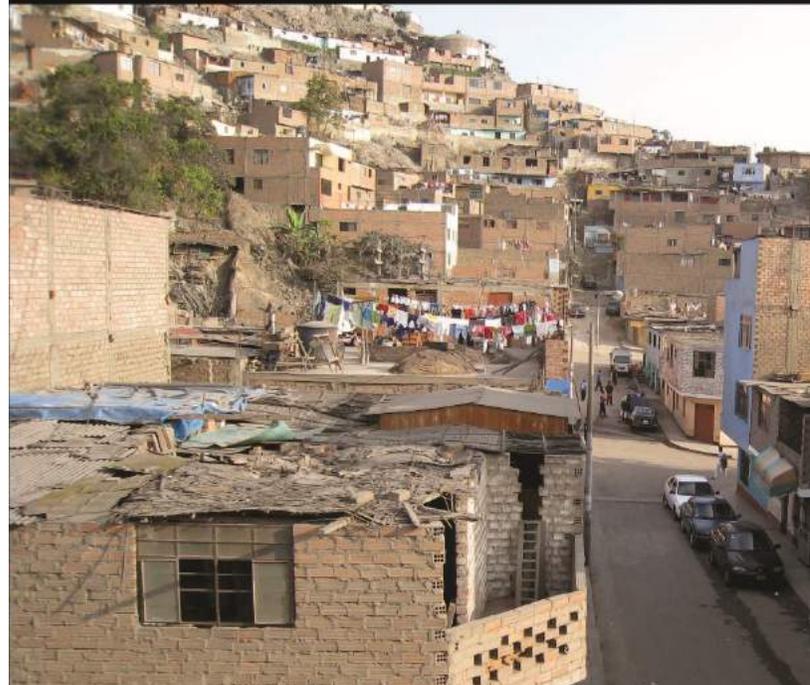
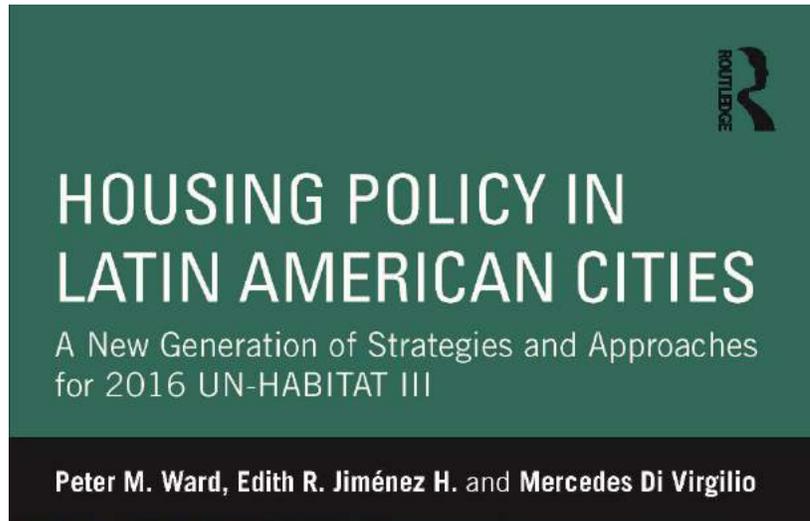


# 2015 Volumes in English and Spanish – for UN-Habitat III, Quito 2016



## Políticas de vivienda en ciudades latinoamericanas. Una nueva generación de estrategias y enfoques para 2016 ONU-Hábitat III

*Peter M Ward , Edith R Jiménez , Mercedes Di Virgilio ,  
Angélica Camargo*

POLÍTICAS DE VIVIENDA EN  
CIUDADES LATINOAMERICANAS  
Una nueva generación de estrategias y enfoques para 2016  
ONU-Habitat III



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Hacia la década de 1960, la rápida urbanización en las regiones en desarrollo en América Latina, África y Asia, fue marcada por la expansión de asentamientos con población de bajos ingresos y que se desarrollaron informalmente. Para los años 2000 estos asentamientos constituyen usualmente entre el 20 y el 60 por ciento del área ocupada de las áreas metropolitanas y grandes ciudades. Además de las actividades de la red Latin American Housing Network (LAHN [www.lahn.utexas.org](http://www.lahn.utexas.org)), ha habido mínima atención directa a la enorme extensión de asentamientos informales formados hace 20 y hasta 40 años que hoy forman parte del anillo intermedio de las ciudades. En el marco de un proyecto coordinado y colaborativo de investigación, los autores y colaboradores ofrecen una perspectiva original en cuanto a los retos de densificación y rehabilitación que encaran actualmente los asentamientos irregulares en las ciudades latinoamericanas.

Investigadores, profesionales y expertos en temas de vivienda, política habitacional, investigadores en temas sociales, estudios comparados, desarrollo urbano, encontrarán este texto altamente significativo.

***This PDF contains the pre-publication version of the individual city chapter for this particular folder. See the Folder “Introductory Chapter and Bibliography” for background orientation and bibliography relating to this and other chapters.***

***For a published overview and summary of the spectrum of policies, see Peter M. Ward. 2015 "Housing rehab for consolidated informal settlements: A new policy agenda for 2016 UN-Habitat III", Habitat International, 50, 373-384 (Publications Section of this website)***

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## Chapter 8.

### Rehab, “Los Aires” and Densification of Consolidated Settlements in Lima, Peru

Danielle M. Rojas and Peter M. Ward  
In collaboration with Olga Peek and Martha Lazarte Salinas<sup>1</sup>

From a historical perspective, research from Lima has provided some of the formative literature on the large-scale production of informal settlements and helped to develop more positive framing about squatter settlement consolidation. Classic works by Mangin (1967), Leeds (1969) and John F.C. Turner (1968), and his “barefoot” architect colleagues, investigated the early 1960s mass invasions of Pampa de Cueva and other Lima settlements. Much earlier, the populist Odría military government (1948-56) had embarked upon large-scale social mobilization and clientelism through sponsored self-help projects in the city. Supported self-help was later continued in a more structured and state-integrated process by Odría’s left-wing successor General Velasco (1968-75). Villa El Salvador (in Lima) is an extensively studied - and perhaps the best known - example (Skinner 1982; Dietz 1998). Powerful voices in informality research and advocacy in the employment and land titling fields have also emerged from work in Lima, most notably Hernando de Soto (1987; 2000).

From a more contemporary standpoint, Lima’s case provides constructive insights into urban expansion and associated transformations in the character and needs of low-income settlements. For nearly half a century, consolidating irregular settlements in Lima have continued to develop unabated outwards along three lineal axes, forming “cones” of development (see Figure 8.1 below). As a result, earlier settlements formed in the 1960s have become good examples of consolidated settlements that today find themselves well-located relative to the city center.

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<sup>1</sup> Rojas is a graduate student at the University of Texas at Austin who worked intensively as part of the LAHN network and led the survey data collection phase in Lima. Martha Lazarte was a founding member of the LAHN network and principal collaborator out of the NGO, *Alternativa*. Jaime Josef and Themis Castellanos, (Research Directors at *Alternativa*) are also thanked for their support and collaboration 2007-11). Olga Peek is a graduate student in Architecture and Sociology at the University of Amsterdam who conducted her Masters degree research in Lima in 2013, and used an intensive case study methodology very similar to that described in Chapter 1 (see also Ward, Jiménez and Di Virgilio forthcoming). She has kindly given us permission to include some of those case study materials in this chapter, and both she and Martha Lazarte are included as collaborating co-authors.

Within the now consolidated first urban ring, high densities and vertical expansion have become important features of low-income settlements. Indeed, it was in Lima that we first came across the concept of owner development rights over “*los aires*” – the second and upper floors that are emerging as an important component of the consolidation process in Lima and that are of special interest to us in the context of housing rehab and densification in low-income settlements. Municipal codes and regulations in Lima offer lessons about innovations and incentives for adding dwelling units for independent household use, and rent or sale on levels above the ground floor, while retaining the development rights of additional floors (“*los aires*”).

