

'YOUNG TOWN' GROWING UP

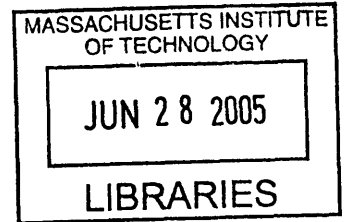
Four decades later: self-help housing and upgrading lessons
from a squatter neighborhood in Lima

by

SUSANA M. WILLIAMS
Bachelor of Architecture
University of Kansas, 2000

Submitted to the Department of Urban Studies and Planning and the Department of
Architecture in partial fulfillment of the requirements for the degrees of

MASTER IN CITY PLANNING
and
MASTER OF SCIENCE IN ARCHITECTURE STUDIES
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ABSTRACT

This thesis examines self-help housing policies in Peru by revisiting Independencia, one of Lima's young towns (squatter settlements), forty-five years after its founding. The study was designed to better understand how Independencia's low and moderate income families have been able to access and upgrade their housing from a long-term perspective.

The thesis has three objectives: 1) to explore the different factors that influenced housing investments by the poor in Independencia; 2) to understand how programs created to support housing, have in fact contributed to or served as resources for families in Independencia; and 3) to understand how this process has worked and whether it is still able to meet the housing needs of families in Independencia.

An underlying issue is the nature of incremental housing and progressive self-managed development. The house is perceived as a process and not as a final product. Using the housing trajectory as the unit of analysis, it is possible to see how this model has worked, how investments were made (building process), why investments were made and what provided the opportunities (influential factors).

Based on findings from the data collected from thirty-one family interviews and housing surveys, the conclusions consider the role of external factors (public services, public infrastructure investments, land tenure, micro-credit, etc) and internal factors (family income and demographics) in housing investments over the forty-five years of its growth. Findings suggest that multi-generational needs are not being met and new forms of ownership, legal tenure, new credit, financing mechanisms and technical assistance are required. Regional planning issues are also emerging that must be confronted for successful integration of the settlements into the city fabric.

Most of the literature on squatter settlements generally has looked at them in only one point in time. This thesis has a novel approach and contributes substantially to the research on squatter settlements because it emphasizes the need for a more dynamic and long-term method for evaluating the development processes of these communities.

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In memory of my grandparents Leoncio, Jesús and Teófila

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PROLOGUE

Housing has lost its voice, not because housing has been satisfied... Not because housing has become more affordable or easier to acquire... Housing has simply squandered its voice on defective visions: The slum tenements of the poor were a potent symbol for revolutionaries... The high rise apartment block was the ultimate vision of modernity... Public housing was the battle cry of paternalistic governments vowing to overpower monstrous housing deficits... Sites and services, mimicking the houses processes of the poor were the rage at the world bank... And now at the start of the new millennium, with the cooling of revolutionary fervor, the disillusion with urban utopias, the shrinking of government ambitions, and the miserable performance of a great numbers of projects, housing visions have been blurred and tired housing voices have fallen silent... Exasperated housing advocates have deserted the field in droves in search of more fashionable development alternatives, and reborn urban planners have found a new mission on the commitment to protect nature from the assaults of housing.

Angel, Shlomo, 2000, p. 3

*... La tierra ya era nuestra
lo sería para siempre
culminando la epopeya
del diecisiete e' Noviembre*

*"El sueño del techo propio
convertido en realidad
ese terreno desierto
pronto sería ciudad.*

*Hoy es un pueblo pujante
pues con esfuerzo infinito
y la lucha de su gente
es un hermoso distrito."*

*Un distrito con valores
y por eso es el resorte
para impulsar el progreso
de toda la Lima Norte*

*Me siento muy orgulloso
de haber tenido presencia
de un hecho tan hermoso
Yo te amo Independencia!*

*... The land was already ours
and would be so forever
thus ending the epic journey
of the seventeenth of November*

*The dream of our own roof
has turned into reality
that land that was desert
would soon become our city*

*Today, a thriving community
because of the difficult task
and with its people's struggle
this is now a beautiful place*

*This is a place with values
and so it is a spring
that for progress pushes forth
all of Lima's North*

*I feel very proud
To have been witness
to an event of such beauty
I love you Independencia!*



Sources: Photo on left from Caminos, H., Turner, J. and Steffian, J. (1989). Urban dwelling environments; an elementary survey of settlements for the study of design determinants. Cambridge: M.I.T. Press. Photo on right taken by the author.

The above verses are an excerpt from a poem from the book *Independencia: Una Historia para imitar*. The poem and the book were written by Arturo Novoa, one of Independencia's original invader's. The complete poem described the invasion of the land and the events that led to it. The verses here presented are the last five of the poem. It was translated by Susana Williams.



This is a photograph of me and my brother on the second floor of our house during construction. I was 12 twelve years old when it was taken. My house was still under construction when I finished my bachelor's degree in Architecture.

CHAPTER 1: Introduction

1.1 The Thesis

This thesis examines self-help housing policies in Peru by revisiting Independencia, one of Lima's young towns (squatter settlements), forty-five years after its founding. The study was designed to better understand how Independencia's low and moderate income families have been able to access and upgrade their housing from a long-term perspective. To accomplish this, the thesis utilized a long-run follow-up approach to collect data and information over time. Housing opportunities in squatter settlements have been created through incremental housing and progressive self-management. The house is therefore perceived as a process¹ (Turner, 1972) and not as a final product.

The thesis has three objectives: 1) to explore the different factors that influenced housing investments by the poor in Independencia; 2) to understand how programs created to support housing, have in fact contributed to or served as resources for families in Independencia; and 3) to understand how this process has worked and whether it is still able to meet the housing needs of families in Independencia.

Most of the literature on squatter settlements generally has looked at them in only one point in time. This thesis has a novel approach and contributes substantially to the research on squatter settlements because it emphasizes the need for a more dynamic and long-term method for evaluating the development processes of these communities.

Hypothesis and main questions

The hypothesis of the thesis is that upgrading programs² intended to support self-help housing efforts, have not directly influenced housing investments and development as predicted. Families' needs (demographics) have not influenced housing investment,

¹ The idea of housing as a process was first suggested by John Turner in his book "Housing as a Verb".

² Upgrading programs include: provision of public services, public infrastructure investments, land tenure legalization programs and micro-credit for housing.

whereas families' means (income) have. In addition, self-help housing, despite being a model focused on process, only addresses immediate housing needs without anticipating long-term family needs.

Data was collected by interviewing thirty-one families in Independencia and documenting their histories and the housing growth overtime. Policies and programs in Independencia were also documented. The research on Independencia is meant to answer the following questions:

Question 1: What factors have influenced families' decisions for housing investments and how have they contributed to the housing development? Two categories emerge:

- a. Internal family factors: Were families able to build according to means (income) and needs (demographics)?
- b. External family factors: Did upgrading programs (public services, public infrastructure investments, land tenure, micro-credit, etc), created to support housing investments, contribute to or serve as resources for families and were they sufficient?

Question 2: Is the current self-help housing process still a good model for Lima and Peru, and are family housing needs being adequately addressed?

1.2 The Context

During the first period of industrialization in the 1940's and 1950's, Lima experienced rapid urbanization and high housing deficits. The response of the poor was land invasion and the building of their homes through self-help building practices, without outside assistance. Originally known as "barriadas", squatter settlements in Lima were initially ignored and later tolerated by the state. In fact, the Law of the Marginal Neighborhoods³ was enacted in 1961 which granted the government the leadership role in social development strategies. In the early 1970s, the military government of General

³ This law gave squatter settlements legal access to basic services.

Velasco introduced a new term, “Pueblo Jóven” or young town, to describe the settlements and give them a more positive connotation.

Independencia, a forty-five year old young town in Lima, Peru, started with an invasion in 1960 in an area previously known as Pampa de Cueva. Its earliest years were extensively documented by Turner (Caminos, Turner and Steffian, 1969). Their study served as a point of departure for this thesis.

Turner became one of the most influential writers on self-help housing and progressive self-managed development basing the model he advocated on his experiences in Peru, and Independencia in particular. He was a highly visible advocate of the positive contribution of squatter settlements as enterprising and creative solutions to alleviating the housing shortage in developing countries. This was contrary to the traditional negative views of squatter settlements in the mid 20th century.

The young towns in Lima are not slums. Lima’s young towns, which started with shacks built with temporary material, have today become established middle-class neighborhoods. Turner also noted that the young towns’ residents were not newcomers to the city. Many lived in the slums of the inner city and older districts before invading land in the peripheries and could not among the poorest people in the city.

A traditional belief about squatter settlements is that services, public infrastructure investments, land tenure programs, micro-credit programs, etc., support self-help housing. The fundamental assumption is that once settlements are provided with the right tools through community upgrading, families will build their houses and invest in them according to their own means and needs.

Few studies have been done to test how incrementally-built housing has developed. Despite the attention that these settlements received during the first years of their formation, as they developed, they were left to mature on their own. Organized squatter invasions always anticipated legal recognition, upgrading and incremental growth. Nevertheless, visiting Independencia forty-five years after its founding the study discovered various levels of development and consolidation.

1.3 The Challenge

The Importance of Housing

Since the adoption of the Universal Declaration of Human Rights in 1948, the right to adequate housing has been recognized as an important component of the right to an adequate standard of living⁴. However, this thesis assumes that housing is a right which is expensive and involves fixed capital and location. Furthermore, it involves additional infrastructure investment and other public services and requires government intervention because of property rights and regulations. Housing is still today one of the most challenging and pressing issues in the developing world.

Addressing housing issues is also important because a house is more than just the house. It is a home, a place where a family comes together, where people grow and develop. The physical environment influences people's well-being and outlooks on life. A house provides a family with personal and private space. Furthermore, a house also represents security as a coping structure, as a step into the city, as a safe investment and as an enterprise. Housing policies and programs need to ensure that they address current family housing needs.

"In the modern world, the idea that houses can be loved and be beautiful has been eliminated almost together. For most of the world's housing, the task has been reduced to grim facts and figures, an uphill struggle against the relentless surge of technology and bureaucracy in which human feeling has almost been forgotten."

Alexander, Christopher, 1985, p. 14

Beyond the Study

The knowledge acquired through this thesis can potentially have practical applications for the city of Lima, Peru, resulting in an improved quality of life and the residents' general well-being. The pueblos jóvenes or young towns of Lima have solved the

⁴ <http://www.un.org/Overview/rights.html>

problem of land and housing access for the poor for the last fifty years, but such places may not be a permanent solution for a new generation of Peruvians (Riofrío, 1990). Policies today continue to focus on the production of new housing through serviced land which creates a substantial strain on national and local government budgets due to the high costs of continuously extending infrastructure and services.

The Peruvian Ministry of Housing, Construction and Sanitation is considering proposals to increase the quantity and quality of housing in communities like Independencia. Current proposals include physical densification (adding housing units on top of existing ones) and consolidation strategies (finishing currently incomplete housing construction).

This thesis' findings will inform potential policies for revisiting not only upgrading, consolidation, densification and revitalization programs already proposed but also other relevant programs addressing issues from the regional to the individual family level.

1.4 The Thesis' Structure

Chapters 2 through 4 establishes theoretical, historical, spatial and logistical backgrounds needed before this thesis' questions can be answered with success. Chapter 2 provides the theoretical framework with a review of the extensive existing literature in self-help and upgrading in squatter settlements, most of which has been written by looking at them in one point in time. The contribution of this thesis to the extensive discussion is a long-run follow-up of the development process of these communities and their housing. Chapter 3 describes the methodology used for collecting family and housing data overtime, the selection of families, how interviews were conducted and the questions themselves. The house is understood as a process rather than as a product. The unit of analysis is the housing trajectory as a manifestation of that process. Chapter 4 describes the community of Independencia and the district of the same name, within the context of the city of Lima and the Northern Cone. It covers aspects of the history and basic information on socio-economic conditions to complement fieldwork findings.

Chapters 5 and 6 problematize the main questions of this thesis. Chapter 5 addresses how the self-help housing model has actually worked for the community. Based on fieldwork, this chapter describes the incremental nature of the building processes followed by residents in Independencia. It emphasizes housing development phases and the different housing trajectories illustrating land acquisition methods, major investments instances, generational responsible for investments, structural systems, programmatic push, technical assistance and financing opportunities, rate of construction, materials used, etc. Sample houses also illustrate some of the main points discussed in the chapter. Chapter 6 addresses why the model's material results in Independencia were as such. It describes the internal and external factors that have or have not influenced families' decisions to build and invest in housing. External factors include upgrading (physical and service infrastructure investments), regularization (land tenure and titling programs) and financing mechanisms (micro credits and materials loans) as well as government attitudes towards housing. Internal factors include demographic or economic events within a family. Different diagrams help relate these factors to Independencia's housing trajectories originally introduced in Chapter 5.

As the conclusion, Chapter 7 attempts to deal directly with the task of answering the main questions of this thesis. It presents the final conclusions and summary of main findings from the data collected evaluating the final role of external and internal factors in housing investments. Further issues for research and actions are proposed covering ownership, credit, long time approach generations, regional planning and new strategies and technical assistance as part of new upgrading strategies.

CHAPTER 2: Housing Policies and Practices

This chapter reviews the already extensive literature in self-help and upgrading in squatter settlements. Despite the fact that most of the literature has been written by looking at settlements from one point in time, studying it provides the theoretical framework for understanding Independencia in the context of self-help and upgrading programs intended to support and contribute to the development of housing in squatter settlements. This chapter will also provide the building blocks for the addition that this thesis hopes to contribute to the existing literature. Subsequent chapters offer a long-run follow-up approach to the development process of these communities and their housing.

Definition of Terms

Some common terms that arise when discussing low-income housing in informal areas in developing countries are self-help, progressive development, upgrading, and consolidation.

"Self-help" is the process by which poor people take control of their housing construction with the understanding that progressive improvements are to be expected and eventually achieved. Progressive development is the gradual construction of houses to meeting developing needs. Upgrading⁵ is the physical, social, economic, organizational, and environmental improvements undertaken cooperatively and locally among citizens, community groups, businesses, and local authorities. Consolidation is the gradual process through which families in established houses improve their dwellings (Ward & Macaloo, 1992).

2.1 Self-Help Housing

The concept of self-help housing was introduced in contemporary literature by John Crane (Crane and Foster, 1953; Crane and McCabe, 1950; Crane and Paxton, 1951) who promoted the first pilot project of its kind in Puerto Rico. During the 1940s, Puerto

⁵ Cities Alliance's definition of upgrading at <http://www.citiesalliance.org/caupgrading.nsf?OpenDatabase>

Rico became the first jurisdiction in the world where self-help became central to housing policy.

Charles Abrams (1966) is one of the most representative early critics of self-help housing models. He made contributions to the understanding of incremental housing processes by viewing self-help as a reversion process from a more technological approach that the poor could not afford. Abrams saw the process of self-help as a failure of institutions to provide the poor with more advanced, efficient, and affordable technologies. As a result of their failure, institutions and agencies would have to encourage the poor to build on their own (1966, p. 169). Some of the drawbacks to self-help housing that Abrams identified were that self-help houses take a long time to build; construction by families is imperfect due to lack of experience; and efficient construction is not achieved since the modern techniques of mass production are not used (p. 171).

As a counterpoint to Abrams, the understanding of informal communities as one solution to the housing problem for the poor comes in part from the writings of John Turner on self-help housing based on his experiences in Peru (Turner, 1968 & Caminos, Turner and Steffian, 1969). Turner became one of the most influential writers on self-help housing with the World Bank and other development agencies incorporating his writings in their housing policy prescriptions (Harris, 1998). He viewed the concept of self-help not only as sweat investment by residents in their houses but also as the empowering processes of owner-design and management. The fundamental aspect to the concept of self-help was that of the residents' autonomy to decide (Turner, 1976). He argued that such autonomy would provide the best results because the houses would be suited to the changing needs and circumstances of their occupants (Turner and Fichter, 1972). Therefore, housing conditions in squatter settlements would improve over time due primarily to the residents' own efforts. He argued that residents in squatter settlements preferred the opportunity to improve and consolidate their houses on their own. He had faith in the rationality of the poor and believed that they were the best judges of their own needs and that they were better able than anyone else to address them (Turner 1967, 1977; Turner and Fichter, 1972). Turner labeled this process of improvement "progressive development," contrasting it

with the “instant development” of public housing schemes (Turner, 1967). In developing countries, international agencies led by the World Bank adopted and promoted John Turner’s ideas and the housing focus changed to self-help strategies and programs.

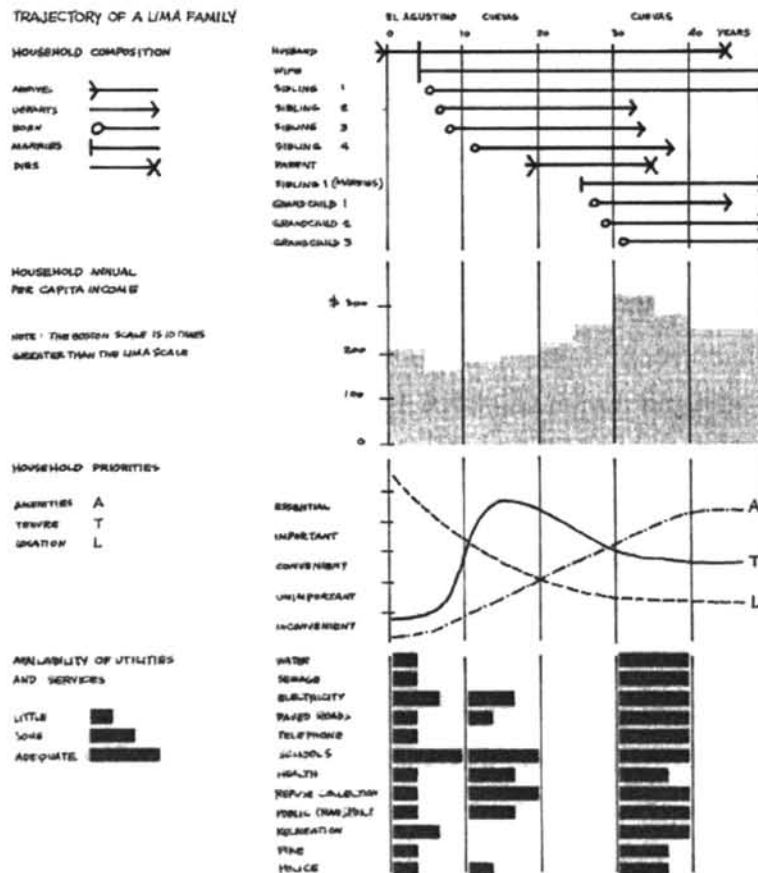


Figure 2.1 – Illustration of the life trajectory of a family in Lima. The analysis approach used here influenced the approach of this thesis.
 Source: Caminos, H., Turner, J. and Steffian, J. (1989). *Urban dwelling environments: an elementary survey of settlements for the study of design determinants*. Cambridge: M.I.T. Press.

Building Standards

Associated with the concept of self-help is the issue of building standards, a topic of extensive literature (Cabral, 1992; Rodwin, 1987; Omuta, 1986; Lacquian, 1983). Intended to determine the quality of housing, they add specific value to people’s assets allowing for comparison and leverage of wealth (De Soto, 2001) as credit collateral, while promoting the health, safety, and well-being of residents.

