging training sessions with the National Apprenticeship Service (SENA). The unemployment in VSP is high despite the efforts of the FMSD. The socio-economic situation of the majority of the residents does not seem to be improving, which leads to increased crime, vandalism and deterioration. In 2015, the local newspaper El Heraldo ([Doku, 2015](#)) reported a rising activity of local street gangs and drug dealers in [VSP the project](#).

Although all of the dwellings built to date received some form of subsidy, not everyone who lives in the project is the actual homeowner. There are many cases of informal rental agreements. Often the families or individuals benefited from any of the subsidy programs and own the unit are not the same as the persons who live within the dwelling.

As an almost isolated satellite city with a variety of building typologies and subsidy schemes, as well as pro-sustainability initiatives, VSP is a good testing ground for researchers from different disciplines. It is particularly interesting to study how the residents, all of whom moved relatively recently, cope with the challenges and obstacles they encountered in VSP, and how they create livelihood opportunities for themselves to ensure high quality of life and economic stability.

5 The urban ecosystem: research findings

The principal observation from the study is that in a situation of financial struggle or lack of access to employment centers, which affects the vast majority of the households in the project, many residents take the initiative to provide income-generating opportunities for themselves ([Fig. 5](#)). The establishment of such initiatives is done without considering the applicable local planning bylaws, citywide building codes and land use regulations, as well as the internal rules established by the VSP administration.



Fig. 5 A grocery store developed in what was designed to be a garden behind the house. Photo by the author.

alt-text: Fig. 5

Most commonly, the residents have been converting parts, or in some cases, entire dwellings to accommodate some forms of commercial, service, or small-scale industrial activities. As a result, the actual land use in the macroproject has been gradually changing from strictly segregated and defined, into mixed, organic and informal, similarly to the way in which a regularly planted forest slowly turns into an irregular and diverse natural ecosystem.

In the first few years, the administration of the project managed to prevent and discourage (to some extent) these land use changes, but over time, the situation got out of their control. It is clear that now ~~it does not~~ they have ~~no~~ the capacity to address such extensive complications mainly due to understaffing. At the same time, the representatives of the management claim that they allow what they call “temporary” changes in land use and operation of informal business establishments, as they prefer to avoid any further risks of unrest from the residents.

As mentioned before, there are cases of informal renting and sub-letting, despite the fact that the subsidy receivers are not allowed to sell or rent out their properties in the first ten years of occupation or otherwise; they may lose rights to the property. The administration of the project conducts regular household surveys to collect demographic data, and, contrary to cases of economic activities run from home, the FMSD attempts to intervene when the original owner does not live in the dwelling.

The interviews revealed that a majority of the residents who retained their occupations outside of VSP (primarily men) experienced higher expenditures on transportation and longer commuting times, resulting in lower disposable income and less time allocated for household activities. This explains why initiatives towards developing economic activities within dwellings are led primarily by women, who are usually responsible for raising the children and spend most days at home (Fig. 6). However, there are a significant number of businesses, which involve the entire household, or at least the two heads of the family.



Fig. 6 A woman working as a tailor at her home in VSP. Photo by the author.

alt-text: Fig. 6

The physical isolation and lack of specialized commerce in and around the project contributed to the high demand for a greater variety of retail and services in VSP. As noted before, the master plan for the area provided for four commercial establishments, but that is far from enough. Their relatively large sizes makes it difficult for the residents to afford to pay the rent, so entrepreneurs from outside of the project seized the opportunity and took over.

The simple enumeration survey identified 229 dwellings, which were partially or completely converted to accommodate economic activities.⁵ This represents approximately 15% of all the occupied dwellings in VSP, which are around 1530 altogether (Fig. 7). It is not yet close to 40%, which is the proportion of buildings with economic uses in informal residential settlements in Latin America estimated by Ward et al. (2015), but considering that the dwellings in VSP were not originally self-built by the residents, this is significant. Moreover, a closer analysis of the map reveals that the older sections (1, 2 and 3) have a higher proportion of economic uses than the newest sections (4 and 5), which shows that this number is increasing over time and eventually it may come closer to the 40%.



Fig. 7 . Land-use map of VSP based on the results of the simple enumeration survey. Elaborated by the author.

alt-text: Fig. 7

The majority of businesses in apartment blocks are located on the ground floors, as they provide good exposure and easy access from street level. These include mainly retail and restaurants. There are also many specialized services on the second floors, whose signs and advertisements are visible from the ground level (Fig. 8). Third-floor businesses are rare and there were no registered productive uses on the fourth floors of the buildings.