As described in Chapter 1, the LAHN study specifically targets homeowners in all of its case study cities. Having lived much of their lives on their informally-acquired lots, raised their families, and consolidated and extended their dwellings over 20 or more years, owners are the primary likely stakeholders in any rehab or asset management decisions that are made. While the LAHN study does not focus upon renters, in Lima like many other LAHN study cities, renter households are an important minority in the first ring areas (see Chapter 11 on Buenos Aires). After conducting the first owner surveys in 2010, one of us (Rojas) sought to conduct a follow up study of renter households, but found access to these households to be extremely difficult.<sup>2</sup> Therefore, to the extent that we offer any insights about dwelling subdivision and renting in this chapter, it derives primarily from several intensive case studies conducted by graduate researchers (Rojas and Peek) and from a content analysis of municipal codes relating to “*los aires*,” although these codes are not exclusively related to production of rental housing stock.

## **URBANIZATION AND LIMA’S FIRST RING OR INNERBURBS**

In Peru urbanization began relatively late. While the urban population in other nearby countries in the Southern Cone (Uruguay, Chile, and Argentina) already exceeded 50% by the 1950s, Peru’s population remained primarily rural until the mid-1960s (UN\_DESA\_PD). Once it began, however, the rate of Lima’s urbanization was striking. Lima’s urban growth during the latter half of the 20<sup>th</sup> century can be separated into three periods: an initial period of explosive peripheral

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<sup>2</sup> This is not unusual since landlords are often unwilling to allow researchers to interview renters, while the latter are skittish about volunteering information that, they fear, may get them into trouble with the owner.

growth from 1940-1970 (when the urban population rose from just under 650,000 to 1.85 million); a period of state-led or sponsored self-help settlement from 1970-1980 (3 million to 4.5 million), and finally a period of urban consolidation combined with slow but consistent peripheral expansion from 1980-2000 (when the urban population grew to over 7 million where it remains today) (Calderon Cockburn, 2005, citing INEI).

With a population of nearly 10 million people in 2012 (9.45 million), metropolitan Lima<sup>3</sup> is poised to become the fifth “megacity” in the Latin American region along with Mexico City, São Paulo, Rio de Janeiro and Buenos Aires (Gilbert, 1996). Yet Lima has one of the lowest overall densities – 3,173 inhabitants per square km (31.7 persons per hectare). After decades of largely unrestricted access to desert lands at the city’s peripheral edges, limited land resources are becoming a matter of increasing concern and as elsewhere, much of this new urban growth is likely to have to be accommodated through densification and infill policies in the existing built-up areas.

### *Lima’s Urbanization and Expansion*

Since the colonial period, “popular” or low-cost housing in Lima consisted of various forms of rental housing (Panfichi, 2009). Changes began in the 1940s when demographic growth placed increasing pressure on existing housing and services in the city. In response many wealthier *Limeños* moved out of the inner city to new *urbanizaciones* (developed by established *hacienda* land owners) and their previous homes were often converted into tenement housing occupied by the burgeoning working classes (Calderón Cockburn, 2005). Converted and constructed tenement housing was, however, insufficient to meet the ever-growing demand for affordable shelter (Turner, 1968). Thus, other low(er)-income residents began self-building provisional housing and settlements – then called *barriadas*– in the urban periphery. Formation of these new informal settlements quickened in the 1950s especially once President Odría (1948-1956), embarked upon populist and clientelist housing policies This set the stage for a public tolerance

---

<sup>3</sup> Planning institutions in Peru often separate the province of Callao from Metropolitan Lima (province of Lima) to ease administrative differences. However, when discussing population data we believe that the two provinces should be combined. Indeed, Callao is surrounded by the Lima province and population flows smoothly between the two areas on a daily basis. Population figures are based on projections provided on [www.citypopulation.de](http://www.citypopulation.de)

toward informal self-help housing that accompanied a wave of massive migration and population growth in Lima in the 1960s and 1970s. This migration was possible in part through settlement of outlying lands in desert areas with no agricultural use. The large-scale land invasions that took place from the Odría administration initiated the formation of “cones” or fingers of predominantly self-help settlements stretching outwards from the center (see Figure 1).

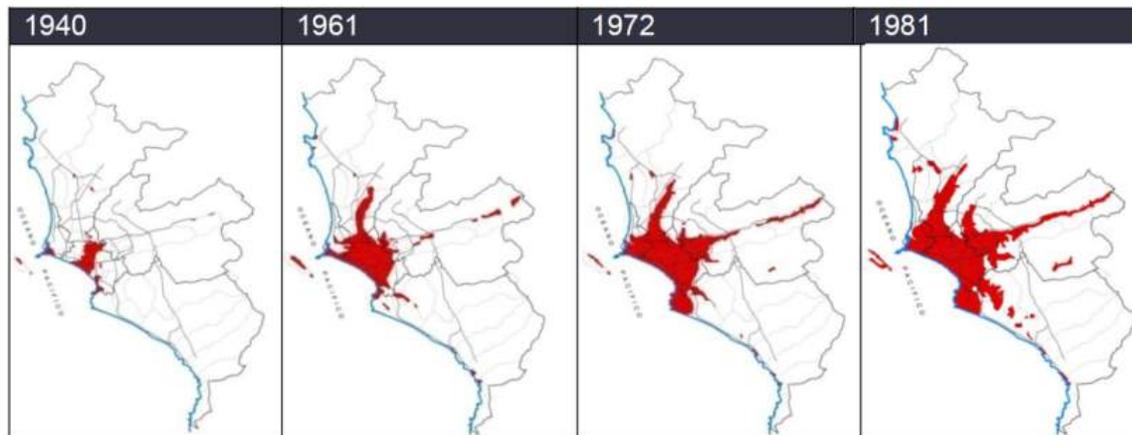


Figure 8.1. Expansion of Lima 1940-1980

Notwithstanding the clientelist opportunities that self-help settlements offered to political parties, the 1961 *Ley de Barrios Marginales y Urbanizaciones Populares (Ley 13517)* sought to prevent the formation of new *barriadas*. Declaring informal settlement illegal, the law placed the State firmly in charge of incorporating or regularizing existing settlements, and of the production of housing to meet existing and future demands. Despite legal restrictions, informal settlement continued: 111 new self-help settlements formed between 1960 and 1968 (Calderón Cockburn 2005). By the end of the 1960s, insufficient political will to dedicate the necessary funds to formal housing construction undermined the *Ley de Barrios Marginales* (Calderón Cockburn 2005). The leftist military government, led by General Velasco changed the rather ignominious term *barriada* to the more positive sounding “young townships” or *pueblos jóvenes*, and instituted a process for *de facto* legalization (Calderón Cockburn, 2005). The military government’s housing policies, based on relocation of settlements and low-income residents to cheaper land in the periphery (such as Villa El Salvador), contributed to Lima’s unchecked outward expansion and to the dramatic decline of affordable inner-city housing (Calderón Cockburn, 2005).

The 1980s and 1990s in Peru were characterized by continuing crisis. Dramatic and sudden opening of the economy after years of protectionism, coupled with stifling external debt and the appearance of the revolutionary groups *Sendero Luminoso* (Shining Path) and the *Movimiento Revolucionario Tupac Amaru* resulted in extreme political and economic instability. In addition to ongoing migration, demands for affordable housing were now also coming from adult children of the first generation of migrants and squatter households (Driant, 1991). Peripheral informal land occupations remained the primary response to growing crises and constraints (Turner, 1968). The production of new settlements in the surrounding hills and the emergence of informal renting occurred through infill in many of the existing settlements (Conway and Brown, 1980). Between 1981 and 1993 alone, Lima’s urban land area increased nearly 13% (8,258 hectares) (Municipalidad Metropolitana de Lima, 2012). Commercial and industrial actors also began to shift their activities out of the city center and into peripheral agglomerations (Osorio Bautista, 2005). Through the final decades of the 20<sup>th</sup> century Lima’s cones gradually transformed from primarily residential zones into de facto satellite cities (Joseph, 2005).