Building codes and regulations cover all aspects of the dwelling's construction, including the types of building materials and appropriate layout. However, in the context of the developing world, many of these standards, regulations and codes were imported from developed countries (Tipple, 2000 & Rodwin, 1987) and are not adjusted to the realities of the locality. Standards of construction and building codes affect the way people build and hamper the production of housing (Cabral, 1992) especially for the poor. Not being able to meet standards, in certain contexts, means remaining illegal. However, meeting standards also means extra costs that the poor can not afford. Construction in squatter settlements is ad-hoc and contravenes zoning laws and disregards building codes and regulations, but seems to successfully deliver housing to the urban poor through informal processes.

Certain standards and regulations do not consider the small builder in squatter settlements and many times promote the use of some materials (usually more expensive) while minimizing the value of other ones. The ways that people build are not being taken into consideration when setting standards. In the case of incremental housing, residents do not start with a formal unit but with a temporary dwelling (substandard) made with wood or metal panels and/or move gradually to a more accepted type of construction (standard). Two things can occur: (a) reaching the standard becomes too expensive, the residents get discouraged and no improvements are made or (b) residents reach "standards" through shortcuts that actually end up in a substandard quality building.

Several scholars and organizations advocate the relaxation of building standards and their restrictive nature (Rodwin, 1987; Tackie, 1983; The United Nations, 1975 and 1982; Laquian, 1983 & Omuta, 1986), some with the hope that this could encourage the use of local resources and building according to local circumstances (Tipple, 2000). The incremental process of construction that the poor employ allows them to build according to their needs, at prices they can afford (Bahgat, 1984).

Most of the early literature on squatter settlements and self-help was predominantly written in the 1970's and early 1980's following Turner's established line. More

contemporary literature is mostly focused on project implementation, cost-recovery and community participation in upgrading projects (Burgess, 1982; Drakakis-Smith, 1981; Gilbert, 1985; Rowe, 1993; Schon, 1987; Gilbert & Ward, 1985; Lacquian, 1971; William Mangin, 1967; Dwyer, 1975; Frieden, 1965; Koenigsberger, 1986; Stokes, 1963; Mathey, 1992; Payne, 1984; Skinner and Rodell, 1983; van der Linden, 1986; Williams, 1984).

The construction process of self-help housing received a short treatment by Koth Silva and Dietz (1965). Focusing on Latin America, they examined broad engineering problems in housing construction, prefabrication, codes and standards. There has been very little follow up to what happened to the communities in Silva and Dietz's study. Despite addressing incentives to develop, build and consolidate, very few in the English-language literature discussed the building process from the consumer side, especially in relationship to self-help-housing. There is an extensive literature focusing on the supply side of the construction industry in developing countries (Wells, 1985, 1993, 1995). Little has also been written about the implementation of technical assistance programs and other programs directly related to the house itself. Furthermore, those few have been more related to new technologies, new materials, and construction efficiency. There is a scarce number of detailed descriptions on the building process and housing results (Turner, 1967; Mghweno, 1984; Gough (1996) and Kellet (1995).

2.2 Upgrading

Governments that accepted the presence of squatter settlements also endorsed the implementation of sites-and-services and upgrading projects. They understood that the people had for some time provided their own housing and therefore they were likely to continue to do so (Mghweno, 1984). Governments regularized the irregular tenure situation of the residents and initiated programs to upgrade streets, sewers, water supplies and electricity. The World Bank was one of the first international agencies to promote a policy of security of tenure or tenure legalization through its Slum Upgrading Programs (SUP) in the 1970's. Site-and-services projects were also an important component to housing programs. They also followed the self-help building principles and replicated the incremental construction process in squatter settlements.

Governments were to prevent invasions by providing land with security of tenure – families bought a plot of land for an affordable amount- and basic utilities. However, due to the focus of this thesis, sites-and-services will not be further pursued.

Key components of upgrading are land tenure and public infrastructure. Some programs also offered financing mechanisms to assist families specially with building materials loans.

Land Tenure

Security of tenure was identified as critical to the facilitation of housing improvement (Turner, 1967). Turner recommended that land be made available on a secure tenure basis, leaving everything else to the residents.

This topic is presently at the center of housing policies, it started with the beginnings of self-help and received renewed attention with the work of Peruvian economist Hernando De Soto (1989, 2000) who claimed that the main objective of tenure policies is to provide sufficient security of tenure to stimulate land development and house construction. Many researchers have for a long time also advocated tenure legalization and claimed positive causalities between titling, security of tenure and investment in housing (Turner & Fichter, 1972; Angel, 1983, 2001; Habitat, 1997; Friedman et al, 1988; Jimenez, 1983, 1984; Malpezzi and Mayo, 1987; Yi Yang, 1999). Payne claims that while the granting of formal tenure has in some instances proven an effective means of achieving this objective, it is equally clear that tenure is not a sufficient incentive for all population groups in the absence of other factors such as adequate levels of income and the availability of credit on affordable terms (1997, p. 25). Tenure alone is not sufficient to lead to higher investments if housing finance is not available (Bruce, 1981; Mehta and Mehta, 1991; Smets, 1997). In fact, many scholars and practitioners are questioning the legal and economic wisdom of tenure legalization particularly as it relates to housing investments. One argument presented is that security of tenure in low-income housing settlements depends less on legal status and more on matters of perception by residents⁶ regarding the probability of eviction, the availability of services, and the passage of time (Doebele, 1983; Gilbert, 1990; Razzaz,

⁶ Whether security of tenure is achieved de jure or de facto

1993; Strassman, 1984; Leaf, 1994). Full legal titles are not always necessary for investments in housing improvements (Angel, 1983, 2001; Gilbert & Ward, 1985; Silas, 1990; Payne, 1997; Varley, 1998). Others have argued that tenure legalization can even hurt the most vulnerable by raising the value of the property and its rents (Angel, 1983, 2001; Burgess, 1985; Payne, 1989, 1997; Sanyal, 1996; Varley, 1987).

De Souza (1998, 2001) found in a study of informal housing in Brazil that there was relatively little relationship between legal tenure security and the extent of housing improvements. Other factors such as saving capacity, stable income and building skills were at least as important. He presented an alternate argument. Rather than land tenure creating incentives for housing, he argued that high levels of housing investment increase security of tenure in the absence of title deeds. According to De Souza, there are two levels of security: personal and tenorial. Personal security can be achieved with housing investment⁷ that as the settlement consolidates, with many residents investing in housing, translates into tenure security. Therefore tenure security comes at a collective level.⁸ One of the identified factors of housing improvement by De Souza's study was supportive networks within the community.

Public Infrastructure

As public upgrading projects became more costly and complex, public policy priorities have shifted toward tenure and provision of basic services while housing construction was left to the families themselves. Public infrastructure investment contributes to housing investment (Payne, 1984; Shidlo, 1990; Gilbert, 1994). A lesson learned from other projects was that upgrading basic services mobilized extensive housing investment, thus preserving and enhancing the original house. Therefore, most housing discussions focused on land policies and infrastructure with little attention to the individual house (Angel, 1983, Sanyal, 1996, De Souza 2001, Lincoln Institute of Land Policy 2002). According to Angel (2001), housing quality increases when it is properly

⁷ Housing investments provide families with a safe place away from the natural elements and external dangers such as crime. Additionally, resident feel that once investments were made in housing is much harder for governments to displace them.

⁸ Tenorial security is more likely to be perceived by households through their collective access to housing and land (invasion, permission and purchase), as well as by their access to public service provision.

serviced by infrastructure networks, mobile services, and public facilities and when there is access to jobs and markets through an efficient transport system. Conversely, housing quality declines when roads are in disrepair, when neighborhoods are flooded and when sewage and garbage remain uncollected.

In her analysis of the spatial factors that contribute to housing consolidation, Greene found that infrastructure and urban services were not products of the consolidation process but triggers for consolidation and important variables to stimulate the process. This has been recognized by Latin American governments, which have dedicated significant efforts to implement neighborhood-upgrading programs (2003, p. 15). Greene also found that consolidation is related to the road and circulation system within a settlement and its location within the city.

2.3 Financial Issues and Demographics

In addition to tenure and infrastructure, the literature discusses other factors that contribute to families' investments in housing and the overall process of consolidation. Key among such factors are those related to income and demographics. These in turn, shape specific economic activities within families. The most frequent resident activities facilitating housing investment are home-based enterprises, family savings, and financing.

Home based enterprises are regarded as an important complement to family income and a contributing factor to finance housing construction (Tipple, 1993). In their study of two neighborhoods in Colombia, Gough and Kellet found that home-based enterprises provided income which enabled housing improvements and consolidation to take place while at the same time, the dwellings themselves improve opportunities for income generation, employment prospects and productivity (2001, p. 244).

Household savings are also the most frequent source of funds in housing improvements since few families have access to loans or are willing to obtain a loan (Gough, 1998; Kellett, 1995). Income from renting rooms is as an additional contributor to the housing consolidation (Gilbert, 1987; Rakodi, 1995; Gilbert, 1988). Gough and Kellet also found

a potential correlation between housing consolidation and entrepreneurial skill, the ability to effectively maximize business opportunities (2001, p. 241).

Financing mechanisms in housing are also discussed as a complement to housing incomes (Payne, 1997). However, financing mechanisms cannot always reach everybody (Jere, 1984). Harrington mentions how in a upgrading and sites-and-services project in Lusaka, high inflation on building materials prevented many families from benefiting from a loan program created to help families improve their houses (p. 62). Tym (, 1984) added that the poor are not accustomed to borrow on long-term commitments from formal institutions, and they rely mostly on family savings and high-interest loans. There is a need to make families aware of these financing opportunities so that they can benefit from them.

The income sources of residents are informal and difficult to measure and record accurately, a challenge to formal lending institutions. Peru's Bank of Housing focused on infrastructure financing when working with the young towns of Lima (Cornejo, 1990). Delgado (2004) presents a more optimistic outlook for Peru when he mentions that despite recent harsh economic conditions, housing investment and construction have risen markedly, and micro-credit for the working poor is growing more than 20% per year.

In terms of financing priorities, Abrams (1963) acknowledged the roof as the most important part of the structure, but also the costliest and the most difficult to acquire. He observed that once provided with a roof, families managed to buy materials for the remainder of the house. As a result, he advocated for roof loan schemes. He suggested that national and international agencies should assume the responsibility for making roofs available to families at reasonable costs so that the solution to the housing problem would be closer (p. 182).

2.4 Squatter Settlements in Peru

Including Turner, scholars have studied and documented squatter settlements extensively. In 1955, one of the first studies on the *barriadas* of Lima was prepared by Jose Matos Mar through a comprehensive survey of the first ring of development of the

city.⁹ In another report, Matos Mar expressed ambivalence about these settlements, viewing them in part as a "problem" but also emphasizing the positive, cooperative spirit in which they had been created (1961). Self-help construction has long been recognized to be the principal way for low-income households in Latin American cities to become house owners (Gilbert, 1996; Gough and Kellett, 2001). This was certainly the case in Peru.

Many other studies were conducted about the formation of the *barriadas* (squatter settlements) in relationship to rural migration (Dietz, 1976; Harris, 1973) and about the endorsement of self-help in new projects (Perú - Comisión para la Reforma Agraria y la Vivienda, 1959; Harris, 1963). Other had described the *pueblos jóvenes* in Peru as organized land invasions with the *facto* tenure (Payne, 2002). After 19617, the occupation of peripheral desert land was officially accepted (Riofrío in Gilbert, 1996).

Collier (1976) wrote about the political conditions that favored the formation of the young towns of Lima, the patronage of the military government, and the new institutions and laws that were being created to support them. Lloyd (1980) analyzed the formation processes of Lima's squatter settlements and the dramatic manner in which large areas of land were invaded as well as the collective efforts of the new residents to develop them. Riofrío (1978) wrote critically of these new housing policies which he labeled as "two-faced" with the poor permitted to invade land and build their own shelters, while the state and the private sector provided housing for the middle class. According to Riofrío the role for the state in housing provision for the poor was simply providing a plot of land value of the property and its rents (Angel, 1983, 2001; Burgess, 1985; Payne, 1989, 1997; Sanyal, 1996; Varley, 1987).

Peru and Self-Help Housing

Fortunately, Peruvian scholars have produced an extensive collection on the physical aspects of housing that the international literature has not covered. Still, much of the writing has focused on some of the physical and technological aspects of the problem and issues of architectural and cultural identity (Tokeshi, 1999). Perhaps part of the problem is that the planning profession in the developing world is dominated by the

⁹ The final report was presented at the United Nations.

architecture profession while international development agencies are dominated mostly by social scientists, especially in the last decades.

Riofrío and Driant (1987) carried out perhaps one of the first follow-up studies in six twenty year old consolidated neighborhoods to understand what houses had been built by the poor in old squatter settlements without technical assistance either from the government or any other private or public institution. At the time of their study, more than 50% of houses in the *barriadas* of Lima were no longer considered provisional.¹⁰ They argued that there was a need to evaluate the advantages and disadvantages of this housing provision model for the poor. One of the conclusions reached in their study was that the government should no longer evade the responsibility to technically assist the popular housing that was being built in these settlements. Nevertheless, this study was a look at the condition of these settlements from only one point in time. Riofrío and Tokeshi (Riofrío, 1987, 1991; Tokeshi, 1999, 2001) and DESCO¹¹ have written the most on self-help housing construction processes in the young towns of Lima. They pointed out its technical limitations as well as the problems it generates such as lack of adequate ventilation and lighting, circulation pattern, and the inevitable long process of incremental building.¹² These authors also recognize the merits of the process.

Reports on the United Nations Open University about cities in Latin America describe some of the current problems in these settlements (Gilbert, 1996). In the chapter addressing Lima, Riofrío describes that while at one level the *barriadas* were able to provide housing for the poor, they also meant problems for some families. Some of the problems are lengthy building processes, subsequent long-term inadequate and crowded conditions, low-standard construction, and unsafe houses. He criticizes the government policies that did very little to assist the poor with the construction of their houses.

¹⁰ This means that they were already constructed of brick walls.

¹¹ DESCO (Centro de Estudios y Promoción del Desarrollo) is a research center and NGO whose work focuses on the development of the Southern Cone of the city of Lima. Riofrío and Tokeshi, whose writings have been mentioned in this thesis, are members of DESCO.

¹² They argued that families without immediate technical and financial support are at risk of not having an adequate house for an extended period of time.

Additional Literature

Riofrio and Tokeshi also analyzed how families make use of their houses in a study prepared for the Ministry of Housing (1998). DESCO additionally prepared a study identifying the different types of houses built under this modality in the entire country and divided them into regions according to climate and geographic conditions (2004).

The literature with the narrowest focus is that associated with minimum standards. Technical manuals based on these studies have been prepared on technical assistance for housing (Tokeshi, 2001). The Peruvian Network on Housing, Environment and Health, along with the Ministry of Housing, prepared a diagnosis of healthy conditions in housing and put together a manual recommending a set of minimum standards for housing, especially as it relates to the self-help building process (2000).¹³ NGOs, universities, and research institutes conducted many independent studies. Unfortunately little of this information is being shared, even among members of the profession. Other published studies and proposals related to self-help building, materials and housing design have been carried out by Vega (1992), Romero, (1992), Monzón (1990), Zarate (1991) and later in internal studies by the NGO's Alternativa¹⁴ (1999) and Foro Ciudades para La Vida (2000).¹⁵

Densification and Consolidation

Lima is today a city of low-density¹⁶ due partly to the continuing sponsored invasion and self-help process that have contributed to urban sprawl. As the demand for housing increases, new policies and ways of providing housing for the poor must be considered.

¹³ Red Peruana de Vivienda, Ambiente y Salud, Diagnostico sobre la Salud en la Vivienda en el Perú, working paper, 19/04/00 (<http://www.cepis.ops-oms.org/>)

¹⁴ Alternativa (Centro de Investigación Social y Educación Popular) is a local NGO based in Lima, Peru. Their focus area is the Northern Cone of the city where they have worked for 25 years.

¹⁵ Foro Ciudades para La Vida, based in Peru, is a national network of 78 NGOs, research institutions, universities, and municipalities collaborating on environment-related projects. They have conducted research and offered seminars on sustainable construction in housing and health in housing.

¹⁶ It is important to clarify that the common perception of Lima as a low-density city is based on its physical characteristics and it is not related to population density. Older young towns have houses that average two stories, while newer settlements housing average only one story. High demand in housing combined with low-rise buildings, have created both crowding conditions and people moving to different areas in search of more land.

The existing process can not go forever (Riofrío, 1991) since new land has become scarce and expanding services and infrastructure are becoming increasingly expensive. Lima was able to cope in the 1960s and 1970s by extending services without improving basic facilities and lengthening power lines without increasing overall capacity (Riofrío in Gilbert 1996), but the conditions are worsening. Revisiting old settlements to find a potential solution to these new problems is the latest sentiment of many practitioners and scholars in Peru.¹⁷ They recommend a deliberate focus on understanding the process which made Lima different from the extensive previous studies. Proposals on physical densification (adding housing units on top of existing ones) and consolidation strategies (finishing existing housing construction) were made for these settlements (DESCO, 2001).

"There is great scope for such intervention in the young towns where as many as 300,000 buildings could be extended to produce additional homes. Densification could be encouraged by improving living conditions in the deteriorating areas of the city."

Riofrío, 1996

There is a demand for additional housing in these communities and some households are already subdividing their lots or adding more floors. Tokeshi (2001) advocated technical assistance, arguing that this is the time since houses are undergoing a new process of transformation and recycling of uses to modify them from one-family houses to multifamily houses.

The recommendation for densification and consolidation were voiced in the international arena by Ward (2001), who has also proposed the need to revisit these old neighborhoods. Ward argued for a new generation of research and a normative policy. He further suggested new densification and consolidation strategies as an alternate way of urban infill and revitalization. Although traditionally applied to urban and historic cores, they should now be aimed at upgraded informal communities with a focus upon

¹⁷ This sentiment came across many interviews and informal conversations with professionals and practitioners in Peru during in the context of an International Workshop on Housing, organized by the Special Interest Group in Urban Settlement (SIGUS) from MIT and the Facultad de Arquitectura Urbanismo y Artes at Universidad Nacional de Ingeniería.

the new dilapidated and old housing stock (p. 3). After all, they constitute a significant portion of cities in Latin American countries. An important point to consider is that a large portion of those original owners (or their families) still occupy those lots since residential mobility is low in Latin America (Gilbert 1999, Tokeshi, 2001).

It is not clear however, what the literature means with the "deterioration and dilapidation of the housing stock" and its "consolidation" in older settlements that seemed to constantly be changing and improving. Furthermore, these issues are being discussed at a macro level. This thesis hopes to contribute to the contemporary literature with what has and is happening at the local level to see how local and individual strategies can eventually come together and meet with potential citywide strategies. Perhaps these settlements do hold some of the answers to meet the new deficits in housing and provide for the poor.

CHAPTER 3: Housing as a Process

This chapter describes the methodology used for collecting family and housing data overtime, the procedure for family selection, and the interviewing parameters.