Fig. 8 A photography studio (ground floor) and a beauty salon (second floor) in an apartment building in VSP. Photo by the author.

alt-text: Fig. 8

In case of houses, a larger proportion of productive uses are located along main avenues and the bus route as well as in sections that have more pedestrian traffic. There are also significantly more economic uses on corner lots compared to inner-block houses. A number of residents admitted that they specially requested FMSD to allocate them corner lots or ground-floor apartments before moving into VSP, because they already knew they wanted to open businesses there and they wanted to maximize their exposure (although that was rarely the official reason mentioned to FMSD). However, the administration uses other criteria when allocating housing units, for example the priority choice for the ground floor apartments is for applicants with physical disabilities.

The economic activities that opened in VSP are very varied. Table 1 shows the types of businesses that operate in the project, arranged from the most common (top) to single cases (bottom).

Table 1

alt-text: Table 1

Retail	Services
Ice or ice cream vendors	Beauty parlors and barber shops
Grocery stores	Tailors
Hardware stores	Stationery/Copy shops/Photo studios/Internet cafes
Bakeries	Restaurants and catering
Pharmacies	Churches and religious services
Clothing boutiques	Financial services (Money transfers, Bill payments, etc.)
Meat shops	Mobile phone representatives
Home decor and crafts	Electronics repair
	Laundries/Dry cleaning
	Welding shops/Metalwork
	Kindergarten
	Tutoring services and language schools
	Shoemakers/Shoe repair
	Gymnasiums and sport clubs
	Recycling and resale of recycled waste
	Video game rooms

Identified business activities in VSP.

According to the interviewees, the residents in VSP are able to meet most of their daily needs within the project and they only need to go to the city to look for more specialized products and services. For example, there are no banks in VSP, but there are financial agents who can help with bill payments and money transfers.

While the majority of the businesses in VSP are independent, there are also a few franchises of larger corporations. One such establishment is a grocery store, which started independently and later affiliated with one of the largest franchises in the region (Fig. 9). This is a hybrid semi-formal situation, as the chain is officially registered in the Chamber of Commerce, but the VSP location is operating illegally without the necessary permits and it does not comply with the land use laws. The store includes its own bakery and occupies the entire house rented out from a person who does not live in VSP. The business owners, however, live in another house in the project. This situation caused major tensions, which have not been resolved by the time of the second visit.



Fig. 9 A house converted into a grocery store. Photo by the author.

alt-text: Fig. 9

As mentioned before, converting entire houses into productive uses is common in VSP. Such conversion is illegal from three reasons: 1) because these businesses usually operate without a permit; 2) because the changed land use does not comply with the local zoning codes; and 3) because the property owner does not use it for residential purposes. Some of these businesses, for example a hardware store that also sells construction materials (Fig. 10), occupy two or more adjacent lots. There are also larger businesses or more prosperous households who build second floors for residential purposes and leave the ground floors for productive activities.



Fig. 10 A hardware store in VSP. Photo by the author.

alt-text: Fig. 10

The issue of legality is complex and turned into a real struggle for the entrepreneurs in VSP. They say there are too few tax relief initiatives and credits for small business owners, and too many regulations that would make it inconvenient for them to legalize their activities. At the same time, they fear visits from anyone representing their government, especially the tax collection agencies. Some of the business owners also refused to cooperate with municipal authorities who came to VSP to update street addresses and names, as they thought they would also want^{ed} to verify the legal status of the businesses and the compliance with the land use regulations.

The argument of the entrepreneurs is that there is a lack of compliance to zoning bylaws in all parts of Barranquilla and, more specifically, that there are many registered businesses in areas zoned strictly for residential uses. As one of them said, “we have a culture of not respecting the law in the city”, and the VSP is not an exception. He claimed that if the government pressured him to close his store, he would appeal to the court demanding that the zoning laws apply either to everyone or to no one.

6 Implications and discussion

This paper does not argue against the provision of affordable housing, but it suggests a radical shift in the way in which planning and design of housing should be done. As a starting point, it is apparent that providing permanent shelters is better than leaving the poor on their own in a capitalist economy that dominates most of Latin America and other parts of the world. However, not all forms of housing, especially the newly built, can contribute to the households' prosperity and quality of life. The difficulty is determining how to get the most out of a house when financial resources and land are scarce. The argument raised by Turner (1976) that instead of determining, ‘what is a house’, urban practitioners should start asking ‘what a house can do’ for its occupants, becomes especially powerful and relevant in this context. For many poor people, a good house is an incubator for income generation and creative ideas. Alternatively, it can also be a safe nest strategically located in close proximity to livelihood opportunities.