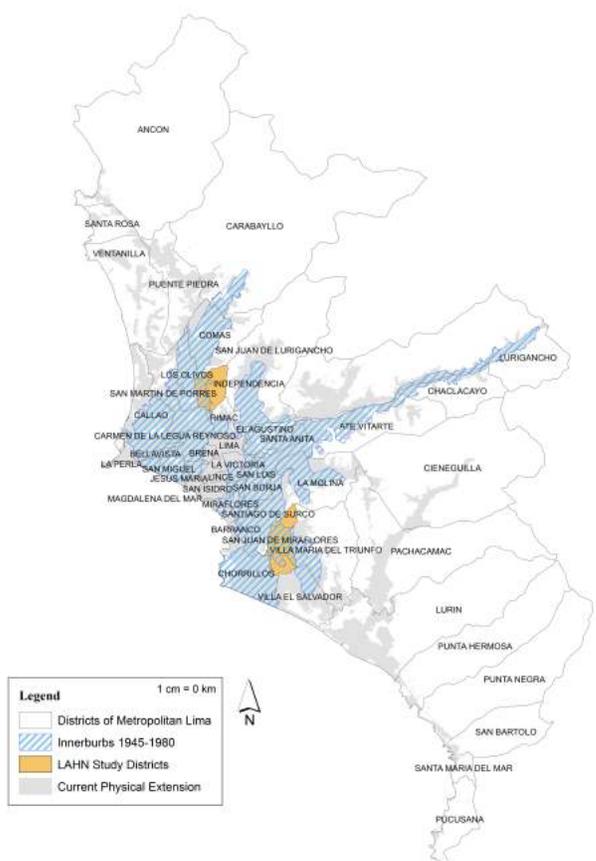


Figure 8.2. The innerburb ring: Lima’s cones and the emergence of the “Innerburbs”

In Lima the so-called innerburbs are embedded within the first ring of suburban settlement, i.e. the area just outside what is considered the traditional city center (Figure 8.2). Complicating this ring-shaped structure, several distant nuclei also form part of the central (inner ring) area and are included in what we define as the “inner urban areas” (or “inurbas” see Chapter 2). These are: the port city of Callao; the beach residential and resort tracts to the south, and the (now) embedded rural *pueblo* cores in the north, east and south. Beyond this inner ring (and the outlying *pueblo* cores) are the “first ring suburbs” established between 1940-1980, and comprised of primarily low-value land along the “cones”. Middle-class beach neighborhoods such as Miraflores also occupy this first ring. However, given their significant economic and service functions, they are tied more closely with the city center.

The true first ring of innerburbs, therefore comprises two quasi half-moons: the first shaped around the districts of Lima and forming part of the northern cone along with the districts of Callao, and the second around districts of the eastern and southern cones (see Figure 8.2 areas with cross-hatching). The lighter gray areas stretching out beyond the half-moons (along all the three cones) are the low-density suburban settlements that have formed since the 1980s. Many of the newest *pueblos juvenes* are at the furthest reaches of these cones (especially to the north and south). Taken together the center and first ring suburbs are estimated to house around two-thirds of the total population of the metro area with an average density of 189 persons per hectare. The axis of the eastern cone contains much of the industrial areas of the city, while the cone to the north follows the Pan-American highway. Many of the earlier irregular settlements – invasions mostly – were established along this axis (e.g. Independencia). Average densities are highest in the northern cone where a higher percentage of homes have two or more stories (211 persons per hectare compared with around 115 per hectare in the southern and eastern cones).

In order to better characterize the nature and varying levels of self-help consolidation in each of these cones, and in what may best be described as the low-income innerburbs of the first ring, the

research group at the non-profit group Alternativa<sup>2</sup> created a four-fold division of housing consolidation (see Figure 8.3). Despite many of these dwellings being over 30 or 40 years old a small number are deemed to be largely provisional (16%), with a further 28.5% at an intermediate or incipient (*incipente*) stage of consolidation (i.e. still requiring upgrading and significant improvement). Those homes and especially the 44% of homes deemed to be middle-consolidated (*media consolidada*) are the primary focus of the LAHN research and the rehab policies discussed in this chapter. Some housing units considered “consolidated” could also benefit from design modifications, as well as some interior upgrades.



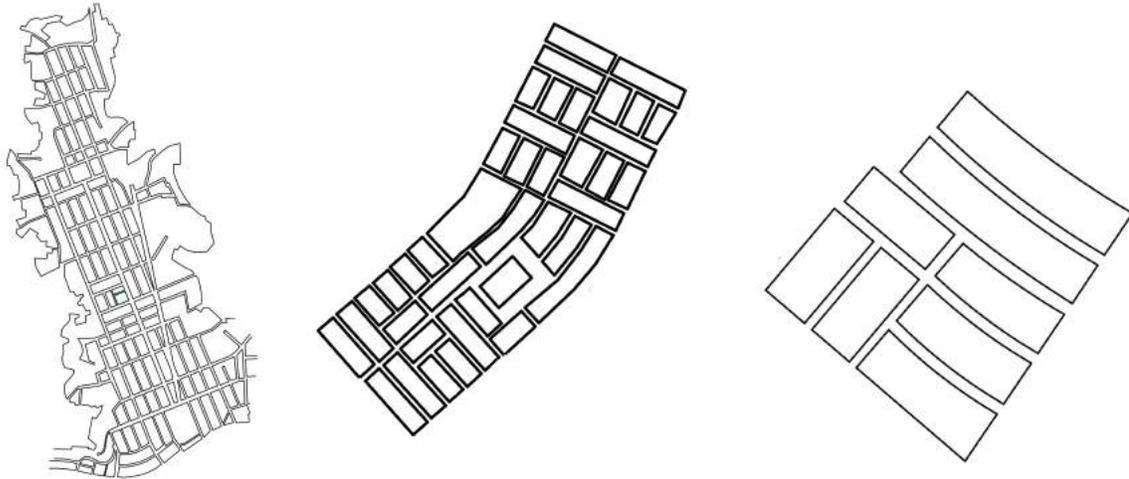
Figure 8.3. Alternativa characterization of consolidation levels in the innerburbs.

Source: Alternativa, M. Lazarte

### The Study Settlements

The LAHN and Alternativa research teams selected three study settlements from within Lima’s innerburbs. Two of these -- Alfonso Ugarte and 28 de Mayo -- are both located in Lima’s Southern Cone in the district of San Juan de Mira Flores. The third – Independencia – is located in the district of the same name in the Northern Cone (see Figure 8.2 for location of settlements; see figure 8.4 for footprint).

<sup>2</sup> Alternativa Centro de Investigación Social and Educación Popular is a non-profit institution dedicated to: “the empowerment of social actors, participatory democracy, and the impact of politics for social change in metropolitan Lima and throughout the Lima region.” Source: <http://www.alter.org.pe/portal/index.php>



Figures 8.4a, b and c. LAHN Study Settlement Footprints (from left to right): (a) Independencia, (b) Alfonso Ugarte, and (c) 28 de Mayo.. Source: Municipal AUTOCAD Data 2011

All three initially formed during Lima’s second wave of rapid population growth in the 1960s (see Table 8.1). Both Independencia and Alfonso Ugarte began through land occupation (invasion), while 28 de Mayo was a relocation of families affected by a tenement housing fire in the central city district of La Victoria. While the official size of 28 de Mayo is comparatively small (101 lots, see Table 8.1), the settlement was the first in the area and served as a spark for further settlement, eventually resulting in a wider zone known as Pamplona Alta. Indeed, Alfonso Ugarte is one of these extensions into Pamplona Alta. Independencia was also the first settlement in its area. The settlement, and its surrounding areas, experienced rapid growth due to its relative proximity to Lima’s city center (approximately 9 kilometers). It was later constituted as an official district that took the founding settlement’s name.

Colonia	Independencia	Alfonso Ugarte	28 de Mayo	Combined
<b>Initial Formation</b>	1960	1967	1963	-
<b>Total Number of Lots</b>	4181	1112	101	5934
<b>Median Lot Size (m2)</b>	140	160	160	153
<b>Average Lot Size (trimmed)</b>	150.06	155.00	159.63	152.24*
<b>Total Surveys</b>	83	70	17	170

Table 8.1. Lima study settlements. \*Asterisks indicate the weighted average.

As one can observe in Table 8.1, Independencia is significantly larger; indeed it is one of the larger settlements in Lima, but all three settlements share relatively similar levels of general consolidation with broadly similar lot sizes, paved streets following a grid pattern, and similar levels of infrastructure development. The slightly smaller modal lot sizes in Independencia may have been a stimulus for the greater vertical consolidation, which has led to two- and three- story dwellings and to the higher average densities noted above.

As elsewhere across the LAHN surveyed settlement sites, the settlement selection was purposive but the households were selected randomly. Thus while the data are illustrative they cannot be extrapolated to generalize about consolidated housing conditions elsewhere, not least given the small sample size in 28 de Mayo.