3.1 Housing Trajectories

In order to reach findings useful in answering the questions posed in the introduction, the backbone of this thesis is a long-run follow-up approach focusing on the housing trajectories of houses within Independencia. With housing trajectories as the unit of analysis, the house represents more than a static physical presence. Housing trajectory refers to housing as process, the physical manifestation of the self-help housing model which grows on the principles of self-determination and “freedom to build” (Turner 1972). It also refers to the nature of incremental housing construction and the notion of progressive self-management development. Therefore, it cannot be studied in a snapshot but it has to be explored over time. As a roadmap, the housing trajectory is the point of departure to understanding when, how, and why incremental housing investment has occurred and will potentially continue.

3.2 Research Process

Peru was an ideal context for this study because of its long and well-documented urban and housing history. Visiting Lima and the communities studied by Turner more than thirty years ago became the first step towards understanding the development of these communities. Preliminary meetings with city officials and interested NGOs took place, as well as informal interviews with community leaders. Basic data was collected on the communities, including aerial photos, regularizations maps, etc. Informal interviews then took place with heads of households to learn the families’ stories about their houses, levels of community organization, current needs, problems faced, etc. These meetings influenced the final research design and the next steps of this research.

For the purposes of this thesis, the house was defined as every structure built on the lot.¹⁸ It became important to track all the subdivisions and changes made to the house as the family grew. In the majority of cases, there was a direct relationship between housing and family trajectories since there was little housing mobility. It is also important to mention that at the time of the upgrading process, all invaders were given one plot per household. Since all plots were similar in size, it is fair to say that all families interviewed started equally.

Selecting the Community

Due to its well-documented history, the community of Independencia was chosen as the area where a more detailed data collection of family and housing trajectories would take place. This young town was part of the 1969 study carried out by Tuner (Caminos, Turner and Steffian, 1969). As in this study, he had documented housing and family trajectories which allowed for comparison over time. Independencia is also a good example of the second ring of informal development in Lima which started at the beginning of the 1960's in the arid flatlands surrounding the city. Independencia was also one of the oldest settlements in the Northern Cone of Lima. It was upgraded by the community itself and later recognized by the government as a district. In the 1990's, Independencia became part of a nation-wide Regularization Project sponsored by the national government and the World Bank. These programs focused mainly on land titling and property registrations.

Additional Sources of Information

Other sources of information constituted:

- Library research focused on squatters, Lima, progressive development policies, etc.
- Conversations with founders in Independencia, who were the original invaders of the land.
- Interviews and conversations with professionals, local government officials, local academics, practitioners and NGOs working in these two communities.
- 1993 Census, surveys and past studies from NGOs, government research centers, universities, and development agencies.

¹⁸ It will also be referred to as housing structure.

- SIGUS¹⁹ – FAUA²⁰ International Workshop “Three Decades of Squatter Dreams: Learning with Communities” presentations and one-day seminar.

Within a similar analytical framework, the International Workshop “Three Decades of Squatter Dreams: Learning with Communities” was organized in Lima with the participation of students from MIT and the Universidad Nacional de Ingeniería in Peru. Student teams also visited four of the communities studied by Turner in 1969. The seminars, field trips and lectures associated with the workshop, as well as the work and presentations of each team became a resource during the final stages of this work.

Collecting the Data

Data collection was achieved through semi-structured interviews and a detailed inventory of the building or buildings located on the original lots in the oldest areas of the settlements. The initially proposed survey format, prepared to facilitate the data process and analysis of the abundant information collected over time, was quickly changed after realizing that richness of detail was lost in family trajectories. There was a need for a much deeper understanding of the complexities of family and housing trajectories than what a survey alone could provide.

Forms were prepared for the interviews and consisted of the following sections:

- A family tree form was prepared to capture all family members and the different generations that have lived in the house at any point in time. This included extended family members and others that may have lived with the family. The names or nicknames of the family members were indicated only for reference since they were necessary to track the different events in the family. Next to each family member; occupation, levels of education reached, ages, and relationship to the first generation head of households were also indicated. The different households that existed within the family were highlighted.²¹ Also written on the forms were how long each family member lived in the house, when and why they left the house, if they returned, when they married, and where they went to live next, other countries that they may have visited, etc. Family members currently living in the house were noted.

¹⁹ Special Interest Group in Urban Settlements at the Massachusetts Institute of Technology

²⁰ Facultad de Arquitectura, Urbanismo y Artes at the Universidad Nacional de Ingeniería

²¹ A household is defined as the group of people that cook and eat together.

- A separate form was laid out with a grid for the purpose of sketching the houses' floor plans. Notations were made in the plans about building materials, time and length of construction as well as the different uses of each area with changes over time. Infrastructure connections were also indicated. Photos of facades, main spaces and construction details were taken.
- A five-page main set was prepared with specific questions to understand the family views and preferences in relationship to housing conditions, construction limitations, housing uses, and future housing investment, etc. There were also questions related to their community and more specific questions on income, ownership and legal status as well as willingness to rent or sell their house. The forms were prepared with the idea that at least one representative from two generations would answer questions and potentially offer differing views and aspirations.
- The last form was the head of household's migration history tracing back to the place of birth, the time of arrival to Lima, the places where the family or members of the family had previously lived before moving to Independencia, and the main reasons for moving to the area.

Participants of the workshop provided valuable feedback to the design of the interview forms and some helped review and test it before the final interviews. A copy of the interview forms is located in the appendix of this thesis.

The Field Work

The interviews and housing related inventories took place over a three-week period between January and February 2005. Each interview lasted an average of two hours and was carried out in groups of two, one person asking questions and the one person documenting the house and taking photographs. The help of a second person was always enlisted to decrease the length of the interview. This second person was generally a past workshop participant since they were already experienced in this type of research.

The selection of the houses for the study was made by superimposing a grid on top of a map of Independencia and identifying the dwelling nearest the intersection of the grid lines. The size of the grid was calculated according to the sample required. For this

study thirty houses were set as the minimum number for interviews. The grid was created by using existing coordinates on the maps provided by the municipality as reference. One goal of this approach was that all sectors of the community were to be represented. The following is a map of Independencia indicating the points where interviews took place:

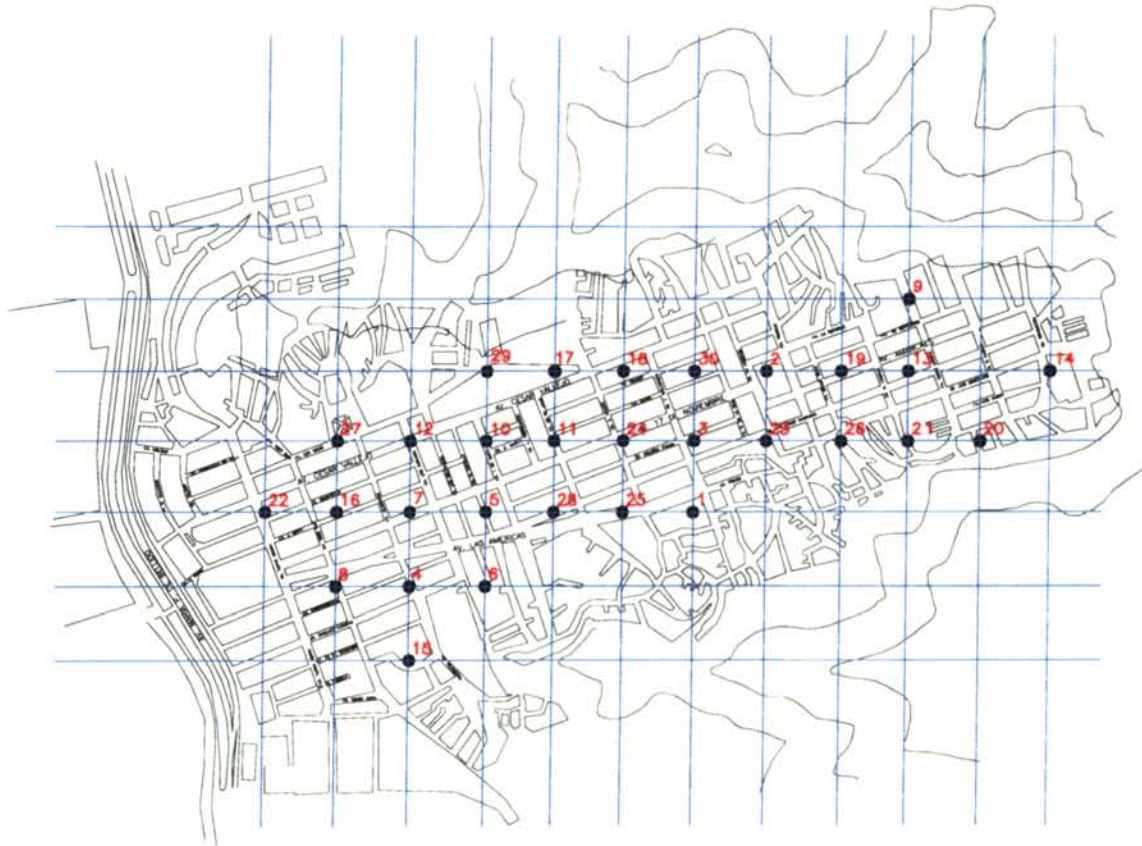


Figure 3.1 – Interview Location Points

Map Source: Municipality of Independencia
Prepared by Susana Williams

The total number of families interviewed and houses documented was thirty-one. Four of the thirty-one families correspond to the families previously interviewed by the participants of the international workshop. They were interviewed a second time using the interview forms. The families and houses of three community and sector leaders were also documented. The first invaded areas of Independencia are divided in three organized sectors with a leader in each. It was important to introduce the study, its

purposes and the study team to the sector leaders so they could introduce them to the community and facilitate acceptance.

It was important to receive information from all generations present. At least one person from each was interviewed. Eighteen (58%) of the thirty-one families interviewed had more than one generation present during the interview. The interviews were carried out throughout the week with the exception of Sundays. It was surprising to see the number of people at home during the weekday. That was partly due to different work schedules, commercial activities at home, unemployment conditions, retired members, etc.

Many families were resistant and skeptical at the first approach. They were visited up to three times before agreeing to participate. Formal letters were presented with contact information from the person in charge of the study and the contact information of municipality officials aware of the study. There were seven non-response cases: five families refused to be part of the study, a sixth family was not able to keep the interview appointment due to health complications of a family member, and the seventh family postponed and changed the appointment until it was terminated by the study team. When families refused to be part of the study after a third approach, the second nearest family was contacted. However, there was one street in the community where all four families contacted refused to participate and that area was not considered. The non-response group can bias the sample and it may explain possible discrepancies with what census information and the fieldwork data shows. Out of the families that refused to participate, two were three-story houses, two were two-story houses and one was with a partially built second-story. The houses were all in good condition and well maintained overall. In all five cases, at least the first story was painted and nicely finished.

Processing the Data

With so much information being collected, it was important to know the precise sequence of events. There was much data triangulation and verification. Data obtained was compared with data from other studies. However, it is important to remember that many current studies are based on the last 1993 population census, produced in a

period in which the country underwent many changes with the liberation of the economy, privatization of national enterprises, etc. A big challenge of the process was the collection of data over time. To address some of the potential problems, many similar questions were asked across the interview to help verify the information. In many cases, respondents used the age of their children as reference points for specific events. Some gave the ages when they arrived and some their current ages. Some used specific events such as earthquakes or political marches. Income was reported in terms of the currency of the time and minimum wage was reported as amounts during past jobs.

Each family represented forty years of rich information. Selected interviews were fully transcribed but the process proved to be long and tedious. Specific questions were transferred into charts, house plans and elevations were drawn up and pictures were organized. Due to the richness of the data, all families and houses data was coded and tabulated in summary charts to understand main basic trends. Data related to these trends was analyzed in detail and parallel charts were created for this purpose.

Diagrams for all thirty-one families have been prepared focusing mainly on housing trajectories since the house was the unit of analysis. In the housing trajectories; construction techniques, building materials, technical assistance, time of infrastructure installation, what areas were built by different generations, changes of spaces, land or house purchases and length of construction were indicated. The housing trajectories were used as a base to analyze the other factors. Income streams and job types were tabulated. For the first round of analysis, only the predominant characteristics in jobs and income streams in each generation were considered. This proved to be significant in understanding the different dynamics within each family. Population numbers in different points in time were also paralleled against the timeline. The diversity of each family's trajectory was explained in scenarios that help illustrate what the diagrams were showing in greater detail.

Selected families and houses were presented as case studies to illustrate specific points. Chapter 6 presents a collection of different scenarios to illustrate some of the

main findings. For the descriptions and illustrations of specific families, pseudonyms have been created to protect their identity and the respondents' right to anonymity.

Housing and family trajectories provided valuable detailed information about Independencia's housing investments. However, the trade-off was the sample size had to be reduced and only thirty-one families were interviewed. For the purposes of the thesis, the abundance of information that interviews and trajectories provided were more important than larger statistical data. It is acknowledged that both are necessary to be able to follow trends and patterns of development. The data gathered from the thirty-one families provided potential trends that would need to be studied in more detail.

The purpose of this thesis is to understand the development of the aging upgraded squatter areas and to learn what factors have or have not contributed to the decisions made by families to invest in housing. The surveys prepared and the information obtained from these surveys led to the creation of diagrams to act as visual aids to help make the connections between the housing trajectories and different family events and conditions over time.

CHAPTER 4: Young Town Independencia

This chapter presents the community of Independencia within the context of Metropolitan Lima, the development of the Northern Cone of the City, and the District of Independencia, that carries the same name. It covers aspects of the history and the beginnings of the district with the creation of the community of Independencia. Independencia is one of the urban zones of the District of Independencia and it was also the community selected for interviews and surveys.

For the purposes of this thesis, Independencia will be referred to as a community and an urban zone interchangeably. The chapter offers some insight on the main characteristics of the district providing basic information on population and other demographic figures, income, employment, economic activities, housing conditions, green areas, basic services and infrastructure, regional economic development, poverty levels and social organizations. The information presented is based on the 1993 National Census and other studies conducted by private surveying firms, NGOs and the municipality of Independencia. The information presented was selected according to the factors previously identified as contributing to housing investments. The purpose of this chapter is to help validate and support fieldwork findings.

The first section explains the development of squatter settlement in Lima and the political and historical conditions that led to it. It introduces the Northern and Independencia as part of the process of rapid urbanization of the city. The second section of the chapter focuses on the district of Independencia and its main characteristics. At the end of the chapter there is a personal account of Independencia today.

4.1 Lima, the Northern Cone and Independencia

History of Lima and Squatter Settlements

From its origins to the end of the 19th century, Lima had not experienced significant changes and maintained a steady population growth²². At the first half of the 20th century, Peru was mainly an agricultural society with 65% of the population living in rural areas. However, this would change during the 1950-90 period, when industrialization and later liberalization of the economy spurred flows of people from the countryside to the city looking for better economic opportunities. Within this context of industrialization of the economy and accelerated migration, squatter settlements became one dominant form of city growth.

The first wave of expansion in Lima (1945 – 1960) was the establishment of squatter settlements close to the city core. This first ring of squatter settlements was created either through the invasion of the hills adjacent to the historic district or through the leasing and eventual appropriation of private properties. Laissez-faire attitudes by various governments in the 1950s allowed people to invade land, build precarious dwellings and struggle to obtain basic services (Chambers, 1997). The population of Lima grew from 614,400 people in 1940 to 1,845,000 in 1961 (Driant, 1991) and as expected, the demand for housing grew. This was the case especially for people with fewer resources. There was an increasingly qualitative and quantitative deficit in housing not only because of a shortage in the housing supply but also due to the deterioration of the existing housing in the “tugurios”²³ or inner city slums. From 1950 to 1960, squatter settlement residents built as many houses as the private construction sector.

In order to discourage new invasions of private on public land, the national government initiated the program Popular Urbanizations of Social Interest (UPIS). Through this

²² At the beginning of the 20th century, Lima had about, 130,000 inhabitants. Source: Klaren, P. (2000). *Peru, Society and Nationhood in the Andes*. (pp 434).

²³ It is important to distinguish the difference between “tugurios” and squatter settlement areas. Squatter settlement areas within the city occurred through appropriation of land in an open space or undeveloped private property. “Tugurios” or slums are referred to existing building infrastructure and dwellings that have deteriorated over time due to age, lack of maintenance and overcrowding.

program, the government reserved public land, divided it into lots, provided utility infrastructure and in some cases, core houses to be developed through self-help programs. Low-income families did not need to buy or rent land from speculators or invade land because the state would provide it for them with minimum services and at a minimum cost. This program also changed the status of the oldest settlements into a district, urbanization or Human Settlement status. However, the government was able to develop only eight UPIS communities and although it reserved public land to develop, public services were not installed. The government slowly abandoned the program at the end of the 1960's. In response to this situation, many inhabitants who had been waiting for the UPIS policy invaded not only the areas that were reserved for this purpose²⁴ but also other public land²⁵ and the uncontrolled invasions resumed.

These new invasions became the second ring of squatter settlements located far from the city, mostly in unclaimed desert area. One hundred and eleven new squatter settlements were established between October 1960 and 1968. Eighty-one of them were on publicly owned lands, including Independencia.

The dynamics of squatter settlement growth changed during General Prado's government (1956 – 1962) with the enactment of the Marginal Neighborhoods Law No. 13517²⁶ in February 1961. This law became a cornerstone of government policy for housing in Peru and squatter settlements were seen as an inevitable solution to the city's explosive growth and the need for housing. Therefore, their existence had to be acknowledged and they had to be incorporated into the city fabric. This law established that all existing squatter settlements would be legally recognized²⁷ and helped with

²⁴ Some of the UPIS reserved land invasions were violent due to the fact that they had already been reserved by the government despite the fact that the UPIS program was no longer happening.

²⁵ Most desert land was considered public property. Any citizen could however acquire land if intended to be used for productive purposes. Many haciendas came into existence through this method of land appropriation. Squatter areas adopted the same process claiming land for housing. Source: From conversations professionals, academics and residents.

²⁶ Law No. 13517 will later be adopted by the international community in the 1970's (Riofó, 1991).

²⁷ This meant that residents would no longer be evicted, would be granted the settlements status and could either become officially part of an existing district or get together with other settlements to establish one.

upgrading by the government. In 1961, 316,500 people lived in the squatter settlements, about 17% of the overall population of the city.

In the 1970's, squatter settlements gained access to basic services as the military government adopted the role as the leader of social development strategies in urban poor districts (Novoa 2002). The creation of the SINAMOS²⁸ in 1971 provided for an increased interest in their development (Riofrío, 1986). They were given a new status and name: pueblos jóvenes or young towns. By 1981, the young towns in Lima comprised about 1,459,865 people, twice the number in 1970 and about a third of the total population of the city.

Today, 70% of Peru's inhabitants are city dwellers, and 30% live in Lima. The urban area of the city increased from 44,598 hectares in 1981 to 66,452 in 1993, representing an increase of nearly 50% of its size in only twelve years. Lima grew from 645,000 inhabitants in 1940 to almost eight million in 2000 and it is estimated that half of the population lives in young towns.

The young towns from the second ring of development concentrated in clusters on the the city's north and south side until they eventually merged with it. These clusters were the ones that promoted the rapid growth of the city and today are mostly known as "Cono Norte" (Northern Cone) and "Cono Sur" (Southern Cone). Over time, the young towns of Lima became new political districts, with their own elected officials and political powers. Lima, traditionally a mono-centric city, is becoming a poli-centric structure with new economic centers in the Northern and Southern Cones (Panfichi 2001). It is important to point out that the mild weather and the flat geography of the city of Lima has also facilitated the development of the young towns in the city.