It needs to be acknowledged that the entire planning and design process that shaped VSP and similar social housing projects in Colombia is problematic. Problems start with outdated nation-wide housing policies, which force subsidy beneficiaries to own properties and settle permanently by co-financing mortgages, instead of providing subsidies that are more flexible for short- or long-term rental units (Escallón, 2012; Gilbert, 2013a). On the one hand, these subsidy programs limit the socio-economic mobility of the recipients, which is extremely important in such isolated and disconnected places as VSP. On the other hand, as the VSP case has clearly shown, legal homeownership made the residents believe they have the right to do anything they want with their properties and that they do not need to consider any of the applicable laws and regulations.

Furthermore, stakeholders and project developers should be aware that affordable housing schemes designated for households with the ability to save, should be different from the subsidies and housing typologies provided for the extremely poor, as the main concern of the second group is not the lack of proper shelter, but the lack of income and income-generating opportunities. Location in relation to employment centers, access to jobs, and the possibility to use parts of their dwellings for economic activities should then be prioritized over the overall quality and comfort of the building.

The obstacles at the departmental and municipal levels include rigid building codes and zoning policies based on outdated technocratic principles, which favour the separation of land uses and impose irrationally high standards for the design and construction quality (Departamento Administrativo de Planeación Distrital, 2000). There is an urgent need to change these bylaws, to encourage more flexibility and incremental growth, and to support the consolidation of informally developed areas in order to integrate them with the formal city in a more efficient way. In other words, planning and architecture should be more realistic and adaptive to the particular context of self-help construction and informal growth, which shaped the major parts of Latin-American cities.

The development of social housing in Latin America has a long history, but over the years relatively little progress has been made to ensure that the produced housing contributes to the well-being of the dwellers. The proposed changes require a major shift in thinking about housing: to pay more attention to quality instead of quantity; and to apply a multisectorial approach to planning, design and management of housing. Taking into consideration the widespread corruption, clientelism, bureaucracy and inefficiency in many Latin American states, this seems like a very difficult task, but in the last several years there have been some promising initiatives and examples worth looking at.

Low-income housing projects designed by Chilean architect Alejandro Aravena precisely demonstrate how such compromises in social housing development can be implemented in the region (Fig. 11). His developments not only acknowledge and make space for informal and incremental expansion of buildings, but they are also very cost-effective, allowing planners to designate more financial resources to acquire land in better locations, closer to jobs and services (Aravena & Iacobelli, 2012).



Fig. 11 Alejandro Aravena's incremental affordable housing units before occupation and a few years later. Source: Elemental chile.cl.

alt-text: Fig. 11

By attempting to implement a “sustainable community development” model and testing out different housing typologies, including some forms of incremental housing (although much less flexible than Aravena's), FMSD tries to

brand itself as innovatory and progressive. However, some of the errors committed at the very beginning of the planning and design process will prove to be incredibly difficult to remedy. This paper explores the idea that many of the big advantages that VSP had as a macroproject have not been harnessed and the opportunity to develop an innovative settlement based on successful examples from different parts of the region was lost. The planners and designers appear to have chosen a model devoid of present day planning research and theories, and followed the totally disconnected from the context local Spatial Plan (POT) and the over-generalized guidelines of the Ministry of Housing, City and Territory (FMSD, 2014).

As a result of the lack of vision and initiative, VSP appears to be immensely dysfunctional and visually unpleasant - comparable to the master-planned social housing developments from 1950s to 60s. The effect is magnified by the spatial isolation and lack of employment opportunities in close proximity. Not ensuring proper access to income-generating activities is depriving the poor of a chance to escape from poverty and is, at its core, unsustainable. Therefore, the VSP project and the DINCS model should by no means be promoted as a good practice in housing development, but rather it serves as an example of how bad policy and inadequate attention to good planning principles leads to a great failure and waste of taxpayers' money.