## **HOUSING, HOUSEHOLDS, AND FAMILY CHARACTERISTICS IN CONSOLIDATED COMMUNITIES**

### *Residence and Ownership*

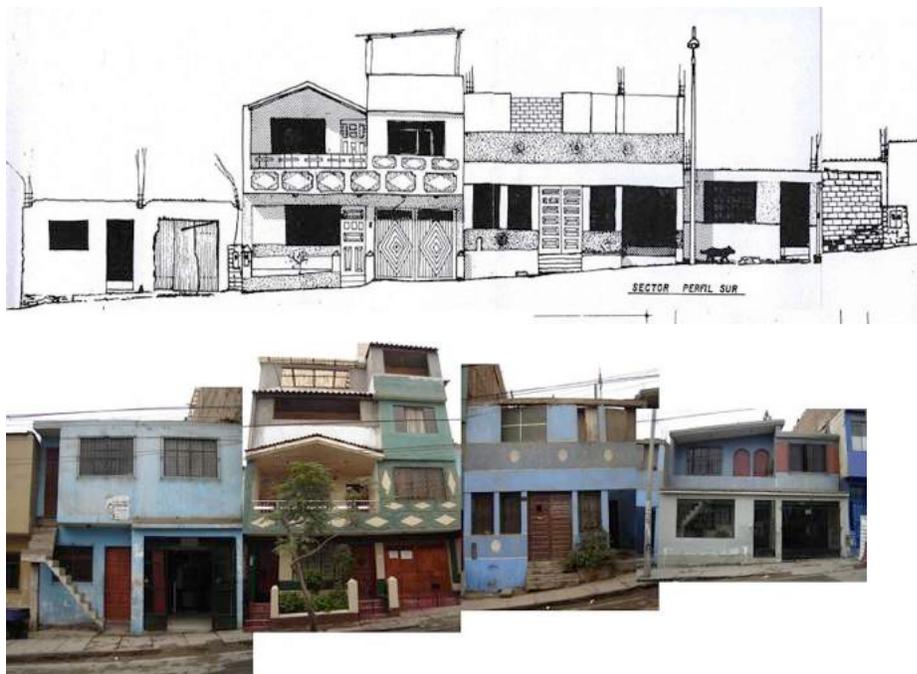
In each of the communities, interviewers spoke mostly with the current lot owners and less often with a surrogate such as adult children or in-laws (37%). Across the three communities lot owners appear to be quite similar. Indeed, our findings suggest that most of the current residents in all three communities are the original owner/occupiers. The average age is 68.5; more than 80% of the respondents reported living on the same lot for over 30 years (i.e. before 1979); and the average years of lot occupancy is 41.9 years (see Table 8.2). Respondents also shared similar histories of lot acquisition: the vast majority (over 90%) indicated that they were already living in Lima before moving to their current community. With the exception of 28 de Mayo, which resulted from a government instigated relocation, the majority of lots were secured via land occupation or invasion (see Table 8.2).

As is often the case with invasion settlements at the outset, most owners initially acquired a vacant lot with no construction on it (87%). Within the sample there are, however, a number of instances of buy-outs (*traspasos*). In Independencia where buyouts are most common (31% of acquisitions, Table 8.2), 17% of the current owners reported purchasing their dwelling “more or

less consolidated”. The higher incidence of *traspasos* is most likely due to the community’s relative age (Independencia is the oldest of the communities), and its relative proximity to the Lima’s city center, which leads to greater market turnover and churn there (discussed below). Most properties (over 90%) have received title regularization (Table 8.2) dating from the mid-1980s in the case of Independencia and Alfonso Ugarte, and a couple years later in 28 de Mayo (1987) where there was also a second phase of regularization later in the 1990s.

### *Structure and Occupancy*

Consolidation levels are relatively high in all three communities. Basic infrastructure services (water, wastewater, electricity, etc.) extend to the majority of lots in the area. Furthermore, as is often the case in older settlements most houses have at least one storey completed (with walls and roof of permanent materials, generally concrete). Homes comprise several rooms and have a bathroom. As one can observe, these relatively high levels of consolidation and infrastructure have generated notable property values ranging from estimated median values of US \$18,248 and \$18,172 in Independencia and 28 de Mayo, respectively, and \$26,350 in Alfonso Ugarte (See Table 8.2).



*Figure 8.5 (above) and Photo 8.1 (below). Street section of Alfonso Ugarte drawn in 1986 (above) and photographed in 2006 (below). Note the “dead spaces” below the staircase in the left and right houses. Source of drawing: Riofrio and Driant, 1987.*

<b>Colonia</b>	<b>Independencia</b>	<b>Alfonso Ugarte</b>	<b>28 de Mayo</b>	<b>Combined</b>
<b>Average years on lot</b>	43.3	39.83	43.9	41.9* (Median 43)
<b>Lots obtained via occupation (%)</b>	64.1	83.8	35.3	69.3*
<b>Lots purchased from a previous owner (traspaso) (%)</b>	30.8	8.8	17.6	20.2*
<b>Percent regularized</b>	94.0	91.4	94.1	92.9
<b>Median Estimated Home Value (US Dollars)</b>	18,248	26,350	18,172	22,393*
<b>Average total inhabitants per lot</b>	7.23	6.96	8.24	7.22*
<b>Average lot population density (m2 per person)</b>	28.7	27.8	28.7	28.3*
<b>Lots with more than one family</b>	43.1	44.3	68.8	46.2
<b>Lots with more than two families</b>	20.2	20	31.3	21.3
<b>Lots with “compound” family structure (%)</b>	33.7	25.7	37.1	31.8
<b>Lots with two or more independent dwellings %(N)</b>	39.8(33)	44.3(31)	52.9(9)	43(73)
<b>Average number of households per lot</b>	1.59	1.73	1.82	1.67*
<b>Dwellings used in part for economic activities %(N)</b>	19.5(16)	27.1(19)	35.3(6)	24.3(41)
<b>Lots with current rental activity %(N)</b>	9.6(8)	6.9(6)	0	8.3(14)*

*Table 8.2. Socioeconomic and physical characteristics. Figures with asterisk are weighted by number of responses in each settlement.*

As one can observe in Table 8.2, there is considerable lot sharing across the three settlements. Nearly one-half of the lots have more than one household, i.e. two or more separate units that budget and prepare food separately, even if they share part of the actual building or a room space such as a kitchen or bathroom. Not surprisingly this sharing leads to quite high densities on each lot; an average of 7.22 overall and especially high in 28 de mayo (8.24 persons on average).

#### *Dwelling and lot subdivision*

High incidences of sharing support the ubiquitous subdivision observed across all three communities. Subdivision takes a number of forms, for instance, a single room or set of rooms in

a separate part of the lot on the ground level, or subdivision on a separate floor (vertical subdivision of horizontal levels [*plantas*]) as shown in Chapter 4. The smaller lot sizes in the slightly older *barrio* of Independencia have led to greater vertical subdivision. Our fieldwork suggests that much of this subdivision serves to provide homes for second and third generation household units. As Table 8.2 shows, over one-third of the surveyed lots reported a “compound” structure on their lot, most likely inhabited by kin-related households living separately within the lot in a compound arrangement.

Independent households – defined as a household occupying a room or group of rooms containing a stove or kitchen – are commonplace. The overall average of the three settlements is 1.67 independent households on each lot (see Table 8.2). Comparing the primary dwelling with the second housing unit in the lot (households in Dwelling 1 and Dwelling 2 in Table 8.3), one sees a drop in the average number of rooms and bathroom facilities and the level of overcrowding (measured by persons/bedroom) increases sharply. As observed in other chapters, these differences between the first (original) and second homes are common, in large part because the second unit is often occupied by younger families in the expansion phase.