²⁸ National Social Mobilization System, (Sistema Nacional de Movilización Social) SINAMOS, would relocate squatters to surveyed plots on the outskirts of the city that fit within the plan for greater Lima. These new communities were provided with hospitals and trucked in water. Soon, water and fuel services began to be provided by private informal businesses and eventually these areas were provided with regular urban services by the city.

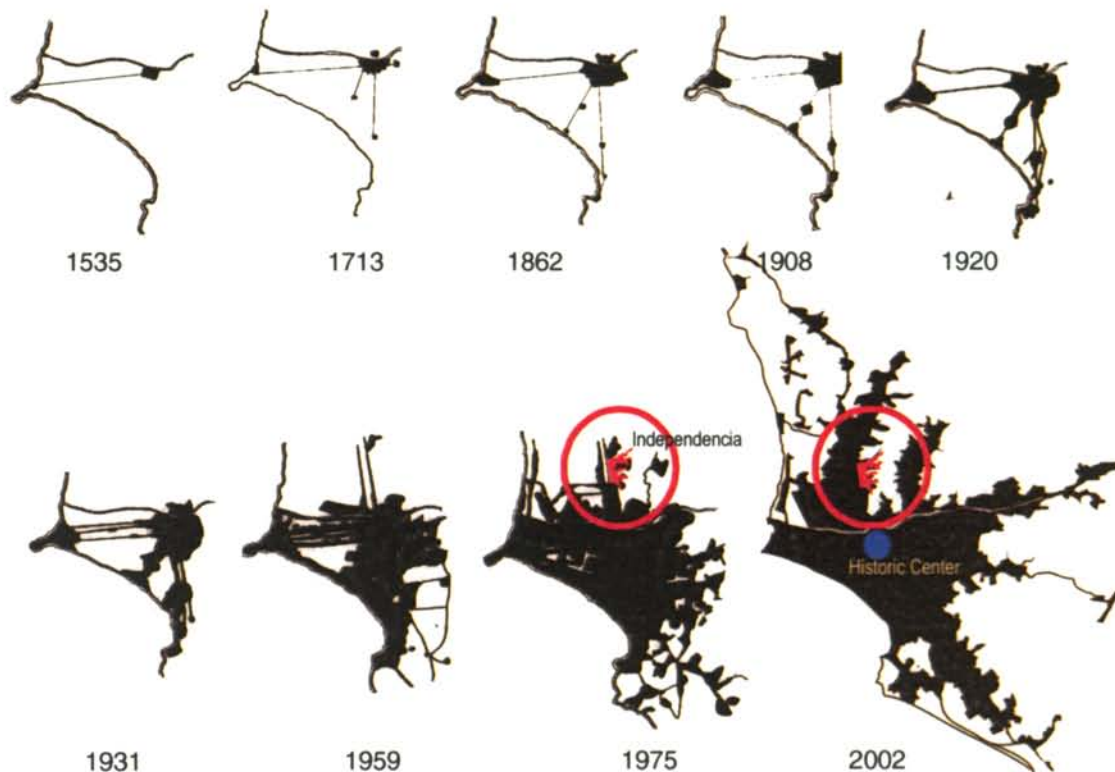


Figure 4.1- Lima's growth and development

Source: Ortiz de Zevallos, A., (2002). Nuevo Centro de Lima Norte: Plan Urbano Estratégico Para Independencia. Lima: Municipalidad Distrital de Independencia.

Description of the Northern Cone

The closest districts to the city are: San Martín de Porres, Comas, Independencia and Los Olivos. These are considered established communities. These districts started mostly with a combination of land invasions and serviced land by the government to prevent further invasions. These areas would be known as "popular urbanizations" and families would buy plots at subsidized costs. These processes were parallel. These districts carry 75% of the population on the Northern Cone and although their growth is slowing, they concentrate 53% of the district's economic activities and have a high percentage of housing with basic services. A second group of districts are: Ancón, Carabaylo, Ventanilla, Puente Piedra and Santa Rosa. They are still in the process of expansion and are currently undergoing rapid urbanization. Most families in these areas do not count with basic services at present. They are the largest areas and were traditionally dedicated to agriculture until the 1970's, and to a lesser extent, as summer

vacation communities. Many haciendas still remain but they are being rapidly surrounded by new invasions and the development of popular urbanizations²⁹.



Figure 4.2- The Northern Cone and Independencia

Source: Ortiz de Zevallos, A., (2002). Nuevo Centro de Lima Norte: Plan Urbano Estratégico Para Independencia. Lima: Municipalidad Distrital de Independencia.

²⁹ Information mainly gathered from a presentation by Sofia Hidalgo, representing Alternativa NGO, during the SIGUS-FAUA International Workshop in January 2005.

4.2 Independencia District and Independencia Community

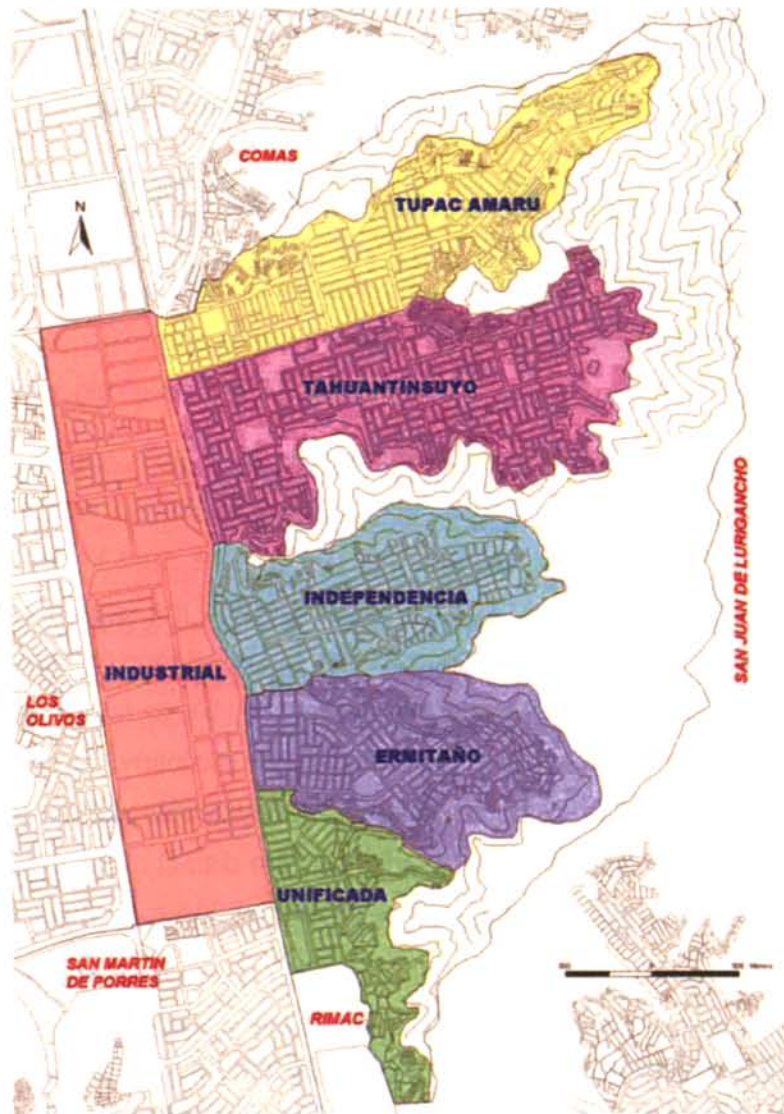


Figure 4.3 - Urban zones in Independencia

Source: Alternativa. (2001). Plan de Desarrollo Integral de Independencia, Caracterización del Distrito, unpublished internal report.

Located in the Northern Cone of Lima, the District of Independencia is comprised of six urban zones or communities: Independencia, El Ermitaño, Tahuantinsuyo, Tupac Amaru, La Unificada and the Industrial Zone. All of them with the exception of the Industrial Zone are mainly residential areas. The Industrial Zone is comprised of industries, retail development and large commercial centers and is part of a much larger Industrial and commercial system serving many of the districts of the Northern Cone.

Surrounded by the rolling Andean foothills, the district's unique geography, has allowed each community to develop and maintain a unique identity. The industrial zone is the only area that is not surrounded by hills and is physically separated from the residential areas by one of the main connecting avenues in the Northern Cone.

The urban zone or community of Independencia, known before as Pampa de Cueva, was the first to be established. It is today the center of the district, where the main plaza is located.

History

The urban zone or community of Independencia is a self-created, self-upgraded community developed with local efforts. Independencia started with a land invasion carried out by 1,800 families in November of 1960, in the area known as Pampa de Cueva, seven kilometers north of the city center. Despite the apparent acceptance of this type of development, the families encountered the resistance of the police and were violently evicted. One month later, the invaders were able to return and settle in the area³⁰. Pampa de Cueva became a good alternative compared to the other clusters forming north of the city, due to its proximity to the city center and its industrial areas. This settlement however, was only the beginning of the district of the same name. Four other upgraded informal and site and service communities would also become part of this district.

In his recent book, *Novoa*, one of the district founders³¹, outlined three stages of urbanization in the district of Independencia. The first stage (1959-1969) was the occupation stage, which took two forms: the land invasions that started in Pampa de Cueva in 1960 followed by El Ermitaño in 1962, and the planned occupation of the

³⁰ The land they were to occupy sat next to the Nicolini Hacienda, a powerful family. Learning of the potential invasion, the Nicolini family set out to claim the adjacent land by preparing it for agricultural purposes. Citizens could acquire public land if they could prove that they would use for productive purposes. The Nicolini family then claimed the land in an effort to stop the invasion. It was found later that it belonged to an indigenous community that due to abandonment had forfeited its right to ownership. After negotiations, the land was reverted to public land and the new invaders were able to claim it as their own for another productive purpose: housing. Source: Conversations with Independencia Founders.

³¹ The title of founder was given to all Independencia's citizens who participated in the first invasion of the land in Pampa de Cueva.

popular urbanization Tahuantinsuyo³² in 1963. During this stage, 40% of the territory in the district was occupied, and the most accessible terrain and flat land were targeted first. In March 1964, Independencia was recognized as a district in Lima by a presidential decree.

In the second stage of urbanization (1970-1979), according to Novoa, Independencia consolidated as a district. Basic services were provided and certain strategies aimed at reordering the district's public space took place. The largest number of invasions took place at the end of 1978 and after this stage it became clear that most habitable areas in the district were occupied (CIPEP, 1990).

In its third stage of development (1980-1990), housing was needed again not only by the new migrants but also by the second generation of the first migrants that invaded the land. The expansion of Independencia's urban zones was no longer possible and less densely populated districts like Tahuantinsuyo and Tupac Amaru began to house people who were unable to find a place to build in other areas. Invasions also started to take place in the hills where roads and services were not available.

Physical Characteristics of the District

Housing Characteristics

Independencia has a slow growth rate for housing due to the lack of available land but this does not mean that vertical expansion is not occurring. The highest growth rate has taken place in the disaster prone areas in the hills which lack basic infrastructure. These areas represented the 10.3% of the housing stock (INEI 1993). The 1993 Census registered 68% owner-occupied housing, 11% renter-occupied housing, 9.9% new invasions and 9.5% usurped housing. Close to 15% of the houses had a dedicated space for economic activities.

³² This planned occupation took place under the auspices of the UPIS program with the financial support of the Alliance for Progress, under John F Kennedy's government. Tahuantinsuyo, formally founded in 1963, had roads, community facilities and delimited plots of land prior to the occupation.

**Table 4.1 – Occupied Housing According to Tenure Status in the Northern Cone
in 1993**

District	Occupied Housing	Owner-occupied (%)	Renter-Occupied 95)	Usufructed (%)	Invaded (%)	Other (%)
Ancón	4 041	74.5	3.0	6.1	13.2	3.2
Carabayllo	20 800	71.5	3.3	8.7	11.2	5.3
Comas	68 064	75.8	7.5	8.6	7.2	0.8
Independencia	31 267	68.4	11.0	9.5	9.9	1.1
Los Olivos	44 573	56.1	8.3	8.0	26.9	0.7
Puente Piedra	20 259	69.1	3.8	9.1	10.0	8.1
San Martín de Porres	69 466	65.0	17.5	12.6	3.7	1.2
Santa Rosa	685	63.6	4.2	9.6	1.8	20.7
Ventanilla	22 739	58.7	2.5	4.5	32.0	2.3
Total Cono Norte	281 894	67.0	9.4	9.3	12.3	2.0

Source: INEI 1993

In Independencia, the percentage of houses built with light-weight materials for the walls was 17.3%. Eleven percent (11%) of the roofs were made out of straw mats and twenty-two percent (22%) of the floors were compacted-dirt.

Table 4.2- Precarious Materials in Housing in the Northern Cone

District	Houses in 1993	Walls: Light-weight Materials	%	Roof: Straw Mats	%	Flooring: Compacted Dirt	%
Ancón	4 041	2 586	64.0	880	21.8	550	13.6
Carabayllo	20 800	4 616	22.2	6 344	30.5	7 973	38.3
Comas	68 064	8 207	12.1	10 754	15.8	14 633	21.5
Independencia	31 267	5 407	17.3	3 502	11.2	6 982	22.3
Los Olivos	44 573	3 792	8.5	13 327	29.9	16 236	36.4
Puente Piedra	20 259	7 211	35.6	8 326	41.1	10 165	50.2
San Martín de Porres	69 466	5 562	8.0	7 433	10.7	8 460	12.2
Santa Rosa	685	295	43.1	126	18.4	81	11.8
Ventanilla	22 739	13 180	58.0	8 095	35.6	10 222	45.0
Total Northern Cone	281 894	50 856	18.0	58 788	20.9	75 302	26.7
Northern Cone (%)	23%	25%		35%		31%	

Source: INEI 1993

Basic Services

In 1993, 84.7% of the houses in Independencia had water service in comparison to 64.6% in 1981. Although the relative water coverage level was the same from 1993 to 1999, according to SEDAPAL's³³ 1997 annual report, the projected population without

³³ Empresa de Agua Potable y Alcantarillado de Lima (Lima Water and Drainage Systems Enterprise)

water increased from 15.3% in 1993 to 20.9% in 1997. This service was critical because in many areas, it only runs two to three hours a day and sometimes only two to three times per week³⁴. To provide for this service, the district of Independencia uses the surface and underground water of the Chillón and Rimac Rivers.

Sewer infrastructure serviced 82.5% in 1993 compared to 61.8% in 1981. The number of families connected to the sewer system remained constant between 1993 and 1999. The population not connected to the sewer system uses septic tanks or latrines.

In the case of electricity, 90% of the houses in Independencia have electricity³⁵. The areas with the lowest levels of basic service coverage are mostly located in the expansion areas along the hills.

Table 4.3 – Water and Sanitation Coverage per district in the Northern Cone in 1993

Districts	Housing with water service (%)	Housing with sewer connection (%)
Ancón	34.2	31.7
Carabayllo	65.8	60.3
Comas	82.7	75.8
Independencia	84.7	82.5
Los Olivos	56	55.5
Puente Piedra	28	14.9
S.M. de Porres	83.2	82.5
Santa Rosa	50.1	31.7
Ventanilla	29.7	25.9
Lima Norte	68.6	64.7

Source: INEI 1993

Green and Open Areas

The district of Independencia has a deficit of green and open areas. Although the World Health Organization recommends about fifteen square meters per inhabitant and Metropolitan Lima's guidelines recommend eight square meters per inhabitant,

³⁴ Residents in Independencia pay a fixed fee for water per month and it is charged at the plot level independent of the number of households in the plot. Current monthly rates are S/30 soles (US \$9 approx.) for water.

³⁵ Electricity is paid according to monthly consumptions. Most houses are metered. Monthly payments for electricity range from S/40 soles (US \$12 approx.) and S/100 soles (US \$30 approx.) while the average payment is S/70 soles (US \$21 approx.). The source for these numbers is the fieldwork interviews with thirty-one families in the community of Independencia. Ranges on electricity payments may vary in other communities within the district.

Independencia counted only one square meter per inhabitant. The worst conditions are present in the Unificada and Independencia Urban Zones.

Table 4.4 – Green and Open Spaces in Independencia District, 1998

	Green Areas (m2)	District Land Area (m2)	Population	Green area per inhabitant (m2)	Required Green Areas (m2)
Independencia	180 000	14 560 000	192 297	0,94	1 538 376

Source: National Institute for the Protection of the Environment for Health (INAPMAS)

Table 4.5- Green Areas per Urban Zones in Independencia

Urban Zones	Green Area (m2)	Population 2003	Green Area (m2) / inhabitant
Tahuantinsuyo	114,140	48,717	2.34
Tupac Amaru	140,323	40,177	3.49
Independencia	23,985	35,143	0.68
El Ermitaño	39,260	34,749	1.12
Industrial	183,565	23,662	7.75
Unificada	2,560	26,398	0.09
Berma Central	32,300		
Total	536,133	208,846	2.56

Source: Municipality of Independencia

Preparation: Projects and International Cooperation Office, Municipality of Independencia.

Socio-Economic Characteristics of the District

Population

According to statistical projections, Independencia had a population of 183,927 in 1993 and 212,841 in 2003. Independencia is the third most populated district in Lima's Northern Cone. The rate of growth between the 1993-1998 period was 1.6%, a decline from previous periods. In the period between 1972-1981, the rate was 2.5% and in the 1981- 1993 period³⁶ 2.4% it was 90%. About of the population lived in the five urban zones located between the Avenue Tupac Amaru and the hillsides. The urban zone with the highest population was Tahuantinsuyo with 42,904 inhabitants and the least populated is the Industrial Zone with 20,839 inhabitants.

³⁶ Sources: INEI 1997 and Municipality of Metropolitan Lima

Table 4.6 – Projected Population per District in the Northern Cone

District	1981	1993	2002 *	2003 *	2005 *
Ancón	8,425	19,695	30,725	31,569	33,268
Carabayllo	52,800	106,543	148,634	151,205	156,369
Comas	283,079	404,352	496,100	499,693	506,845
Independencia	137,722	183,927	206,843	208,846	212,841
Los Olivos	**	228,143	301,226	305,838	315,083
Puente Piedra	33,922	102,808	168,073	173,052	183,076
S.M. de Porres	404,856	380,384	459,139	469,504	490,332
Santa Rosa	492	3,903	5,896	6,066	6,409
Ventanilla	19,702	94,497	168,690	172,340	179,651
Lima Norte	940,998	1,524,252	1,985,326	2,018,113	2,083,874

* Projected, INEI 2001

** It did not exist as a district. It appears after San Martín de Porres District is subdivided

The youth population (fifteen to twenty-nine year old) was 63,608 in 1993, representing 34% of the total population of the district. In 2003, the population between fifteen and twenty-nine years old was 72,226, representing 35% of the population. If we consider the adolescents from ten to fourteen year olds, then the youth population becomes 44% of the population in the district. The district has a significant group of young people (see Table 4.7).

Table 4.7 – Youth Population in Independencia District

Total Population				
Ages	1993	%	2003	%
Less than 1 year	4,215	2.3%	4,786	2.3%
1 – 4	15,071	8.2%	17,113	8.2%
5 – 9	17,369	9.4%	19,722	9.4%
10 – 14	18,147	9.9%	20,606	9.9%
15 – 19	20,387	11.1%	23,149	11.1%
20 – 24	22,841	12.4%	25,936	12.4%
25 – 29	20,380	11.1%	23,141	11.1%

Source: INEI

Preparation: Municipality of Independencia

In 1993, Independencia's population was 40% first generation migrants. They came mainly from Ancash (21.6%), Cajamarca (8.1%), Junin (7.4%) and Ayacucho (6.9%) departments. It is important to mention, that before moving to Independencia families were already living in the inner and older districts in Lima.