It is time to start thinking about low-cost housing typologies, which would include spaces for productive uses and tenants to increase income-generation opportunities. The incremental aspect of a dwelling should not only include the possibility to expand and make changes to the living area, but should also be flexible in terms of the different functions that a house can have. Land use transformations in informally developed settlements should serve as inspiration for designers, not only at a micro (building) level, but also at a macro (street or neighbourhood) scale. The allocation of uses and the design of housing should also consider such factors as the advantages of commercial spaces for small-scale retail and services on corner lots and in buildings facing main arteries with high pedestrian traffic, **as well as** good access on the ground level. Harmless industrial activities should also be allowed after a proper consultation with the local community.

7 Conclusion

The VSP case shows clearly that informal land management can act as a very powerful force that reshapes the urban fabric, even in the most rigidly planned housing estates. The organic evolution of land use in the project follows comparable patterns found in self-help informal settlements, where the scarcity of resources force inhabitants to develop incrementally and use the space in the most productive and efficient ways. The creative redesign and alteration of residential units to accommodate economic activities in VSP appears to be a natural response to the lack of income-generating opportunities elsewhere in the areas surrounding the housing project.

From one point of view, these land use changes can be seen as a positive phenomenon, as they show the resilience, proactivity, and entrepreneurialism of the residents, but from the other, they reflect the dysfunctionality of the planning system and failures of the design solutions, which shaped the project.

In [Altrock's \(2012\)](#) classification of informality, the partial or total conversion of housing units into commercial or industrial uses would represent a hybrid form of a non-regulated (by law), yet highly negotiated agreement which has been practiced and approved by the local community. This paper, therefore, is an argument to shift the discourse in land use planning and consider lessons that can be learned from informal development and livelihood strategies of the low-income earners.

The VSP case also proves John Turner's point that the urban poor prioritizes accessibility to income-generating activities over shelter needs and it is very important to incorporate this factor in the planning and design process of housing for the low-income groups ([Turner, 1976](#)).

In contexts where the real-estate development and the distribution to welfare are driven by land values and the private sector, one can hardly talk about the use of urban planning as a regulatory tool. As a guiding principle for urban development, cities need to be understood as ecosystems, where work, living, leisure and all other human activities are intertwined in such a way that doing anything to isolate them leads to disasters, such as the discussed above illegal uses, ghettoization and abandonment of master-planned housing estates in different cities across Latin America.

Nevertheless, any attempts to generalize from this case study should take into consideration that the subsidy schemes and planning frameworks in Latin America differ from country to country. An in-depth analysis of a specific context of location and demographic profiles of the target population (preferably using participatory methods) should precede the planning and design processes in housing development, as these factors have huge impacts on the socio-economic situation of the future residents.

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[Elemental](#), .

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Footnotes

¹The senior management at FMSD signs up to present at national and international conferences (including Habitat III in 2016), and invites representatives from different housing banks, donors and governments from across the region to show a very biased view on how VSP is developing and operated.

²The main objective of the first fieldwork was to study how the offer of fully subsidized Free Housing units for the displaced families impacted their livelihood choices and eventual return decisions. For more information about this investigation and its results, see ~~(Hidden author details)~~ [Sliwa & Wiig](#) (2016).

³It is estimated that the displaced population constitutes around 72.5% of all beneficiaries of the Free Housing program in Colombia ([Minvivienda, 2014a](#)). The rest are victims of natural disasters and those classified as being in extreme poverty (socioeconomic strata 1 in scale from 1 to 6).

⁴This means that the average household size in VSP is around 4.3 persons, which is much higher than the Colombian average of 3.4 ([DANE, 2015](#)). A possible explanation is that the dwellings are too big for a single person or a couple to live in, so many residents share the living spaces with their extended families.

⁵This does not include houses or rooms which have been informally rented out to others.

Highlights

- Social housing projects in Latin America are designed as strictly residential.
- Unemployment encourages the urban poor to engage in economic activities at home.
- Land-use in studied project changes from rigidly controlled to mixed and organic.
- Planning and design of housing should consider lessons from informal development.
- Flexible and incremental housing typologies should be permitted and promoted.

Queries and Answers

Query: Ref. Gilbert, 1994 is cited in the text but not provided in the reference list. Please provide it in the reference list or delete these citations from the text.

Answer: Provided reference in the reference list.

Query: The citation "Mandanipour, 1998" has been changed to match the author name/date in the reference list. Please check.

Answer: Correct.

Query: Please provide the volume number or issue number or page range or article number for the bibliography in Ref(s). Corraera et al., 2014.

Answer: I changed the reference from newspaper article to an online article (content is exactly the same)

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