Colonia	Independencia		Alfonso Ugarte		28 de Mayo		Combined	
Household (Dwelling 1; Dwelling 2)	1	2	1	2	1	2	1	2
Number of residents (mean)	4.77	3.83	2.681	4.03	2.878	4.38	2.53*	3.99*
Number of rooms (mean)	6.59	4.44	5.27	3.83	5.65	4.33	5.93*	4.15*
Number of bathrooms (mean)	1.51	0.96	1.31	1.14	1.24	1.38	1.40*	1.10*
Number of people contributing to household expenses (mean)	2.23	1.41	2.01	1.30	2.18	1.67	1.476 *	1.40*
Extended households (%)	33.7	9.4	25.7	10	47.1	33.3	31.8*	12.7*
Population density (mean) (persons per bedroom)	1.579	1.979	1.839	2.146	1.782	1.802	1.706 *	2.032 *
<b>Casa/Dwelling #</b>	<b>% (N) with private entry</b>							
1 <sup>st</sup> dwelling unit (respondent)	97.5% (79)		78.6% (55)		100% (17)		89.9% (168)	
2 <sup>nd</sup> dwelling unit (other household)	65.5% (19)		29% (9)		50% (4)		47% (32)	
3 <sup>rd</sup> dwelling unit (other household)	50% (6)		29.4% (5)		33% (1)		37.5% (32)	
4 <sup>th</sup> dwelling unit (other household)	33% (1)		50% (2)		0		37.5% (8)	

Table 8.3. Dwelling comparisons overall, and between independent or compound units

As shown in the bottom four rows of Table 8.3, we gathered data for a sizeable number of multiple independent dwellings in our survey population. No less than 72 lots had multiple dwellings and as one would expect most single dwelling lots had a private entrance, but this number is halved for the second dwelling unit and comes down to just over one-third for the third dwelling. The Lima data are important since they show a larger proportion of lots with independent dwellings than we tended to observe elsewhere in our case study cities. The data also alert us to the problem of private access to those second and third dwelling units.

Turning to other lot uses, automobile ownership and lack of garaging does not appear to be a major issue – at least to the same extent as was identified in Mexican cities. While new homes that were the result of tear-downs usually have a garage, in other dwellings the conversion of a front room into a garage remains relatively rare. However, the conversion of a room for use as an economic activity is quite high – around a quarter of households interviewed (Table 8.2). The

higher figures for Alfonso Ugarte and 28 de Mayo (27.1% and 35.3%, respectively) suggest that rooms used for economic purposes may be slightly higher in the southern parts of the city.

The most visible forms of economic activity are the local *tienditas*, along with sub-letting space to renters. Photo 8.2 shows a *tiendita* that also advertises a room to rent on the second floor. Although the survey did not yield any information about renting in 28 de Mayo, all three communities showed widespread signs that rooms were available for rent, demonstrating the growing importance of renting in consolidated low-income settlements.



*Photo 8.2. Local store and room for rent (Alfonso Ugarte)*

Moreover, some of the newer constructions that we observed in the innerburbs appeared to be for rental or for sale, but in this case the supply targeted lower–middle and middle-income households, either as rooms or more often as apartments (see Photos 8.3 and 8.4).



*Photos 8.3 (left) and 8.4 (right). Examples of recent construction (either as owner apartments or for renting) construction in Alfonso Ugarte and 28 de Mayo*

## **TENURE REGULARIZATION, INHERITANCE AND SUCCESSION, AND LOS AIRES**

The Lima Metropolitan Areas contains two local governments: that of Lima Metro Municipality and the provincial Municipality of Callao, encompassing 43 and 6 municipal districts respectively. Under ongoing policies of decentralization, the proposal is to create 23 regional governments; yet to date the Lima Metro Municipality functions as the de facto regional government with primary planning and coordination functions for both Lima and Callao.

### *Regularization of Property Titles*

As mentioned above, the majority of lots in these innerburb communities are regularized, mostly as a result of a mid-1980s campaign by the municipality that targeted many of the informal settlements (Calderon Coburn, 2005). Also, starting a decade later, the city government inaugurated a second round of property title regularization called the *Proyecto Derechos de Propiedad Urbana* which in effect sought to re-register those earlier titles through a Commission for the Formalization of Informal Properties (Cofopri). Some observers saw this as a largely unnecessary retitling program by the city to offer low-cost opportunities for political clientelism and patronage (Ward, 2002; Calderon Cockburn, 2010). However, the formal rationale and

policy justification was that it would bring significant benefits both in terms of tax revenue streams as well as facilitating market transaction of sale and renting. Moreover, given that titles distributed in the 1980s were for land parcels (lots), it was argued that fresh registration of formal titles to dwellings was necessary, especially since some lots and homes had been subdivided. Between 1996 and 2007 the commission for formalization of property issued 1.6 million titles throughout Peru, most of them coming at a high point in the program in 2000 (Calderon Coburn, 2010). However, property titles – formally registered or not -- appear to have had little impact upon consolidation or upon market performance (Calderon Cockburn 2010: 636), although formalization may ultimately prove to be important and beneficial as these properties are inherited by second and third generations of close family; and as property owners seek to gift or sell floors of their dwelling while maintaining the development rights to *los aires* (discussed below).

#### *Inheritance and Succession: Forced Heirship*

While Peru provides for testamentary inheritance and succession (i.e. through wills) few people do so. Across the three settlements very few households had made a formal will (less than 7% weighted by settlement size). This is not unusual among low-income populations in countries that do have a testamentary culture (such as Mexico). However, just under half of owners (44%) had made some sort of informal arrangement or given indications about what was desired after the owner and titleholder's death. As described in other chapters, it remains to be seen whether such indications will be adhered to or not, or if in the majority of cases where the owner dies intestate inheritance and succession will be assigned according to the Civil Code (Grajeda and Ward, 2012). In Peru, as in most other Latin American countries, the Civil Code provides for “forced heirship” and equal shared division among close relatives – invariably the children or their descendants. In just under 90% of the households the title is currently in the name of the original owner (see Table 8.4). Given that many pioneer households are in their late 60s and early 70s, and that some have already passed away, innerburb properties in Lima we can expect widespread inter-generational transfers of housing assets from the poor pioneer squatters to their children.

Colonia	Independencia	Alfonso Ugarte	28 de Mayo	Combined
Lots with titles held by original owner (%)	81.5	95.4	82.4	87.1
Lots where current owner has a formal will %(#)	8.8(6)	3.0(2)	7.7 (1)	6.1(9)
Lots with no plans for future inheritance (%)	62.3	46.8	36.4	56.0
Lots with informal plans for future inheritance (%)	37.7	53.2	63.6	44.1
Lots with current <i>los aires</i> owner different than original owner %(N)	25.6(21)	11.4(8)	17.6(3)	78.7(32)

Table 8.4: Ownership and Inheritance

#### *Los Aires*<sup>4</sup>

The concept of *los aires* is an interesting and relatively unique aspect for the Lima case. The Peruvian civil code<sup>5</sup> extends land property rights below and above the surface (*subsuelo* and *sobresuelo*). Vertical construction on the surface is permitted within the surface perimeter of plans (i.e. within the building footprint of the existing construction following permitted land use zoning for the area). The term *aires* thus refers to the ability for an owner to build additional floors to the dwelling within the established parameters.

The legislation was passed as a part of the previously mentioned second wave of regularization in Lima in 2000, and the *Ley de Regularizaciones* (ley 27157) lays out procedures for building and title regularization, as well as procedures for future construction. These procedures were most recently modified in 2006 in a decree from the Ministry of Housing and Sanitation (*decreto Supremo 035-2006-VIVIENDA*) and were followed in the same year with several other decrees directed exclusively at the law's implications for construction in the *aires*. The initial policy focus of the *aires* is explicitly based on the idea that construction in the *aires* represents a new alternative to meeting rising housing demand and the goal of densification of the housing stock (*decree precursor*, 033-2006-VIVIENDA). With this in mind, the decree calls for the creation and simplification of procedures to make the required *declaratoria de fábrica* (declaration of the

<sup>4</sup> We wish to thank Isabel Fernández and Liliana Miranda from *Foro Ciudades para la Vida* in Lima for their assistance with legal research informing this section. Additional thanks to Dr. Michaela Hordjik at the University of Amsterdam for her helpful comments.

<sup>5</sup> libro V de *Derechos Reales*, article 954

existing construction), – along with the proposed *independización* -- the legal separation and creation of exclusive property – in the case of *the aires*.<sup>6</sup> Shortly after a second decree (036-2006-VIVIENDA) provided simplified forms and further reduced requirements for public registration, *independización*, and internal regulation (*Reglamento Internal*) related to construction in the *aires*. However, in order to meet the requirements both legal and technical assistance from an architect are required before seeking approval to file in the public (property) register.