Population Density

Independencia occupies a land of 14.6 square kilometers (0.5% Metropolitan Lima's surface). According to one study by the NGO Alternativa, Independencia had one of the highest population density in the Northern Cone with some areas reaching 800 people/ha residential net density. This study by Alternativa, mentioned the geographic characteristics of Independencia, surrounded by the hills, as well as the lack of open spaces as contributing to the process of densification and crowding in Independencia. According to the 1993 Census, the overall population density of the district was 290 people/ha and the Independencia Urban Zone had the second highest density in the district with 450 people/ha (see Table 4.8).

Table 4.8 - Population and Density in Independencia District per Urban Zones

Urban Zone	Total Population	Occupied Land (HA)	Density (inhabitants/HA)
El Ermitaño	30,603	73.6	415.5
Independencia	30,950	68.8	449.9
Industrial	20,839	204.1	102.1
Tahuantinsuyo	42,904	139.7	307.1
Tupac Amaru	35,383	98.8	357.9
Unificada	23,248	48.8	476.8
Total	183,927	633.87	290.2

Source: INEI 1993

Economic Development and Regional Perspective

Since 2000, the development of large commercial centers and retailers took place in the Northern Cone. In November 2002, Mega Plaza, a US\$ 50 million investment was inaugurated in Independencia on 96,000 square meters in the Industrial Zone. With more than 200 stores and a finance and banking complex with national and international bank branches, it became a core of commercial activity in the Northern Cone. It was the second development of its kind in Lima.

Despite investments of this magnitude in Independencia, which have benefited the district, they have also affected small micro-enterprises and other businesses. This has affected a significant number of the population who relies fully on small-scale economic activities for their main income. There are current studies presently looking at these issues. There is not a clear idea about the real impact of these large regional investments on family incomes.

Employment and Income

The monthly aggregate income in the district of Independencia is US\$10.61 million, equivalent to 9% of the total monthly income in the Northern Cone. The average monthly per capita income in Independencia is US\$51. The minimum wage in Peru is close to \$126 per month, so it would take more than two people per household to be able to meet some of the basic needs.

Table 4.9 – Incomes per district in the Northern Cone

District	Monthly Income (US\$ millions)	Population (Thousands)	Monthly Income per Capita (US\$)
Comas	31.16	496.10	63.0
Carabaylo	7.80	148.63	52.0
Independencia	10.61	206.84	51.0
Los Olivos	27.58	301.23	92.0
Puente Piedra	7.18	168.07	43.0
S.M. de Porres	28.96	459.14	63.0
Lima Norte	\$113.29	1,780.01	64.0

Source: Zone Profiles and Socio-economic Levels 2002 – APOYO

According to a FONCODES³⁷ study, close to 53% of the population fifteen years old or older, are part of the Economically Active Population (EAP), out of which 70% works in the service sector, 63% is wage-earning and 4% is non-paid family member worker³⁸. According to the 1993 Census, Economically Active Population (EAP) in Independencia district was 71,585 and only 9% was unemployed.

³⁷ Peru National Fund for Social Compensation and Development (FONCODES) assesses community organizations during subproject appraisal through a beneficiary assessment and finances temporarily labor intensive projects with a strong focus on employment generation, health and nutrition services and education programs, as well as other investments for productive activities, such as support to micro-enterprises and farmers, that could assist urban and rural populations. It focuses on strengthening community organization through participation.

³⁸ Poverty Indicators INEI (NBI) and FONCODES 2000.

Table 4.10 – Economically Active Population (EAP) per Urban Zones

Urban Zones	Active EAP	Employed EAP	Unemployed EAP	Non Active EAP
Tupac Amaru	13,477	12,133	1,344	15,863
Tahuantinsuyo	16,651	15,132	1,519	18,152
Independencia	12,007	10,861	1,146	13,445
Ermitaño	11,796	10,747	1,049	13,011
Unificada	9,306	8,456	850	9,842
Industrial	8,348	7,742	606	9,472
Total	71,585	65,071	6,514	79,785

Source: INEI 1993

Economic Activities

According to the Licensing Department in the Municipality of Independencia, 53% of the businesses are commercial, 21% are service oriented and 20% are production centers.

Table 4.11 - Micro Enterprises in Independencia

	Percentage	Quantity
Production	19.94%	1,284
Commerce	57.38%	3,695
Services	21.03%	1,354
Others	1.65%	106
Total	100.00%	6,439

Source: Licensing Management Department, Municipality of Independencia 2002

According to a 1996 study by INEI³⁹, there were 3,525 enterprises in Independencia of which 93% has one to four workers and 4.1% has five to ten workers. Fewer than 2% had more than twenty workers (see Table 4.12). Therefore, economic units in Independencia are micro-enterprises according to the 1993 Census. Including commerce and production, there were 106 carpentry shops, seventy-two in the shoe industry, fifty-two with metal-mechanic activities and fifty-eight in clothing and textiles. Micro-enterprises are generating intensive local and regional commercial activities.

Many of these economic activities are run by families who are employing members of the immediate or extended family. Also, most of these activities take place within the house: grocery store/home and house/ workshop for example.

³⁹ INEI: Peru National institute for Statistics and Computer Science (<http://www.inei.gob.pe>).

Table 4.12- Micro-enterprises in the Northern Cone 1996

District	Total	Employees			
		1 – 4	5 – 10	11 – 19	20 ++
Ancón	311	288	16	3	4
Comas	9,219	8,970	190	37	22
Carabayllo	1,868	1,806	50	5	7
Independencia	3,525	3,294	134	40	57
Los Olivos	6,630	6,234	273	57	65
Puente Piedra	1,443	1,379	39	11	14
S.M. de Porres	8,923	8,498	320	65	40
Santa Rosa	76	73		1	2
Ventanilla	1,576	1,535	30	6	5
Lima Norte	33,328	31,834	1,052	225	216

Source: INEI. Economic Activity Survey in Metropolitan Lima, 1996
Preparation: Alternativa NGO

According to a 2002 study by APOYO Opinión y Mercado (AOM)⁴⁰, the total business population in Independencia was 5,429, representing 9% of businesses in the Northern Cone (63,349 businesses).

Table 4.13 – Main Businesses per District – APOYO 2000

District	Total Business	Grocery Store	Eating Place	Education Facility	Drug Store	Hardware Store	Car Repair	Shoe Repair	Hair Salon	Bakery	Liquor Store
Comas	13,939	4,267	384	214	301	200	333	101	428	170	186
Carabayllo	5,262	1,695	166	83	89	75	92	37	146	38	107
Independencia	5,429⁴¹	1,668	185	73	106	77	154	44	148	80	108
Los Olivos	11,550	2,933	364	168	227	174	270	65	339	142	246
Puente Piedra	6,727	2,166	207	93	91	105	119	39	136	52	121
S.M.de Porres	20,442	5,202	558	288	385	260	363	116	505	212	118
Lima Norte	63,349	17,931	1,864	919	1,199	891	1,331	402	1,702	694	886

Source: Zone Profiles and Socio-economic Levels 2002 - APOYO

Many people were also employed in the informal sector. There were seventeen formal vendor markets and 3000 informal vendors in Independencia. Only 1,305 in the informal have been registered. Seventy-nine percent of these vendors are organized through a total of twenty-two street vendor associations. Women represent 74% of the

⁴⁰ APOYO Opinión y Mercado (AOM) is the APOYO Group enterprise dedicated to market research and public opinion analysis in many countries in Latin America. APOYO Opinión y Mercado is the leading enterprise in market research in Peru where it is based.

⁴¹ This number does not include manufacturing workshops, services and educational services and consultancy.

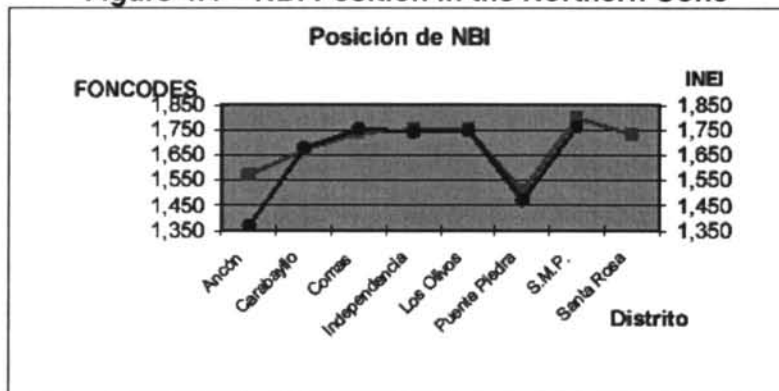
informal sector and 60% are already in associations while 14% are in the process of organizing.

Poverty Levels

Forty-five percent (45%) of Lima's population at the poverty level and nineteen percent (19%) are at extreme poverty levels. This represents 4 million poor people and 1,229,000 extremely poor people.

The district of Independencia has been ranked as 1,724 out of 1,818 districts, at the national level, at the National Ranking of Unsatisfied Basic Needs⁴² (Necesidades Básicas Insatisfechas-NBI-INEI) with a 21.6% absolute poverty index compared to 19.8% from Los Olivos and 13.2% from San Martín de Porres (See Figure 4.4). According to relative poverty levels in the Northern Cone, Independencia is considered average. However, this does not reflect extreme poverty considering that 38,431 people representing close to 20% of the total population lives in extreme poverty. In 1999, 14% of the population did not have water, 10% were without electricity, 17.5% did not have adequate sanitation and 15.5% lived in only one room (FONCODES).

Figure 4.4 – NBI Position in the Northern Cone



Fuente: Censo INEI-1993, Mapa de Pobreza de FONCODES-1999

Around 67% of the population of Independencia belongs to the middle and lower middle income groups (see Table 4.14).

⁴² Poverty Map 2000 – Peru National Fund for Social Compensation Development (FONCODES)

Table 4.14 - Socio-Economic Strata in the Northern Cone

Households	Poverty Ranking FONCODES	Poverty Ranking INEI	Upper	Upper Middle	Middle	Lower Middle	Lower	Other
Ancón	1,571	1,369	0.78	2.9	15.4	18.6	62	0.4
Carabaylo	1,671	1,678	0.00	2.714	17.6	22	57.6	0.1
Comas	1,737	1,755	0.00	14.2	20.8	39.3	38.4	0.1
Independencia	1,749	1,742	0.00	0.00	32.7	32.3	34.9	0.1
Los Olivos	1,750	1,747	0.02	14.2	32.3	16.5	36.9	0.1
Puente Piedra	1,508	1,470	0.00	0.2	5.5	12.6	81.6	0.1
San Martín de Porres	1,797	1,765	0.01	8.4	53.3	23.2	14.9	0.1
Santa Rosa	1731	-	1.5	1.8	16.6	20.8	58.7	0.7
Ventanilla	-	-	0.00	5.0	17.7	12.4	64.8	0.1
Cono Norte	-	-	0.02	5.3	30.7	25.7	38.2	0.1

Source: INEI 1999. Stratified levels in Metropolitan Lima
Preparation: Municipality of Independencia

Social Organizations

Independencia has a long history of community organization, starting with the initial invasion of the land. The first formal organization in Independencia was the Residents Association that not only coordinated the main activities leading up to the invasion but also the layout and allocation of the land. Independencia's urban zones are divided into different sectors, initially created to coordinate basic services petitions, installation, payments or labor efforts. They are still working as community organizations and are at the same time made out of neighborhood committees organized by blocks.

The weak economic situation of the country also triggered the creation of survival collective mechanisms for the residents of communities like Independencia. As of 2003, there were 193 Comedores Populares (Soup Kitchens), 76 Clubes de Madres (Mothers' Clubs) and 669 Comités de Vaso de Leche (Breakfast Committees) in Independencia district.

Table 4.15- Social Organizations in Independencia District

Organization	Quantity	Members	Beneficiaries
Soup Kitchens	193	227	13,911
Mother Clubs	76	181	6,970
Vaso de leche (Breakfast Clubs)	669	18,330	46,870

Source: Vaso de leche Office – 2003, Independencia

Independencia Today

Independencia is a microcosm of life in Lima. It is part of the city's continuing development and growth and an example of how people take over areas of the city to live in and own. Its character is mostly residential and its incremental development is expressed in the way houses look, in the different stages housing construction, in the extending rebar beyond the roof in anticipation of further expansions. Individuality is expressed in the different facades, colors and architectural features that attempt to make them unique. The initial family efforts and the parallel levels of development are physically visible when one sees the houses, on and above the street level because they were not built at the same time.

There is a sense of pride in the older generations with the notion that they "made it" and that the arid land of forty years ago has been conquered and it is now their district. Although these same feelings are not shared by the younger generations, there is a sense of recognition to the efforts and the fight of the original residents. Gone are the days of a thousand straw mat huts in the landscape.

Their history is embedded in their community. One recalls this when walking the different neighborhoods. The streets carry the names and dates of the events that took place during the first invasions of Pampa de Cueva, including their sacrifices. One of the streets is called "Martyr Children", in memory of the children that died during the first violent evictions. Other ones are called "The Delegates", "November 17", "37 days" referring to the time they had to wait before returning to the land.

There is much activity on the streets, children playing, moto-taxis⁴³ advertising their services, women rushing to and from the closest market, ice cream and street vendors. Streets and parks are in good condition and there are always banners hung across the streets, advertising a local event or business. Anywhere one turns, there is a store providing the basics, a window that advertises a service, the sound of a workshop in the distance.

⁴³ Moto-taxis are the motorcycles equipped with a cabin to serve a short-range taxi. They are an ever-present site in all working-class neighborhoods on Lima.

As a microcosm of Lima, Independencia also presents differences manifested not only in the houses but in the different areas that are part of it. The flat areas of the community have a different character of the ones in the hills, the expansion areas of the community where life seems harder but only temporarily. They are confident they will be just like their neighbors in the flat areas and they work hard to achieve it.

CHAPTER 5: Housing Trajectory

This chapter describes the incremental nature of the building process followed by residents in Independencia in order to understand how this process has worked, its limitations and opportunities. The first section of the chapter explains the housing development phases in detail while the second section of the chapter presents the different housing trajectories in Independencia. Housing trajectories illustrate land acquisition methods, major investments instances, generational responsible for investments, structural systems, programmatic push, technical assistance and financing opportunities, rate of construction, materials used, etc. Sample houses also illustrate some of the main points discussed in the chapter. Houses in Independencia present a diverse range of development.

5.1 Housing Development Phases

Residents of Independencia built their houses in a predictable sequence of phases:

Phase 0 -Claiming the Land

Phase 1₁ -Building Permanent Walls

Phase 2₁ - Masonry-Concrete Composite Roof Slab

Phase 1₂ -Second Set of Permanent Walls

Phase 2₂ -Second Masonry-Concrete Composite Roof Slab

Phase 1₃₊₊ -Third Set of Permanent Walls

Phase 0-Claiming the Land

Site Layout and Plot Allocation

Five months after the planned invasion in Pampa de Cuevas, the lots were laid out by the students from the nearby National University of Engineering. The plots are 140 square meters and 160 square meters with variations on the corner lots. Although not anticipated, some lots were subdivided immediately, resulting in a myriad of plot sizes.

Once plots were allocated families established residence immediately. A variety of materials were used to construct temporary shelter including straw mats and poles, plastic sheets, fabric, cardboard, wooden poles. Straw mats and poles were used most frequently because they were familiar, accessible, and flexible. Some houses became more stable and safer as families replaced temporary materials with bricks or adobe

made on site. At plots closer to the hills, families used readily available rocks. At this time holes were dug for latrines. Only one of the thirty-three families in the study was still in this phase.

Preparing the Lot for Building

Pampa de Cueva has an average slope of 8% along the area pointing towards the opening of the hills. Thus, the first job of each family was to flatten and clean the land in preparation for building. People nearer the hills or rocky areas had to sometimes excavate rocks to achieve a level surface. This is obviously a labor-intensive job. As the slope increases, the excavation becomes more difficult and work intensive.

Families who can afford to hire help in preparing the lot hired “picapiedras”⁴⁴. Families who cannot afford to hire help are did it with the labor of family members, often taking months or years to accomplish the task. Some families took advantage of this process of carving into the hills and gained more area, almost twice the original size of their lots.

Locating the Initial Structure

Where families chose to build their temporary structure was an important decision. Many choose to place it in the middle of their lot in anticipation of a more permanent building at the front of the lot. Some placed their structure at the back of the plot. This is more likely of families building adjacent to the hills, as the hills provided additional protection.

Locating the Latrine

Locations vary, with residents in flatter areas likely to place the latrine in the back of the lot, away from living areas. Later the latrine location became a patio, garden, or permanent bathroom. Other families placed the latrine just outside the limits of the plot, anticipating the area at a later date will be covered by roads and sidewalks. Some families closer to the hills dug no latrine at all and chose to use the hills behind their structures instead.

⁴⁴ This translates as “flintstones” and is the colloquial term used to describe workers who level building lots and remove rocks.

Using the Remaining Land

The remaining land was used for raising chickens, pigs, or other medium-sized animals that will supplement the family's food or income.

Commentary on Phase 0-Plotting and Claiming the Land

The dimension and inherent limitations of the lot are important. They determined the house layout and form as well as the construction methods.

Since the initial materials were temporary, there were no windows or openings for ventilation and light. Cooking inside, which most families did, exacerbated this condition.

Lack of electricity made candle use common. Candle use and the flammability of construction materials were the cause of many fires that destroyed many temporary structures.

Phase 1-Building Permanent Walls

In this phase, families transitioned from temporary shelter to the first stage of a permanent home by building permanent walls. Also at this time, families created a perimeter which was usually a concrete wall but could be the first rooms in the front of the plot. Five (16%) of the families in the sample were in this phase.

Building Materials

The most common materials for permanent walls were brick and cement. The preferred construction system was load-bearing header-bond brick walls. This type of wall is very strong as the bricks are laid side by side along their longer edge. Many of the residents interviewed are proud of the fact that their houses survived the 1974 earthquake in Lima that destroyed many city buildings.

Lay-out of First Permanent Walls

The first permanent walls are built in increments and this process varies among families. Many people built two or three rooms and then added more rooms or space into these rooms, while some families were able to build the entire first floor at one time.

In this phase walls were demolished as others in the house progressed, displaying flexibility in the building system.

Most families (85%) began building in the front of the plot and started with two or three rooms which served as bedrooms and living areas. The kitchen was either a third room or a temporary structure until the very end. There was a typically a large patio in the back, which was about one-third of the plot. The space was used for keeping animals and doing laundry.

Only three of the thirty-one families interviewed reported the first room built was a bathroom in the conventional sense (sink, toilet, and shower). Similarly, only a quarter of the bathrooms were located where the temporary latrine was located. If the temporary latrine did not become the site of the bathroom, the space was used for gardens and patios, a temporary arrangement until more rooms were needed.