It is important to note that the simplified procedures set out for the *aires* apply only to constructions built on or before July 20, 1999. Thus, while the new forms/procedures do facilitate the legal recognition of construction in the *aires* after the fact, the process for formal construction and legal *independización* in the *aires* remains regulated by the most recent general decree.<sup>7</sup> Unlike the previous decrees, these procedures appear to be laid out primarily with middle-income multi-family constructions in mind since formal land acquisition, subdivision, and *independización* must be in accordance with the *Reglamento Nacional de Construcciones* (Art 44, ley 27157). This raises questions about the degree to which most current structures in consolidated and consolidating communities will be able to meet these regulations, or will simply develop the *aires* informally and ignore the requirements for formal future construction and *independización*. For example, construction in the *aires* requires the designation of **common space** for independent access, such as stairs, though building permits for these are no longer required (036-2006 –VIVIENDA). As several photos show in this chapter, stairways and access points to additional levels may or may not rise from the public space, offer private access and or meet these formal standards.

While the *aires* offer the opportunity to sell one part of the property, the legislation also allows the *aires* to be transferred to children or to kin (rather than being sold), which is possible prior to death through an '*anticipo de herencia*'. It is not clear to us, however, whether this needs to be tied to a will. If not, then under the system of forced heirship questions might arise about how a

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<sup>6</sup> Under the civil code land property can be transferred as a whole or in parts (article 955) and thus the *aires* can be made into exclusive property of another individual that is not original lot owner.

<sup>7</sup> See Title I and III.art133, 035-2006-VIVIENDA

pre-assigned transfer of part of the property is handled under the equal shares to beneficiaries provision of the Civil Code.<sup>8</sup>

In the Lima settlement surveys we included additional questions about the *aires* and the current use of the roofspace, which was largely used to keep small animals, hang clothes to dry etc. – quite common uses for the *azotea*. Yet many (around one-third) are also thinking to the future, either to provide permanent homes for some of the adult children, or for rentals (see Table 8.5). As noted earlier, vertical subdivision is quite common in Lima and recent studies have begun to emphasize that densification policies through building upwards and providing for the vertical subdivision of dwelling structures will become imperative (DESCO 2005). (See also Burga Bartra, 2006 for detailed presentation of pilot projects conducted in Lima with these efforts in mind.)

Two key elements are required if vertical subdivision through the development rights of los *aires* is to become an effective tool for densification and future housing supply (in order to meet the needs of the next generation). First, is the need to ensure physical and structural capacity of load bearings of upper floors on the slab and ground floor rooms. Not all households will have the financial capacity to build upwards; indeed a significant proportion of homes still have “provisional” roofs of corrugated iron, which prevents any upward building. Those who aspire to build upwards will require technical support and assistance to undertake rehab planning and development of second and upper floor construction (as the legislation reviewed earlier requires). In some cases this might require tear-downs and rebuilding *de novo*, and this is probably the case in the multi-family structures shown in Photos 8.7 and 8.9, which may have been buy-outs and rebuilds. In this vein, Lima has already taken positive steps to develop municipal codes that provide for development rights of los *aires*, but as previously mentioned it is as yet unclear how far such development rights will be adopted formally by low-income households, and it seems likely that many of the ongoing vertical consolidation efforts by the pioneer families will continue to take place through informal self-help.

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<sup>8</sup> Specifically, would the difference between the pre-assigned share and the equal share need to be covered and redress made to the other beneficiaries? More research and test case tracking is required here. But the policy implications suggest either the promotion of a more widespread use of will making; or finance support to assist beneficiaries to buy out or compensate other sibling (usually) beneficiaries.

A second policy need will be the provision of property titles for those who buy or inherit vertical property, and success here will hinge upon the effectiveness of public policies to allow speedy and low-cost resolution of title transfer and succession from parent(s) to children; or for those same beneficiaries to freely dispose of their inheritance through sale. It will also be important that the previously mentioned formalization of property ownership program be empowered to embrace informal vertical subdivision (as well as horizontal subdivisions of the lot), and to do so with the minimum of restrictions and encumbrances and at low cost. As Table 8.4 shows, we are already seeing the emergence of current owners of the *aires* as being different from the original owner. This does not mean that the current owner does not have formal title (he/she may have registered the property in his or her name), but it is indicative of turnover of titles, within the context of high levels of stability among owners over a long period of time that we noted earlier in this chapter. In many cases these new “*aires*” owners are children who have inherited.

In seeking to understand the self-build process and the rationale and household strategies that shape the use of the *aires* we are fortunate to have been offered access to very recent intensive case studies of consolidated settlements in our own research areas. These studies were undertaken by Olga Peek. In one of these intensive case studies, Señora Rufino is a 58 year old female owner of a self-built dwelling along the main road to Villa El Salvador in the South. She and her husband (who has since passed away) and three young children took up occupancy in 1980 living initially in two provisional shacks totaling 18m<sup>2</sup>. They gradually consolidated and extended to 40m<sup>2</sup> ten years later, to 220m<sup>2</sup> in 2000, and to almost 450m<sup>2</sup> in 2013 (see build out sketch Figure 8.6). The dwelling now accommodates nine inhabitants and comprises: Rufina (the matriarch); sons Wilfredo (31) and Octavio (30), daughter Eliza (34) and her two children ; and daughter Mariela (28) and her two children.

Much of the earlier build-out was horizontal, but today the building comprises four floors, the uppermost of which currently serves as the *azotea* (Figure 8.12), with plans to add a further fifth floor soon. The present third floor is not in use, and is still being finished out (Figure 8.13). Most of the extended family continues to live in the basement set a little way back from the street into the original upslope of the lot. The first floor (with an entrance from the street) has a communal kitchen. Although the home only has two bedrooms and a single bathroom, it is clear that in the

short to medium term the household will have several additional bedrooms, as well as the capacity to formally subdivide among the adult children households and/or to rent out. The aim is ultimately to have a “gym” workout space on the fifth floor.

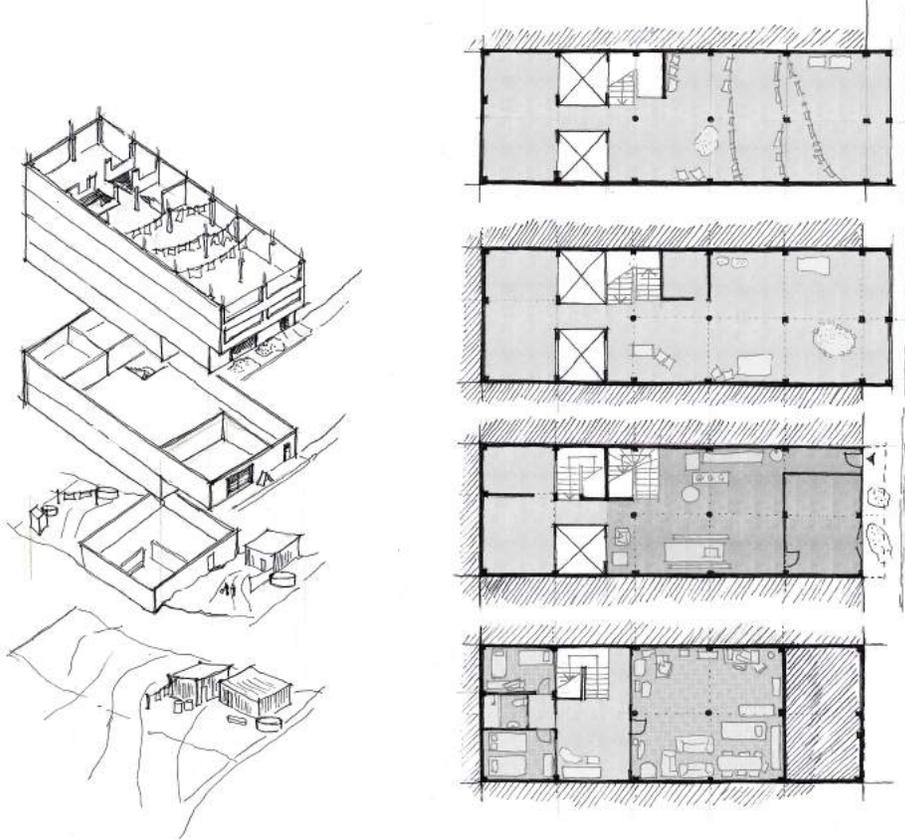


Figure 8.6a and b. Build-out sketch (a) and floor plan (b) of Rufino family home.



*Photos 8.5 (left) and 8.6 (right). Roof/azotea (left) and third floor construction activities with steps (right)*

This is a prime example of planned use and development of the *aires*, in this case with technical assistance, contracted construction workers, and formal plans and financing. However, even though construction is advanced, plans remain flexible. Octavio is a law student and because he believes that he may remain in the house, he would really like to see it finished, not least since having everyone living in the basement is rather improvised. Eliza also received higher education and has an administrative job, so her sister Mariela who is also a law student does much of the childcare for both families. Eliza says that she would ideally like to build her own home elsewhere, but invasions are no longer viable and this is the best strategy, especially while building materials and labor remain affordable. Mariela, Eliza and mother are very close-knit, and the siblings all do their best to support their mother who, throughout their lives has sacrificed much in order that they receive an education. This example shows how three generations live under the same roof, and how future dwelling provision is assured for the siblings and their families – if they should need it. And if not, there will be rooms to rent.

A more informal example of the use of the *aires* comes from the Flores family of 28 de Mayo where the parents (aged 72 and 69) live with six of their adult children and their respective families – a total of 24 people sharing 7 bedrooms, a single bathroom and the kitchen. Much of the build-outs here have been on the ground and first floors and have prioritized the expansion of bedrooms and finishing out the rooms to a reasonable standard, especially those on the ground floor. As is most usual, dwelling construction has proceeded informally without a plan, and while the upper floor is built of brick it still does not have a permanent concrete roof, and a second bathroom is only under construction. An open air corridor runs transversely across the rear of the building separating the back and front sections (Figure 8.8 and Photo 8.8). The rear section of the house has its own external staircase from the street, which will potentially make for a separate dwelling downstream (horizontal subdivision), with vertical separation possible in the front (larger) part of the dwelling. However, 24 persons living in a single home can be demanding; and after their parents pass away, if all wish to remain in the family home it will require creative architectonic planning and perhaps undertaking vertical subdivision of the *aires*, as well as the possible horizontal subdivision of the rear section of the house.

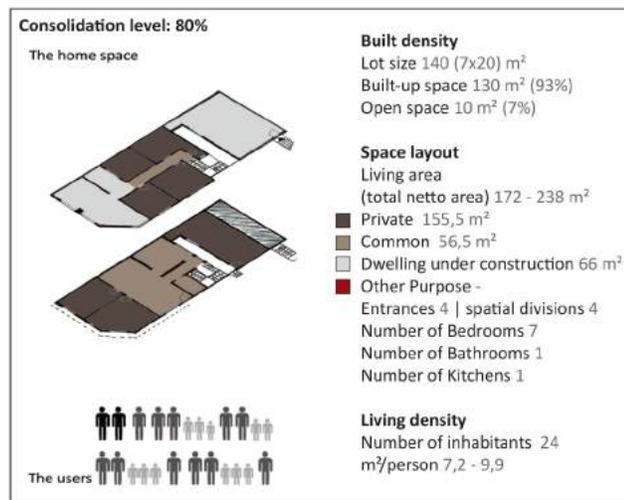
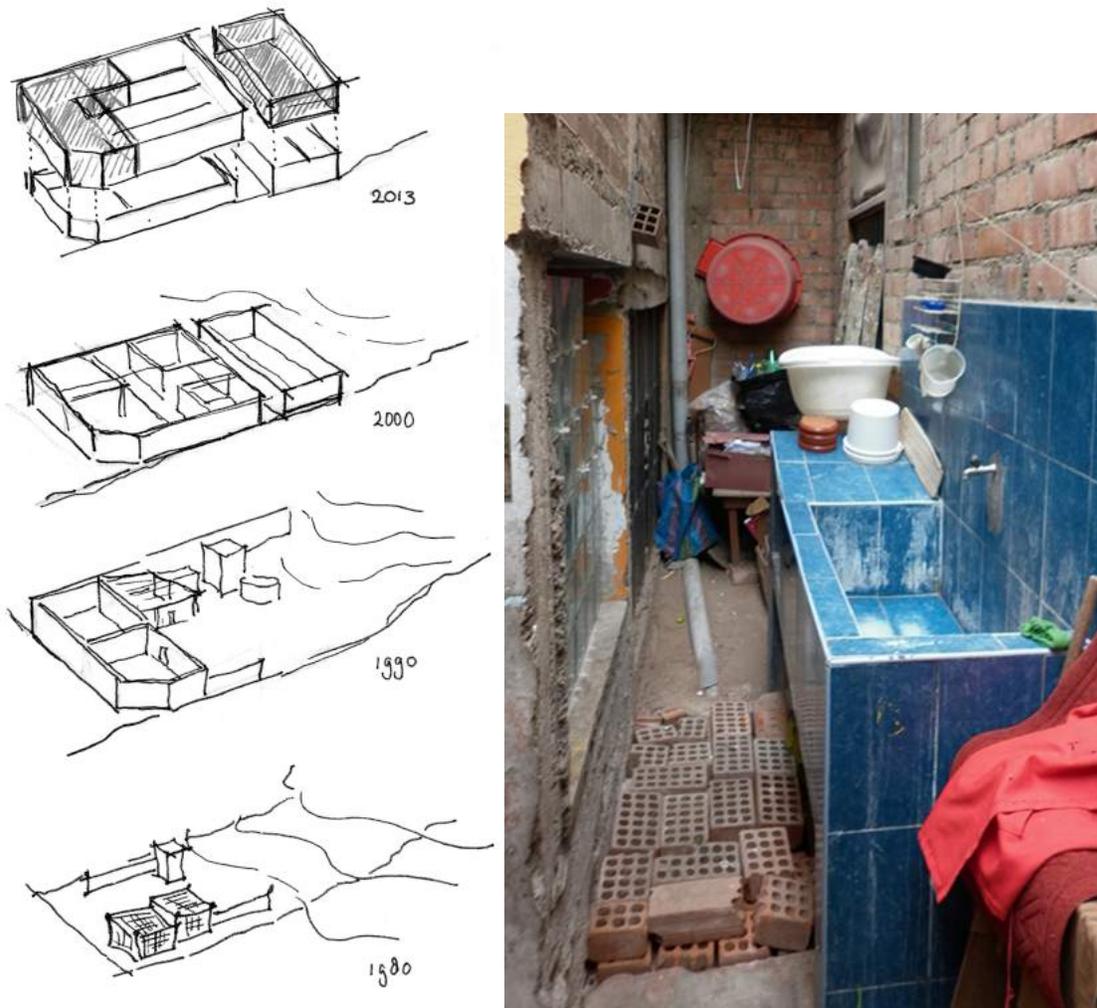


Photo 8.7 and Figure 8.7. Exterior view of house (left) and sketch up of Flores home (right).



*Figure 8.8 (left) and Photo 8.8 (right). Sketch up of the dwelling build out (left) and rear (open) corridor with sink (right).*

## **PRINCIPAL HOUSING PROBLEMS AND FUTURE CONSOLIDATION PLANS**

The relative success that we observe in the two aforementioned cases and in the generally positive conditions of household and lot organization that emerge from the household surveys in the three settlements does not imply that significant problems no longer exist. Except for the buy-outs that often lead to total remodeling that we observed in Figures 8.5 and 8.6, a significant number of families (over one-third) identified ongoing problems with physical aspects of their dwelling, and almost half of them reported problems that we categorize as “serious” (Table 8.5).

This was especially pronounced in Alfonso Ugarte. Homeowners in 28 de Mayo had fewer construction problems than in either of the other two settlements, although complaints about in-house installations of utilities and house design were higher in that settlement.

An important concern is the structural soundness of buildings, especially because of the widespread expectation and desire to build upwards. Although one sees less external staircases rising from the street (an exception may be observed in Figure 8.12), creating independent access to upper floors and dwellings will be an important part of housing rehab. That said, a large minority (42%) has plans to improve the dwelling, and in response to additional questions that we included in the Lima survey, around one-third reported plans for the *aires* and for future vertical development. In Lima it appears that residents have a more positive view of the municipal authorities than in most other LAHN cities: around 17% stated that they would look to the municipality for help, while a further 19.4% stated that they combine approaching the municipality with seeking a formal loan. In this case residents in Independencia seemed less favorably disposed towards the municipality, and were more reliant on family for support. Just over a quarter said that they would seek a formal loan for home improvements. These relatively positive views of local authorities and willingness to take out a loan speak well of possible future efforts to undertake housing improvements and rehab in collaboration with formal bodies and financing.