Roofing Systems

In this phase, different types of roofing systems appeared. The most common type was the use of wooden beams and “torta de barro” or mud pie on top. Other popular roof materials were profiled fiber cement sheets, many of which contained asbestos, and in some houses cardboard and plastics. No metal beams were used in any of the houses. Most light-weight roofing materials were secured with bricks or rocks. Some of the roofs were meant as temporary solutions, especially the ones with plastic and cardboard, but some are still present after many years or even decades.



Figure 5.1 – Roofing Systems

Source: Field Work

Finishes

The houses were finished in a variety of ways, including exposed concrete, splashed concrete, polished concrete, paint, and ceramic tiles. Flooring varied from pressed dirt to polished concrete to tiles. Windows and doors were most likely made with metal sections or panels for security purposes; residents who invented in wood doors added a metal grate on the exterior. The metal grates were ornamented nicely according to residents' wishes.

Houses presented different levels of finishes. However, in all houses the public spaces were finished first. The first floor was increasingly embellished as time passed on, although later additions were often constructed with temporary materials in the rear. These rear areas remained the same as a portion of the house transitions in a different phase or were modified to become permanent parts of the house.

Planning and Technical Assistance

Most families built without professional technical assistance, relying upon the advice of experienced construction workers commonly known as “maestro do obras” or master builder.

The incremental nature of the construction process and lack of professional technical assistance do not mean there was no plan. The household head, a respected relation, or a master builder could have drawn a plan before construction. As with all plans, this plan could change as preferences and needs change, and this is likely the case. Room transitioned into different functions, with the initial bedrooms becoming the kitchen and living areas, for example. When a new room was needed, the living room might be subdivided to create one. In one house, the interviewed could see three different patterns and colors on the floor.

“Yeah...We just made this room bigger. The green part used to belong to the patio, and the gray to the main entrance....That wall was part of the old façade, and now it is the wall of my kitchen...”

Head of Household

As a result of houses being built before or during the paving of roads, houses were often not level with the street, a condition exacerbated by the slope of the site.

In the last stages of this phase (Building Permanent Walls) families maximized the usage of their plot area. As houses grew and were modified, the amount of open spaces declined to only 5-10% of the total plot area. This open space was used mostly for ventilation and corresponds to light wells or open corridors. With few exceptions, there were no setbacks, and the few patios that existed were used for washing laundry.

Commentary of Phase 1₁ - Building Permanent Walls

The load bearing header bond brick system used in Independencia originates in the traditional stone and adobe building methods of the residents' areas of origin. This system, though effective, was very expensive because it potentially used twice the amount of materials to build a room than what is required with a concrete post and beam structural system which used the brick only as infill. However, the advantage of this system is that it provided the family with flexibility, as it allowed them to build more freely without the limitations imposed by the location of columns.

There are however, additional disadvantages of the system used in Independencia. One is that it led to confusing and inefficient room layouts, contributing to the low percentage (5-10%) of open spaces which translates into poor lighting and ventilation. Traditional standards for housing recommend a minimum of 30% of area should be open spaces highlighting the health hazards created by inefficient room lay-outs. Similarly, many of the spaces in the back of the houses are dark and damp, a situation which worsened when the kitchens and bathrooms were not properly ventilated. In addition houses were built against each other, leaving no opportunity for natural light and ventilation to two sides of the house.

Phase 2₁- Masonry-Concrete Composite Roof Slab

Building the concrete roof slab sets the stage for vertical expansion. It is critical to future progress and a determinant of the path of future progress. Eight (25.8%) of the families in the study sample were in this phase.

Transition to Concrete Post and Beam System

Very critical to this phase was the change in the house's structure from a load bearing system to concrete post and beam system. Every house but two houses in Independencia had to break walls to add columns and beams before building the concrete and masonry composite slab. The placement of the slab gave families the opportunity to make final changes to other parts of the house as the brick now transitions into a filler status. Changes in the interior of the house were apparent when looking at a house preparing for the placement of a concrete and masonry composite slab. In the cases of families who obtained construction loans from the Bank of Materials, engineers verified the quality of the construction investment.

Process of Building the Roof Slab

The roof was traditionally made of hollow oversized masonry units laid out in rows with small spaces in between and a grid of steel reinforcing on top of the masonry unit. A wooden scaffold was constructed as a temporary structure, and the concrete was poured. A concrete joist was formed when concrete is poured on top. The scaffolds held the masonry units and steel reinforcing in place for the concrete that will bond them together. The building of the roof occurred in a very short period time, a few days or hours. Because it was quickly built, it required much preplanning. A wooden scaffold was constructed as a temporary structure. After a brief curing period, the scaffolding is removed, and the slab was ready.

Some families built their concrete roofs in parts. Thirty-three percent (33%) of families interviewed initially built only half of the concrete roof for the first floor. There were at least three different reasons. First, for families who benefited from a loan from the bank of Materials, the bank usually covered half of the materials, and the family was to contribute the remaining portion. Most of the time, this did not occur, which resulted in building half of a roof. Second, the placement of half of the roof can be explained by the incremental nature of the house construction. Last, horizontal subdivision occurred if the family remained in Phase 1 (Building Permanent Walls) long enough for the father to give children a portion of the house. In this case, the children started building the roof separately.



Figure 5.2 – Partial Roof Slabs

Source: Field Work

In some cases, when the roof slab was poured, the rebar was placed over the entire building area, including the openings. There was no special treatment for these areas such as preparing the steel for beams along the opening. The hollow masonry units simply were removed while the steel reinforcing runs across in a continuing manner, and workers skip pouring the concrete here. A steel grid was normally seen in the opening (see Figure 5.3).



Figure 5.3 - Openings in Slab

Source: Field Work

There are instances, especially in the lots nearest the hills, in which the walls were different heights. One house interviewed had this condition, but the residents who wanted a continuous concrete and masonry composite slab, chose to accept the result, spacious front rooms with very high windows and a very high ceiling.

Stairs

Stairs were built in this phase. They vary from temporary wooden frames, similar to stepladders, to metal staircases, spiral stairs, and cast-in-place concrete stairs. One family interviewed made use of a public stair case in the hills to access the roof of their house. Building stairs required the allocation of space, which sometimes caused further modifications in the house.

The function of stairs was to connect two different levels of the house, and this typically happens within the house. However, vertical (building) subdivision created needs for additional stairs to meet privacy needs. Two types of stairs stood out. One is attached to the facade on the exterior of the house and occupied the place of what was formerly a garden or small setback. The second type of stair was inside the house, ran parallel to the main house but had its own entrance

Commentary on Phase 2₁ - Building of Permanent Walls

One of the critical and main determinants of the house progress was the completion of the masonry-concrete composite roof slab. Timing was critical. The sooner the slab could be erected the more likely the progress of house would parallel the growth of the family. When the housing progress and family growth were parallel, it was more likely the structural and spatial framework would be suitable for further expansion, resulting in higher quality space, lighting, and ventilation.

Only 13% of interviewed families had access to professional technical assistance. As additional stories are added, technical assistance was increasingly important to achieve a structurally sound house.

Phase 1₂-Second Set of Permanent Walls

In this phase families began a second story by adding permanent walls on the first concrete slab. Adding the second story followed a similar but not identical process as the construction of the first floor. Temporary rooms, addition and demolition of rooms, and lack of coordination were observed. Five (16%) of the thirty-one families in the sample were in this phase.

Temporary rooms

As with the first floor, once there was a composite roof families erected temporary walls and roofs and began using the space immediately. These temporary structures, constructed of straw mats, cardboard, plastic, and plywood are occupied by members of the second and/or third generation.

Wall Additions and Demolitions

The same process of addition and demolition took place in this phase as in the first story. As rooms are added others are demolished, requiring changes in the position and direction of stairs and in the covering of openings. A common occurrence was houses with different parts at different stages. For example, a two-story house finished with polished concrete and paint had a shack addition at the rear of the property, and the second floor was made of temporary materials. In a second example, the living room and dining area are finished with polished concrete and paint on the walls, tile flooring, and metal frames with frosted glass for windows and door. On the second story all walls are exposed brick, and the second floor which was carved into the hills was used to house animals.

Lack of coordination

A characteristic of construction in this stage was lack of coordination between first and second floor construction. For example, one family chose not to add columns to the first floor before placing the roof slab. However, the second floor was built with columns intended to rest on the first floor load bearing structure. The same family had to tear down half of the stair to change its direction. The initial structural connection with the slab was broken, and the new end of the stairs sat against a different portion of the slab. In another family the decision was made to not continue the columns placed in the first floor and to add new columns when building the third floor. The new columns then rested on the second floor walls without columns (see Figure 5.4).



Figure 5.4
Source: Field Work

Uses

Typically the first floor remained the public areas; sometimes a workshop was established. The second floor was used as initially as a laundry or to raise small animals. When the second story becomes permanent it is usually used for bedrooms. If, however, the house remained in this stage long enough, subdivision began, which resulted in two or three different households using the same buildable areas of the roof slab.

Phase 2₂-Second Composite Roof Slab

In this phase families added a second composite roof slab, making the addition of a third floor possible. As houses were subdivided, the addition of a third floor provided additional space which contributed to the quality of life of the residents by reducing crowding. In the same of thirty-one families in this study, eight (25.8%) had added a second roof slab.

Factors important the addition of the first roof slab and first second of permanent walls continued to be important to structural soundness: coordination, technical assistance, and timing.

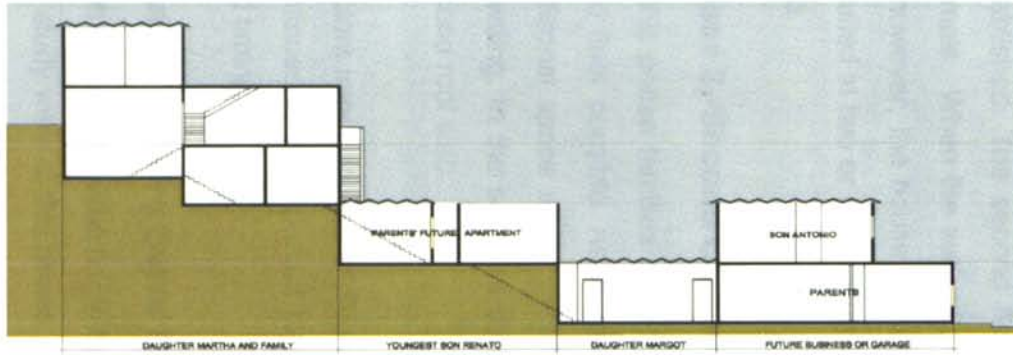
Phase 1₃₊₊-Third Set of Permanent Walls

In this phase families begin the addition of a third story. Four (12.9%) of the families in the study were at this phase.

Housing Development Examples

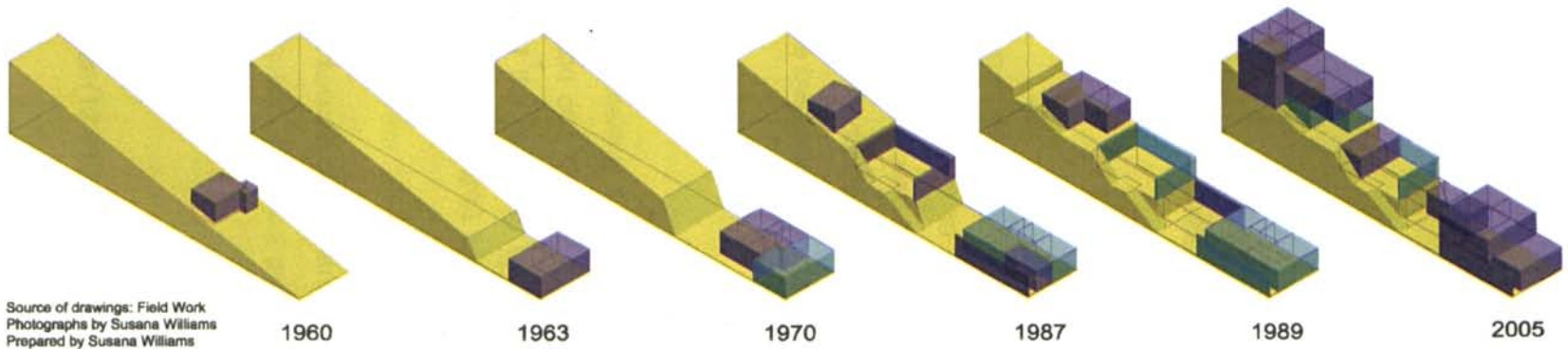
The first example illustrates different phases, different types of circulation: corridor, staircase in passage, exterior and interior stairs, and change of levels. It portrays a house that has developed within a lot adjacent to the hill. It is also a good example of not only vertical but also horizontal subdivision. A section shows the different parts of the structure that correspond to a different member of the family though horizontal and vertical subdivision. The second example illustrates the development of a house within a confined lot in the center of Independencia.

Sample House - Family 1



Lot Subdivision

LEGEND
 existing
 new investments
 incremental growth in lot



Source of drawings: Field Work
 Photographs by Susana Williams
 Prepared by Susana Williams

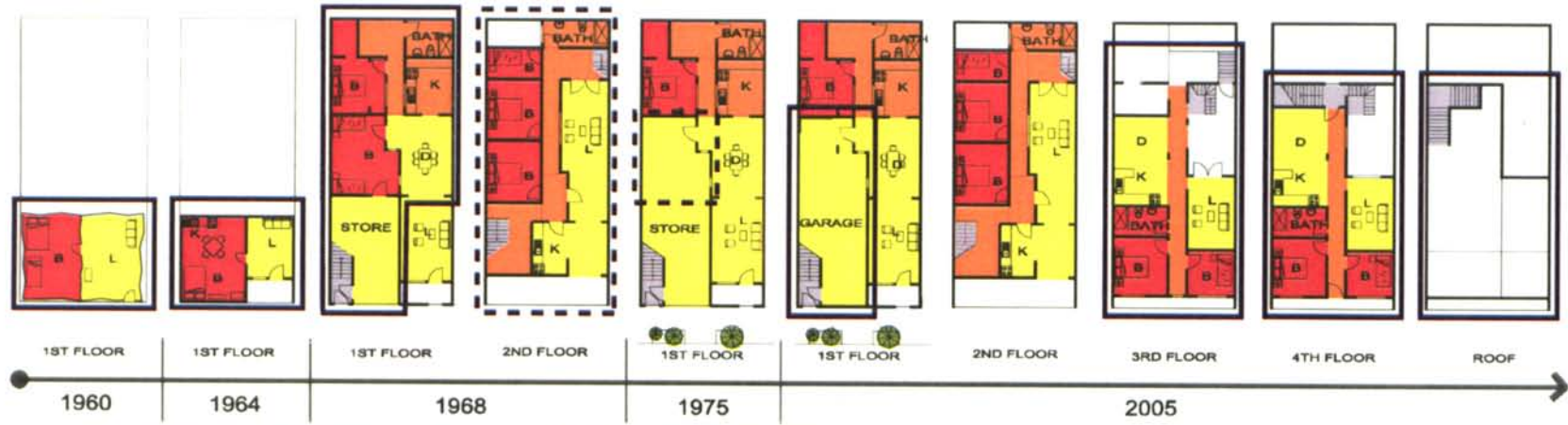
Sample House - Family 1



- LEGEND**
- additions made
 - public space
 - private space
 - semi-public space
 - stairs

Source of drawings: Field Work
Prepared by Susana Williams

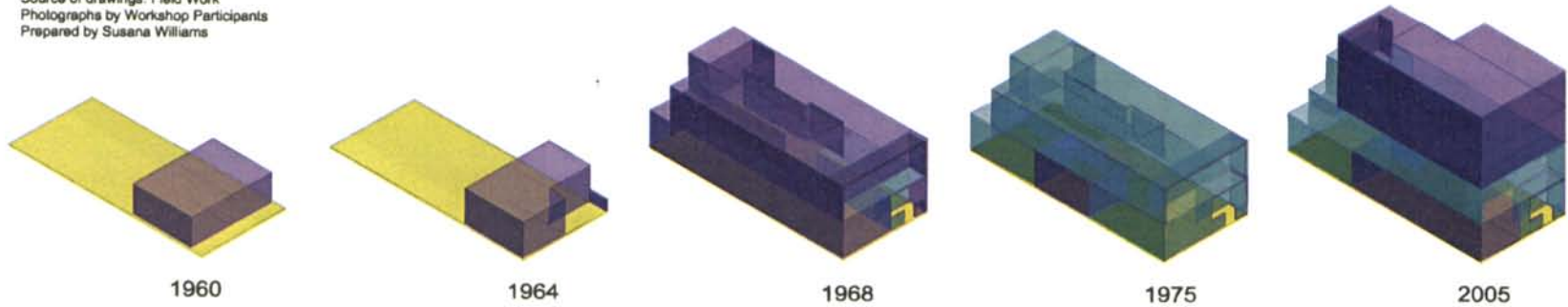
Sample House - Family 10



- LEGEND**
- additions made
 - public space
 - private space
 - semi-public space
 - stairs
 - existing
 - new investments
 - lot



Source of drawings: Field Work
 Photographs by Workshop Participants
 Prepared by Susana Williams



1960

1964

1968

1975



















2005

Analysis of Development Phases in Independencia

The following chart (Figure 5.5) indicates a summary of the development phases that houses have reached in Independencia based on the thirty-one samples.

More than 80% of the houses have a concrete-masonry composite roof slab and this number includes partial roofs. Only one house out of the thirty-one in the sample has remained in Phase 0. Sixteen percent (6) of the houses have not been able to invest in a roof slab after forty-five years and only 13% (4) of the houses, interviewed have been able to go beyond the second floor level.

Figure 5.5 - Housing Development Phases

P0	P1 ₁	P2 ₁	P1 ₂	P2 ₂	P1 ₃₊₊
					
					
					
Temporary Materials	Permanent Walls	Composite Roof Slab	Second set of Permanent Walls	Second Composite Roof Slab	Third Set of Permanent Walls
(1)	(5)	(8)	(5)	(8)	(4)
3.2%	16.1%	25.8%	16.1%	25.8%	12.9%

Source: Field Work
Prepared by Susana M Williams

5.2 Housing Trajectories in Independencia

The rate at which houses have been able to reach the different phases defines a unique trajectory. In Independencia, not all the houses have achieved all the phases at the same time and therefore none of them have followed the same trajectory.

The following diagrams show the different trajectories of all the houses where families were interviewed. The houses have also been classified according to the development phase they had reached at the time of the interview. The diagrams present information from the time when families settled and started building, most of them in 1961 immediately after the allocation of the plots.

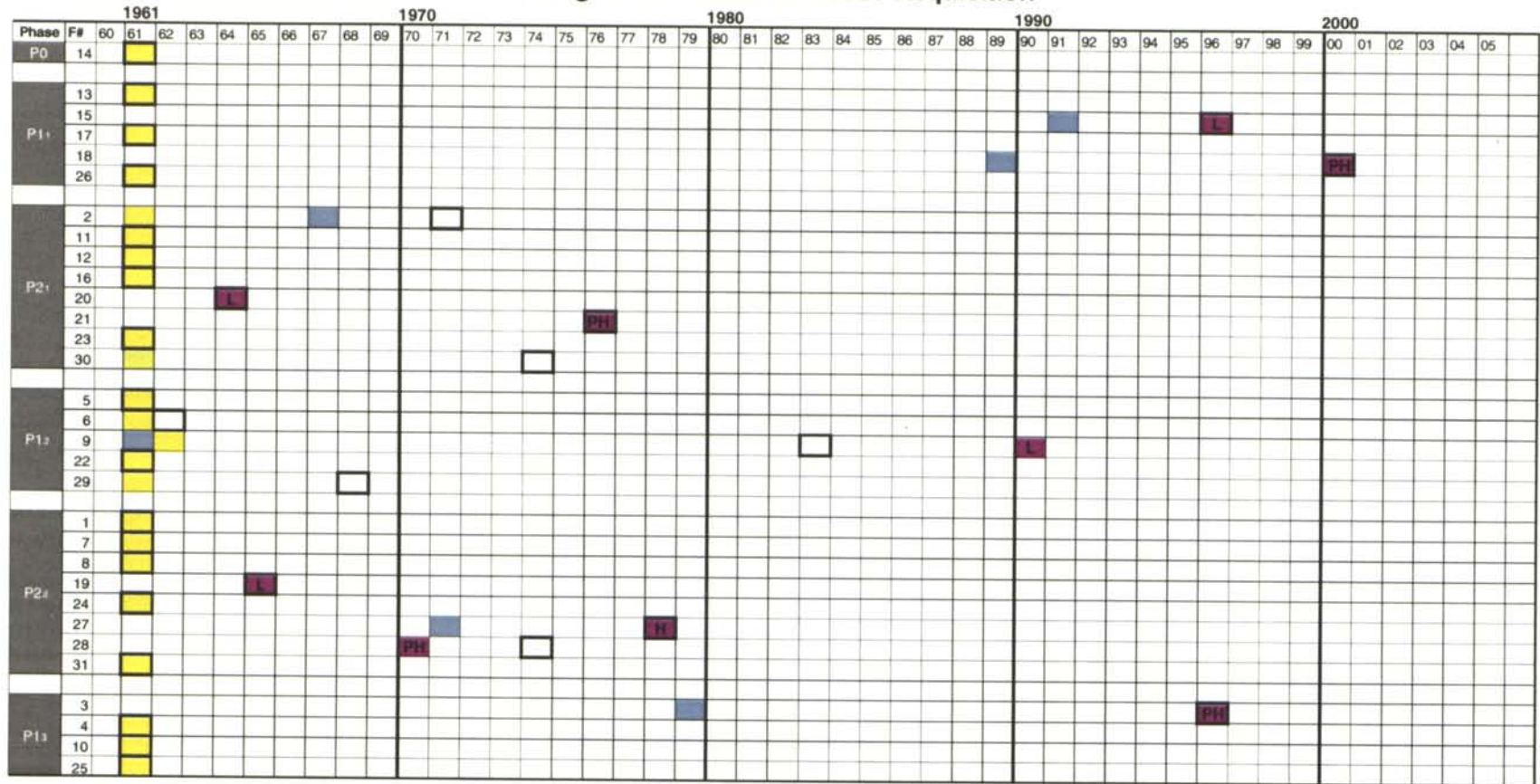
Land or House Acquisition

According to Diagram 5.1, sixty-five percent (65%) of the families interviewed came at the time of the invasion. Only thirty percent of the people (35%) bought the land or house where they are currently living and one of them bought a half of the plot from her own parents. There were land purchases, temporary structure purchases and half-built permanent walls purchases among all the different variations. There have been purchases in all sets of houses at the different development phases. Two thirds of the people that bought property in Independencia have been in the district before or had relatives.

Housing Investment (Building) Activity

Diagram 5.2 portrays all housing investments made (construction activity using mainly permanent materials: brick and concrete). The different rates of speed in construction are illustrated here. This diagram becomes the base for further analysis.

Diagram 5.1 - Land or House Acquisition



Source: Field Work
Prepared by Susana M. Williams

LEGEND

- Invasion
- L Land Purchase
- H House Purchase
- PH Partial House Purchase
- Beginning of family habitation in plot or house
- Time of Arrival to Independencia District to a different house
- F# Family case numbers

Housing Investment Activity by Generation

According to Diagram 5.3, sixty-five percent (65%) of houses were built by two generations. In many of the cases the intervention of the second generation occurred with the sets of walls and a roof slab at once, either in coordination with others for the whole floor or with only the portions allotted to them.

Main Housing Investments

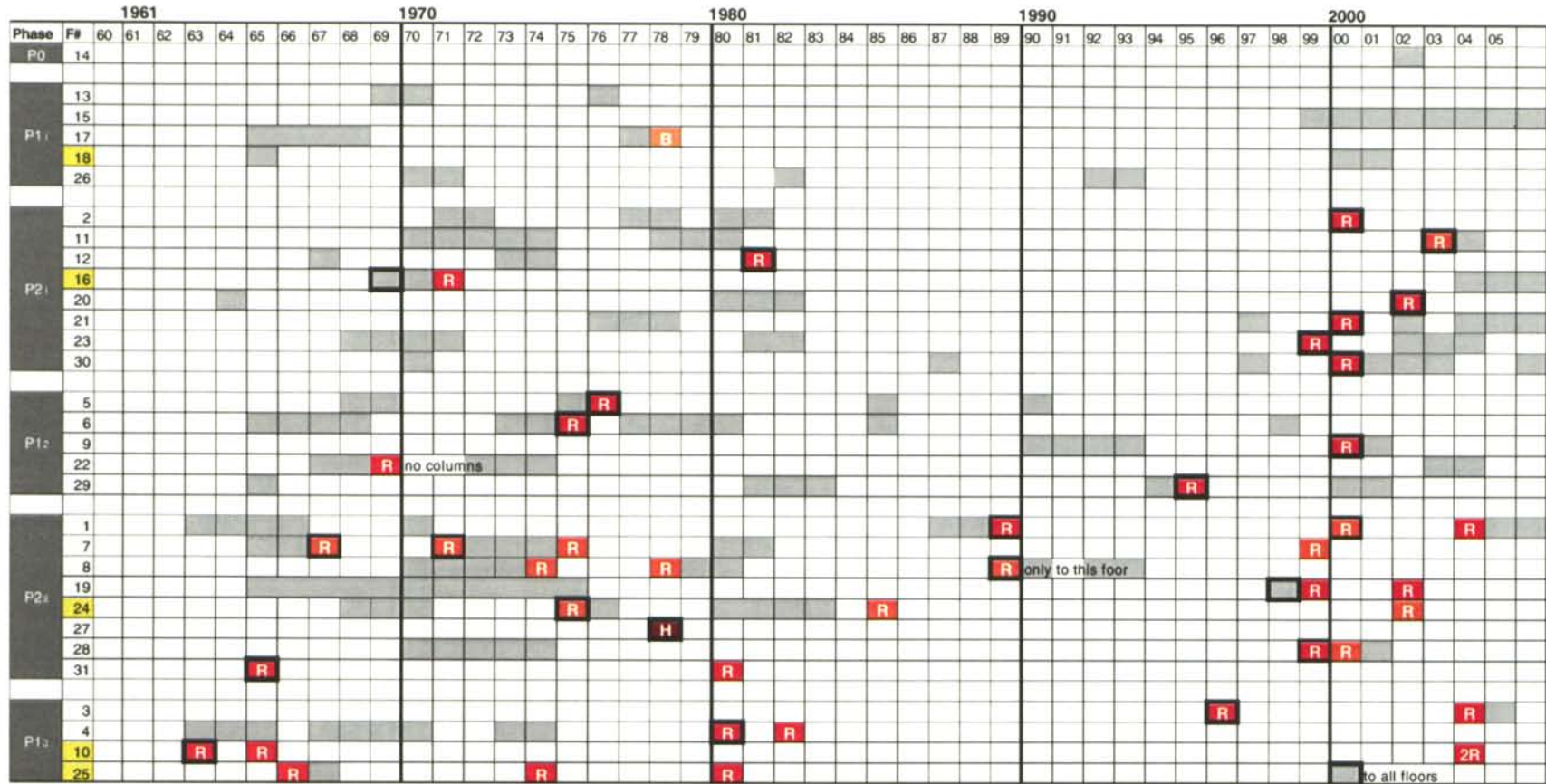
Diagram 5.4 illustrates main housing of investment. The construction of a concrete roof slab was considered critical to future development and a determinant of the efficiency of future investment. An interesting and instructive observation is that major investments occurred twenty-eight to forty years ago or within the last six years, with little investment in the years in between.

Very few people mentioned having had proper technical assistance voluntarily (16%). This percentage does not consider residents that were required to have an engineer look at the structural soundness as part of the loan program. Most people built with the assistance of experienced local masons or on their own. Many of the designs were made by themselves or by the mason building the house.

Housing investments did not proceed in a linear fashion, but with many demolitions and modifications accompanying additions. When enough time lapsed between different stages for a second generation to become adults, horizontal (land) or vertical (building) subdivision occurred, resulting in uncoordinated building. This is manifested building of half-roofs shown in the housing trajectories. Professional technical assistance is recommended to increase the likelihood that housing is structurally sound and makes efficient use of spaces.

Most houses present parallel construction systems (load bearing walls mainly on the first floors and post-and-beam after the first roof slab is placed). Six out of thirty-one families (19%) used a post-and-beam structure at the beginning of the building process and four of the six are newcomers. The first came in 1990.

Diagram 5.4 - Main Housing Investments



Source: Field Work
 Prepared by Susana M. Williams

LEGEND

- H** Full House
- R** Roof slab
- R** Partial Roof Slab
- Columns
- B** Bathroom
- Requested Technical Assistance (apart from Bank of Materials' requirement)
- F#** Family Case Numbers

CHAPTER 6: Motivations for Housing Investments

External factors as well as internal factors have influenced the motivations for housing investment. Houses in Independencia have reached different levels of development. The diversity of housing trajectories indicated the differences in rate of construction, materials used, construction systems, use changes, etc. Not all houses that reached the same stage of development followed the same trajectory.

The first section, External Factors, describes when and how programs and policies intended to stimulate housing investments took place in Independencia.⁴⁵ The last part of the section uses Independencia's housing trajectories, described in the previous chapter, to help summarize the influence of these factors on housing. The second section, Internal Factors, describes demographic and economic factors within Independencia's families that could have influenced housing investment. Some of those factors were family size and composition, level of income, and type of employment. Families' stories are presented at the end of the chapter to illustrate the complexity of the internal factors and their relationship to housing investment.

6.1 External Factors

Security of Tenure through Land Granting and Plot allocation

After the first eviction and later negotiations with the government, the invaders were able to return to the land and settled.⁴⁶ Five months later, the distribution of the plots took place. Students from the nearby National University of Engineering were hired by

⁴⁵ Political events and government attitudes that considered influential to housing investments, as well as the history of Independencia were discussed in detail in chapter

⁴⁶ The land they were to occupy sat next to the Nicolini Hacienda, a powerful family. Learning of the potential invasion, the Nicolini family set out to claim the adjacent land by preparing it for agricultural purposes. Citizens could acquire public land if they could prove that they would use for productive purposes. The Nicolini family then claimed the land in an effort to stop the invasion. It was found later that it belonged to an indigenous community that due to abandonment had forfeited its right to ownership. After negotiations, the land was reverted to public land and the new invaders were able to claim it as their own for another productive purpose: housing. Source: Conversations with Independencia Founders.

the Executive Board of the Residents Association⁴⁷ and assisted by faculty, surveyed the land, prepared the plans and laid out the plots. Streets were named and people soon began to build. These first events gave residents of Independencia a sense of security which favorably influenced the beginning of housing investments.

Roads and Streets

The layout of the plots did not mean that the streets were paved or leveled. None of this had yet occurred. However, the lack of appropriate streets was no barrier to construction. People found the means and ways to travel and transport goods. Local entrepreneurs began a transportation business and not only carried passengers but also transported their construction materials, furniture and other items.

The streets were graded with the help of the military in 1968. Sidewalks and paved streets came to Independencia much later and at random times, mostly during election years. Much of the road and sidewalk paving occurred between the periods of 1984 and 1990. Some of the earliest sidewalks and roads were done through the efforts of neighborhood sector committees.⁴⁸ One of the earliest investments of this type occurred in 1965 when five related families in adjacent plots built their own sidewalks. In 1974, twenty-two neighbors came together to build the sidewalks in front of their houses. They paid for the materials and contributed with labor.

Water, Sewer and Electricity Infrastructure

Water and sewer infrastructure as well as electricity came to Independencia during General Velasco's government (1968 – 1975). Electricity came first and in phases between 1968 and 1970. Water and sewer infrastructures came at the same time and also in phases. Water standpipes and sewer connections were installed between 1970 and 1975. Residents made the necessary connections to their houses as they continued to build.

⁴⁷ The community was extremely organized. This is the entity that had initially coordinated the invasions and later was in charge of development projects for the community.

⁴⁸ Independencia is divided in neighborhood sector to coordinate big infrastructure investments. These sectors are at the same time divided in neighborhood committees to coordinate public facilities construction and improvements.

Before the formal introduction of water and electricity, five families (16% of the total population in the mid-1970s) had constructed a masonry concrete composite roof slab; one house had a roof slab on the second floor; and thirteen families (42%) had started building rooms with permanent materials. During the time of utilities installation, six additional roof slabs were built. Altogether six of thirty-one families (19%) had at least a concrete roof slab before installation of utilities; nineteen of thirty-one families (61%) had at least permanent walls.

Municipal Land Titling Program

In 1984, the government support for the “barriadas” became the role of the local government as national policies shifted.⁴⁹ The Municipality of Metropolitan Lima led a titling program in which municipal titles were granted to residents in pueblos jóvenes or young towns through their own local municipality.⁵⁰ Most families in Independencia received land title at this time. Additionally, many social programs were implemented in pueblos jóvenes including the repair and paving of 150 miles of roads allowing for public transit to reach the young towns.

Between 1985 and 1999 there was a slow down in the progressive housing construction process in Independencia and no major housing investments were made. Only one family was able to build their house, but they had arrived only recently and had unique circumstances.

National land Titling Program

With the arrival of Fujimori to the presidential office in 1990, there was a re-centralization of municipal powers and the process of issuing land titles then became the role of a new national government body: The Commission for the Formalization of Informal Property (COFOPRI).⁵¹ The titles, originally issued by the local municipalities, were no longer recognized by the national government and families had to re-register

⁴⁹ In 1984 a Marxist Mayor, Alfonso Barrantes from the United Left Coalition was elected Mayor of Metropolitan Lima. He would be in office only for two years,

⁵⁰ At this time, there were about one and half million people living in young towns in Lima, about a third of the total population of Lima.

⁵¹ The well-known economist Hernando De Soto from the Institute of Liberty and Democracy became one of the economic advisors to the president and his theories and ideas contributed to the creation of COFOPRI.

their property to validate their titles with the new institution. Although it was expected that most families would follow this path, this was not necessarily the case. Only a few of the thirty-one families registered their title with COFOPRI or were even aware of the program.

Between the time of the first municipal titling program and the national titling program, many land and building subdivisions had already taken place. Subdivisions are in many cases done only through verbal agreements between parents and children while others are stated in formal wills. Officially registering these transactions can be cumbersome for some families and they prefer to avoid it.⁵²

The national land titling program seemed to have no effect on Independencia's families' decisions to invest in housing.⁵³ In fact, this was the period of highest stagnation in construction in Independencia and it would remain so until about 1999. It is worth mentioning that between 1985 and 1990 the country was suffering a deepening economic decline and increasing terrorist violence by the Shining Path. Fujimori's economic policies also explain why this stagnation may have taken place.

Economic Policies

Fujimori introduced a new economic program, known among Peruvians as "Fujishock," in order to stabilize the economy with free market and privatization policies. The government stopped printing currency, set a new currency against real reserves and incomes, and freed prices and current rate exchanges to reflect their true market rate. Some of the results of these policies were lower wages, elimination of food and fuel subsidies with an increase in basic necessities prices. In order to minimize government spending, the national government reduced the public sector payroll and privatized all state-owned companies. There was a strong impact on all economic activities including the construction sector. These policies had also an effect in construction practices in Independencia.

⁵² Issuing land titles becomes a complex process that includes mapping out the young towns, assessing the legal status of the land and registering every individual lot.

⁵³ Although Fujimori's government had adopted the land titling programs, on the other hand, it also managed to eliminate the Bank of Housing in 1991 and the National Fund for Housing was transferred to the Ministry of Housing and Construction. The Ministry of Housing would disappear five months later to become part of the Ministry of Transportation.

Financing Institutions – The Bank of Materials

The Bank of Materials was founded in 1980 with the purpose of helping families build and improve basic housing components.⁵⁴ At this time, however, none of the thirty-one families in the sample accessed these funds, although six of the thirty-one families (19%) built roof slabs in the first five years of the program.⁵⁵

In 1997, the Bank of Materials' position was strengthened and the bank was charged with promoting and supporting housing investments.⁵⁶ The housing investment program was aimed at the sectors in most need of housing and only basic units could be financed through this program.⁵⁷ As Abrams (1963) would have advocated, bathrooms and roofs were considered of high necessity and therefore eligible for funding. With this limitation, only construction related to phase P1₁ and phase P2₁ of the housing development phases qualified for loans. These loans are subject to many inspections in order to guarantee that the housing needs are immediate.

Since 1997, thirteen families from the sample built at least one roof slab and six (46%) benefited from this loan and only one family was able to access a loan through the bank in 1995. The loans were used only for building the roof slabs. One benefit of this type of loan was the accompanying professional technical assistance. Engineers were required to inspect the house existing conditions and recommend measures to guarantee structural soundness of the family investments.

Other Financing Institutions

Regarding loans in general, interviews with families revealed a general skepticism towards them, especially among the older generations who saw them as "dangerous adventures." Only one family of the thirty-one interviewed received a loan from a private bank for housing investment. When asked about willingness to get a loan, five

⁵⁴ At the beginning of the program, the loans were granted in the form of construction materials and later were changed to line credits of up to 4000 soles in the 1980's.

⁵⁵ This was due in part to President Belaunde's focus on housing construction for the middle class which housing deficit was also increasing.

⁵⁶ The bank was strengthened mainly to address the needs of newer young towns and help fund the provision of basic public infrastructure. Additionally, it would also address urban renewal projects in the inner city.