<b>Colonia</b>	<b>Independencia</b>	<b>Alfonso Ugarte</b>	<b>28 de Mayo</b>	<b>Combined</b>
<b>Dwellings with serious problems –more than one relating to consolidation % (#)</b>	15.9	20.3	11.8	17.3 (29)
<b>Dwellings with physical or construction problems (%)</b>	32.5	44.3	17.6	35.9 (61)
<b>Dwellings with installation and utility problems (%)</b>	16.9	21.4	23.5	19.4 (33)
<b>Dwellings with design problems (%)</b>	12.2	14.5	23.5	14.3(24)
<b>Future Plans for improvement and Use of Remittances for Improvements</b>				
<b>Respondents with plans for home improvements (%)</b>	38.3	47.8	37.5	42.2
<b>Respondents with future plans for the <i>aires</i> %(N)</b>	33.3(13)	38.8(26)	29.4(5)	35.8(44)
<b>Lots with kin living abroad %(#)</b>	22.5(18)	31.4(22)	41.2(7)	28.1(47)
<b>Households who receive(d) remittances from those living abroad %(#)</b>	41.2(7)	27.3(6)	28.6(2)	32.6 (15)
<b>Who would you approach for support with housing improvements?</b>				
<b>Municipal Authorities</b>	12.0	21.4	23.5	17.1
<b>Municipality and formal loan combined</b>	16.9	21.4	23.5	19.4
<b>Bank or formal loan</b>	26.5	27.1	29.4	27.1
<b>Family and kin</b>	15.7	8.6	0	11.2
<b>Don't know</b>	19.3	14.3	11.8	16.5

*Table 8.5. Current dwelling problems and future plans*

Another interesting finding of the survey data is the proportion of households that have family living outside of the country, and who receive (or have received) remittances from those kinsmen (around one-third, see Table 8.5). However, few (less than 20%) use or rely upon those remittances for home improvement. This is similar to findings in Santo Domingo (Chapter 5) where remittances are also a frequent feature, but funds are used for subsistence and family needs rather than concerted house building.

While we found that most owners were generally satisfied with their dwelling environment, one quarter complained of problems of pollution in the neighborhood and over half (some 60% of

respondents) reported problems with gangs and drugs in the community. Indeed this was the principal cause for dissatisfaction within the *barrios* (see also Chapter 9 on Santiago). Thus it is common for people to put security screens on windows, and some streets are “gated” and public spaces are also fenced off (Figures 8.11 and 8.12).



*Photos 8.9 (left) and 8.10 (right). Gates around community park in 28 de Mayo (left). Example of “Gating” in Southern Cone (right)*

## **POLICIES FOR COMMUNITY HOUSING AND REHABILITATION**

At the citywide level Lima has been quite successful and supportive of consolidation. Tenure regularization has long been an important policy, and as we observed, subsequent registration of property rights provides an opportunity for formal and informal subdivisions of the lot and dwelling (both vertical and horizontal). The existing legislation relating to the *aires* is an important policy innovation in Lima that merits monitoring and application elsewhere. However, it remains to be seen how far vertical expansion takes place formally within regulations and codes, or whether informality will by-pass or workaround such norms. The key here will be the way authorities set realistic minimum standards that encourage compliance and technical assistance from appropriate bodies – governmental or non-governmental. Probably the most important consideration is to provide low-cost technical assistance for achieving necessary minimal loads required at ground level in order to ensure safety for additional floors.

Title regularization and/or formal registration of property rights will continue to be important and will be fueled by the process of succession and inheritance of these properties from the first to second generations. Given the very low use of formal wills in Lima, children will receive their

share of the property under the Civil Code provisions. In the majority of cases, beneficiaries will need to ensure that the title is reset to their name in order to provide them with security of ownership and incentives to make home improvements. Clear title will also be necessary to ensure that the fiscal responsibilities (taxes and consumption charges) are maintained. Even in those cases (44%) where respondents reported that there is an informal arrangement in place regarding property inheritance, it is quite possible that these provisions will not be adhered to once individuals realize that the Civil Code protects their rights, creating conflict between beneficiaries (Ward et al. 2011). This is even more likely as the innerburb properties rise in value and as the benefits of their relative location becomes even more attractive. In the absence of a mass campaign to promote the use of formal wills, it will be important to ensure that succession and inheritance is both expeditious and low cost; otherwise reversions to informality and clouded title will ensue. In those cases of disagreement or conflict between beneficiaries, low- or no-cost mediation centers (NGOs or universities) will probably be the optimum route for attempts to resolve claims before going through the courts. Financing support to facilitate sibling buy-outs of other beneficiaries will be important here (Ward et al. 2011).

As the city seeks to address issues of densification and the *aires* it will also need to consider appropriate policies to address the rising demand for rental accommodation within consolidated settlements. Important here will be facilitating the supply of separate rental apartments (probably vertically), or rooms with shared services in existing homes. Financial supports are likely to be important to encourage building or improving rental units within the housing stock.

### *Macro Level*

At the macro (community) level it will be important to ensure the collaboration and participation of local authorities, NGOs and community residents. Mobilization of the community around infrastructure in consolidated settlements is often not easy, except at flashpoints (flooding or problems with solid waste collection, etc.) In Lima, as elsewhere, the issue of insecurity and drugs is such a widespread and ongoing cause for concern that it probably represents the most conducive opportunity for community mobilization and action. If intervention and collaboration with residents can be shown to be successful, then it may be easier to extend participation to other areas of physical rehab and maintenance at the macro level.

- Given the population growth and densification experienced in these settlements over the past 20 years the primary and secondary infrastructure is often in need of repair or replacement. In Independencia, for example, water only arrives at certain hours of the day, and many interviewees also complained of power outages.
- Public spaces and facilities (schools, markets) in the neighborhood often require maintenance and “make-overs”.
- Intervention are required to reduce insecurity.

### *Meso Level*

The immediate street level and the interface between the dwelling and street are the public spaces that are most visible and used by individual households. Invariably, too, this is the space of maximum interaction with neighbors, and sometimes it is a point of contact and conflict over noise, parking or obstruction of entries and exits, etc. It is also the prime venue around which neighborly participation and consensus can be achieved, not least about issues of open or partial access to the street. While private parking seems to be less of an issue in Lima, key policy needs at the meso level are:

- Security and gating of streets
- Sidewalk access
- Incursions of private uses into the public space (stairways from the sidewalk; shop fronts and workshops spilling onto the street).

Again, these issues can best be addressed at the street level through bottom-up meetings and consensus-building among immediate neighbors.

### *Micro level*

At the micro level, technical, financial and regulatory are needed to encourage safe development suited to the needs of residents and their families.

Technical assistance:

- Plan and promote safe vertical expansion upwards (“*los aires*”)
- Undertake horizontal subdivisions
- Plan and retro-design for privacy, independent access, stairwell construction
- Improve air circulation and external light into the home.

- Encourage awareness and adoption of modest home improvements that use “green” or sustainable technologies (reduction in energy and water usage; recycling; etc.).
- Maximize the economic use of space for income earning activities

Financial assistance:

- Enhance access to credit and micro credits for home improvements, subdivisions and extensions.
- Credit to facilitate buy-outs (between beneficiaries) and subsequent retitling
- Promote incentives to develop rental opportunities

Juridical/regulatory assistance:

- Maintain title and formal registration of property rights
- Seek to develop appropriate ownership or other rights associated with holding the house or part thereof
- Promote awareness of minimum code and safety regulations
- Promote the use of formal wills and clarify inheritance rights

## **SUMMARY**

The Lima case has offered unique insights into the processes of subdivision and densification of lots, and has allowed us to begin to explore the merits of legislation relating to vertical development rights, called *los aires*. However, it remains to be seen whether expansion into *los aires* will be undertaken formally or, because of technical and regulatory requirements, or whether it will continue informally. Much of this expansion and informal subdivision is to provide housing for close kin who are unlikely to be overly concerned about formal title to their portion of the dwelling. Their concerns for formal title may quicken when the owner (a parent usually) passes away since, as we have observed, housing asset transfer and inheritance are also largely managed informally. These two policy streams of *los aires* development rights appear to be running parallel to the issue of capacity to manage the inheritance of the parents’ housing asset for second and third generations Both are almost always handled informally. Bringing the streams into convergence and providing for their successful intersection will be a major future challenge.

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