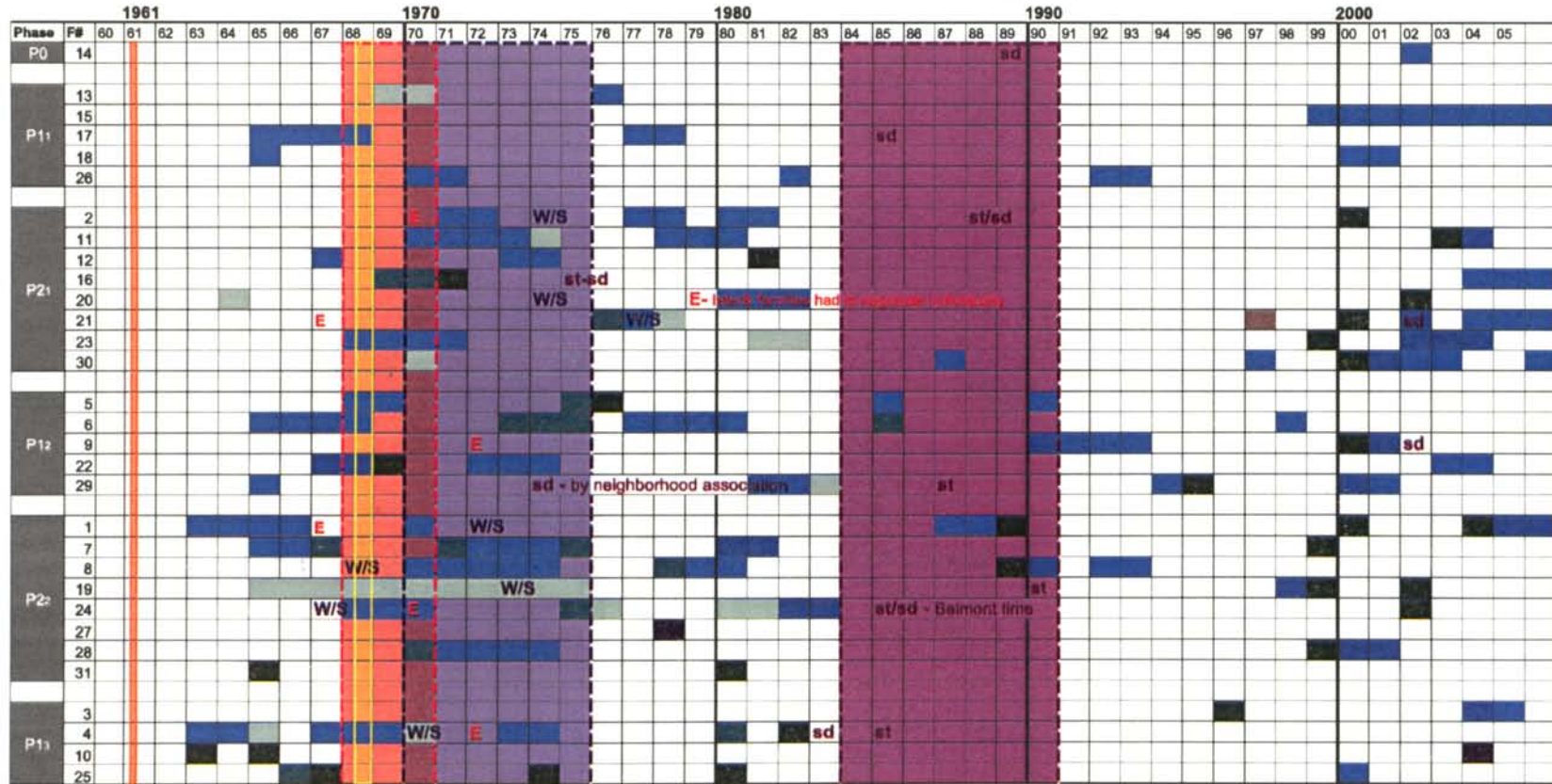
⁵⁷ A basic unit was a 30 m² core house with permanent materials or a 18 m² module with lightweight materials for expansion.

of thirty-one families (38%) indicated they were willing to put their house down as collateral for a loan but only if the loan was for a business investment. The shared concerns were high interest rates and job instability.

External Factors and Housing Investments

The following diagrams summarize the above descriptions and relate different external factors to different housing trajectories in Independencia:

Diagram 6.1 - Physical Infrastructure and Housing Investment



Source: Field Work
Prepared by Susana M. Williams

LEGEND

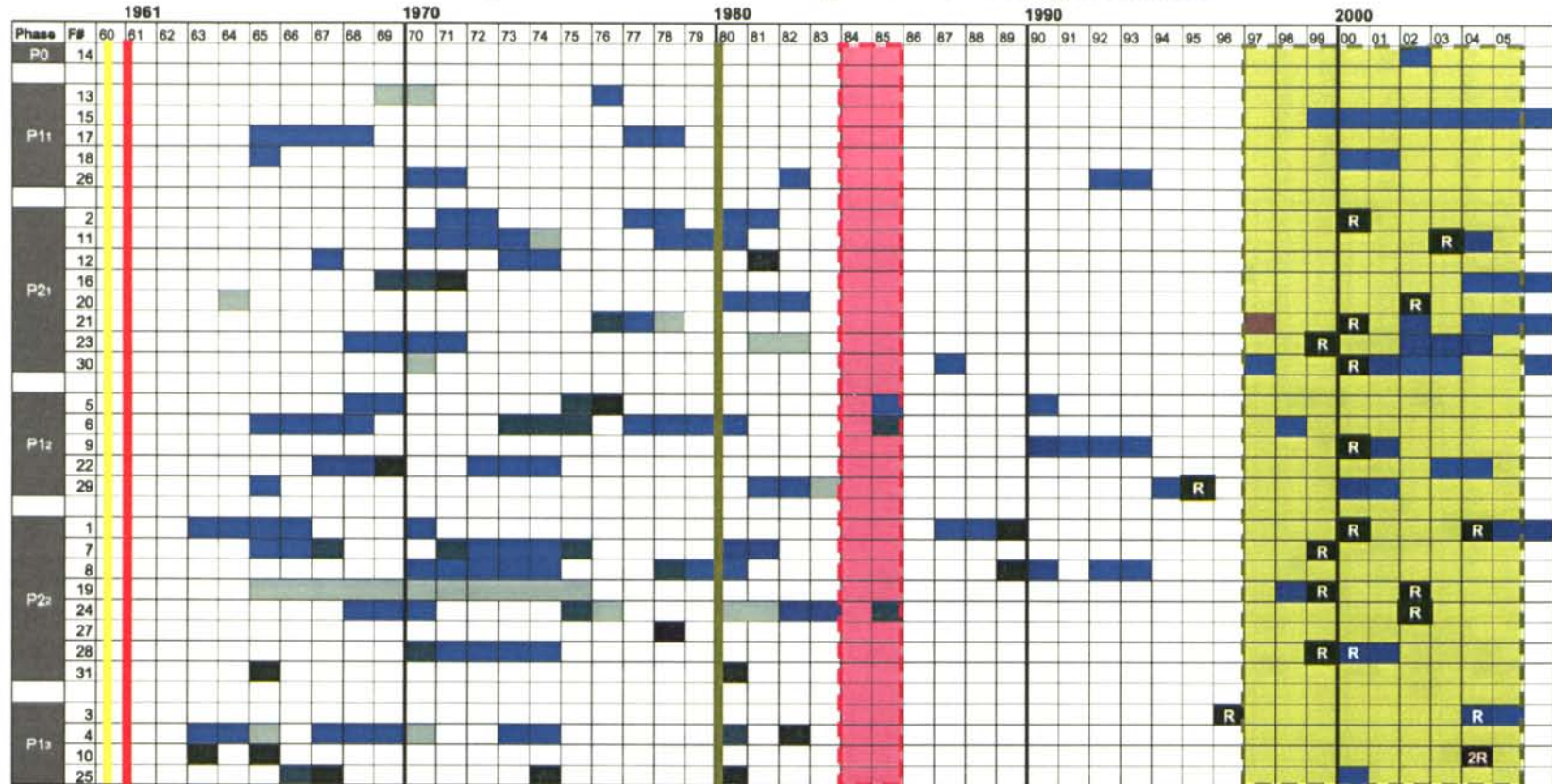
Government Intervention

- Land Granting and Plot Allocation
- Water and sewage connection
- Electricity Installation
- Graded streets
- Most Paved streets and sidewalks
- F# Family Case Numbers

Families' Recollection of Service Arrival

- W/S** Water and sewage connection
- E** Electricity Installation
- st** Paved Street
- sd** Sidewalk

Diagram 6.2 - Policies and Programs and Housing Investment



Source: Field Work
Prepared by Susana M. Williams

LEGEND

- 1960 - Invasion
- 1961 - Law of Marginal Neighborhoods
- 1980 - Bank of Materials Creation
- 1984 - 1986 Municipality Titling Program
- 1990 - National (COFOPRI) Titling Program
- 1997 - Bank of Materials Strengthening and loan opportunities
- Accessed Bank of Materials Loan
- F# Family Case Numbers

The following can be observed:

Twenty-two families of the thirty-one interviewed have been in Independencia since the time of the invasion. Out of those twenty-two families, twelve families (54%) invested in housing within the first five years of the allocation of the land and twenty-one families (95%) invested in housing within the first ten years. One argument presented in the literature is that security of tenure depends less on legal status and more on matters of perception by residents⁵⁸ regarding the probability of eviction (Doebele, 1983; Gilbert, 1990; Razzaz, 1993; Strassman, 1984; Leaf, 1994). The granting of land in Independencia was an important factor for housing investment. So was the site's layout and the plot allocation process –families in Independencia were thus provided with a solid sense of security as residents of the young town. The enactment of the Law of Marginal Neighborhoods in 1961 enhanced this sense of security.⁵⁹

Almost half of the families interviewed built permanent walls before the installation of utilities, while about one-fifth built a roof slab during the installation. It seems that installation of utilities was not a strongly motivating factor for many families' housing investments but rather a complement to the parallel progressive development of the houses. As utility installations took place, the building process continued independently. This differs from Payne (1984) Shidlo (1990) and Gilbert (1994) found in other projects where public infrastructure investment contributed to housing investment.

Although residents were given title twice from both the municipality and later the national government, there is no evidence that legal titling influenced families' decisions to invest in housing. Only three families made investments during the municipal titling program and only three families out of thirty-one invested in housing immediately after the insertion of the national titling program. There is no evidence that those events are related. Residents were either unaware of the titling programs or unaware of how they

⁵⁸ Whether security of tenure is achieved de jure or de facto

⁵⁹ The Law of the Marginal Neighborhoods was a very important landmark in the housing policies of Peru, because it called for the upgrading, regularization and improvement of the *barriadas* of Lima

could benefit from them. This suggested the legal titling programs were not an important factor to consider⁶⁰.

About half of families who built a roof slab after 1997 used a loan from the Bank of Materials. In 1963, Charles Abrams had acknowledged the roof as the most important and costliest part of the structure and advocated for roof loan schemes. The Bank of Materials Loan Program created an opportunity for families who did not have a permanent roof or opportunity for vertical expansion over a long period of time, but it did not provide for construction beyond a basic unit. Second and third generation households, wanting to invest in walls or a slab for the second floor, could not be considered for a loan.

6.2 Internal Factors

Family Characteristics

Most family groups all started similarly⁶¹. Families are described according to generation groups. From the family sample, the ages of the first generation ranged from sixty-five to eighty-six which meant that, at the time of the invasion in 1960, they were roughly from twenty to forty-one years old. The age mode encountered in the interviews was seventy-five, roughly thirty-one years old at the time of the invasion. Looking only at the oldest child's age of the second generation, ages ranged from forty-three to fifty-nine at the time of the interview. At the time of the invasion the oldest child was fourteen. Families mentioned there were many small children at the time of the invasion and even some pregnant women.

⁶⁰ Other studies have arrived to the conclusion that full legal titles are not always necessary for investments in housing improvements (Angel, 1983, 2001; Gilbert & Ward, 1985; Silas, 1990; Garr, 1996; Payne, 1997; Varley, 1998).

⁶¹ Plots were to be allocated only to couples with children. Few exceptions were made for younger siblings or close relatives. This is corroborated by the fact that all original invaders had been registered in the Residents Association formed before the invasion to coordinate the distribution of lots and to assist residents with further needs as they settled. To be registered, a family had to prove that they in fact needed a place to live and that as a young family, they required immediate attention. In fact the full name of the residents' association was *Pampa de Cueva Parents Association*.

The descriptions and charts related to family size over time in this chapter, take into consideration only the family members that have ever lived, at any point in time, in the house where the interview took place. Some families did not bring with them all their children when they invaded and some grandchildren (third generation) were born after their parents married and left the house. It is important to understand the different dynamics within the families for the numbers presented in this chapter to make sense.

Family dynamics varied from the simple case of the first generation settling the land and then giving it to one child or to multiple generations living in one house. Upon attaining adulthood, the second generation followed any of the following paths: married and formed a new household somewhere else; married and shared the house with parents; married and moved into a designated area of the parents' house; married and stayed with parents only temporarily; or left the parent's house and returned either permanently or temporarily.

The study found an interesting new relationship between the third and first generation. Independently of the path followed by the second generation, the third generation is choosing to remain with the grandparents or return to live with grandparents. All of these situations happened simultaneously in one family, increasing the complexity of analysis of family size and composition. Similarly, other close family members also followed these patterns. Aunts, uncles, nieces, nephews, older relatives and very good friends will be at one point living with families as they transition into a different phase in their lives or to stay permanently.

A description of one family that was interviewed can illustrate some of the above situations and the relationship between the first and third generations⁶²:

Mr. Ramirez and his wife came to Independencia as founders⁶³. They came with three children and two more were born in Independencia. They were in order of age: Juan, Zulema, Felipe, Berta and Luis. All the second generation married and the only one that did not stay with his parents after getting married

⁶² Names presented in these descriptions are fictional and do not correspond to the actual names of family members.

⁶³ "Founders" is the traditional title given to families that came to Independencia to invade as part of the organized group in 1960.

was Luis. He and his wife rented a place until they moved to their new house in a neighboring district. Berta married twenty-four years ago and lived with her husband and four kids in the same house with her parents for twelve years before moving to another neighborhood. Three of the Berta's children however, chose to return to live with Mr. Ramirez since Independencia was much closer to their job place and academic centers. They are all occupying the first floor and half of the living room was transformed in a new bedroom. Mr. Ramirez enjoys the company of his grandchildren since his wife died about seven years ago. Felipe lived with his wife and three kids at his parents' house. They left about fifteen years ago to the wife's parents' house after her mother died. There they had two more children. Zulema has been married for eighteen years and left her parents' house three years ago. She lived there with her three children. The second floor has recently been subdivided by the father and the three oldest got a portion of it. Zulema received the biggest portion which is adjacent to the stairs. This she quickly remodeled into a small apartment first for them and later to rent. She has a young family renting the apartment: a woman, her husband, a toddler and the woman's mother. She is a distant cousin of Zulema. The remaining portion of the second floor was equally divided between the oldest brothers and they started to build separately and at different paces. Felipe's oldest son has returned to his grandfather's house, living with his wife and daughter. Juan, the oldest, his wife and four children, left about three years ago to a district where they acquired a new plot of land. However, they have not fully left. They have been coming and going intermittently to stay in their portion of the house.

The following case is also illustrative of the situations presented above, corresponds to another family whose house was used as an example in Chapter 5:

Mr. Perez came with his wife to invade. At that time they had two children and two more were born there. They are Martha, Margot, Antonio and Renato and all are now married. This is one of the families that was able to acquire more land by carving into the hill so the subdivision of the parent's property among children has happened horizontally as well as vertically. The youngest, Renato,

left with his pregnant wife to a new house they were able to get through a government program. He had started building in the area that belongs to him but decided to return it to his parents so they could live there while they remodel their section of the house. The parents took this as an opportunity to convert their apartment into a garage for business which is currently under construction. Antonio is living there with his wife and small daughter. They moved to the second floor of the newly reinforced first floor where the garage will be and are building a small apartment there. The second oldest, Margot, left her parents house ten years ago. She had lived there with her husband and four children. The oldest daughter lived in her parents' house for three years with her husband and two children. They left but returned two years later and began to build in the area that belonged to her now. She and her husband have five children now.

Size and Composition

Plots were initially allocated to couples with children with an average family size of four, two parents and two children⁶⁴. Most families that came during the first decade eventually had a total of six children.

The next table presents the maximum amount of people that have potentially lived in a house at one time under the assumption that all of them lived together at the same time. Although this has not been necessarily the case for all families as some members leave and return, some families have experienced these many people together. The average size for a family on its peak time was eighteen. The largest number recorded for family members in a house was twenty-seven with ten of them belonging to the third generation. The lowest number for family members in a house was seven and four of them belonging to the third generation.

⁶⁴ In three separate cases, only one of the parents came to Independencia to get a plot in the invasion but ended up not living there with their families due to the harsh conditions. They would come only to sleep and guard the plot. Later on, one of the children received the land to build a house for their new family.

Table 6.1- Family Composition – in Peak Times

Generations	First	Second	In-Laws/ Partners	Third	In-Laws/ Partners	Fourth	Renters	Total without renters	Total with renters
Total 31 families	37	149	52	138	10	16	13	353	366
Average	2	5	2	7	1	1	1	18	18

As of 2005, there is an average of nine people, including all generations, living in a house in Independencia. There is an average of one person from the first generation and two from the second and one of them will most likely be married. There is an average of four people from the third generation and one from the fourth. The average number of people renting per household is zero, due in fact to the low number of tenants which totaled only twelve people in three houses. The largest family has sixteen members living in the same house and the smallest has two. The total number of people representing the different generations from all families interviewed that live today in Independencia can be seen in the following table:

Table 6.2 - Family Composition – in 2005

Generations	First	Second	In-Laws/ Partners	Third	In-Laws/ Partners	Fourth	Renters	Total without renters	Total with renters
Total 31 families	25	39	20	85	8	15	10	188	198
Average	1	2	1	4	0	1	0	9	9

One important point to make is that this classification has not distinguished the different households that may be present within one large family.

Arturo Novoa, the president of the Founders' Association, described the demographic situation of Independencia in the decade of the 1980's with the following:

“At the beginning of the 80’s there was a new influx of people looking for housing. It was not the influx of the migrants from the previous decades that were looking for housing. It was the influx of the children of the first migrants.”

Type of Employment

Families had jobs in both the formal and informal sector and their income streams were either constant or variable. Although most residents were expected to work in the informal sector, the data collected proved this was not the case. Heads of households from the first generation had a high percentage of people that have worked in the formal sector: Sixty-eight percent (68%) of them with a constant income and 12% with a variable income. Not all of them were able to preserve their jobs throughout the years and lost their positions due to the economic conditions of the country, companies' privatizations and nationalizations. Many were factory workers or did some sort of manual labor such as glass blowers, furniture-makers, bakers, etc, skills that they sometimes were able to employ in earning extra income through an intermittent home-based business. Only 20% of the first generation worked in the informal sector, as independent entrepreneurs.

The situation changes for the second generation as 52% work in the informal sector but 14% of them have a constant income. The 14% are mostly established business people in the informal economy. It has to be made clear that these numbers are only considering the members of the family who contribute the most to the household income per generation. If all the jobs of the people living in the household from the second generation were to be factored in, then the percentage of people working in the informal sector would be much higher.

There is a large variation of job types and income patterns among the members of the second generation within one family. Out of the people that are already working from the third generation, only 38% are in the informal sector. Of the remaining number, however, the 38% that works in the formal sector has a variable income. They are mostly working on sales or the food industry. The following chart summarizes what was described above:

Table 6.3 - Family Composition – in Peak Times

Type of Job/ Generations	First	Second	Third
FK – Formal sector/ constant income	68%	34%	25%
FV – Formal sector/variable income	12%	14%	38%
IV – Informal sector/ variable income	20%	38%	38%
IK – Informal sector/ constant income	0%	14%	0%
	100.0%	100.0%	100.0%

Note: all percentages were calculated using as a base only the number of people working per generation per family

Many of the second and third generations work in the informal sector with a variable income. This means being a taxi or mini-bus driver and to a lesser degree a street vendor. Members from the youngest generations will usually help the older generations financially if needed. Some of them cannot afford to collaborate with all basic expenses in the house since most of their earnings go to cover their own expenses such as transportation, food, work clothes, entertainment, etc. Once they get married, they will contribute even less. Most of the first generation today are retired and collecting their pensions. Few of them complement their pensions as vendors in the informal sector.

Level of Income

Income levels in Independencia are low. Independencia has a 21.6% absolute poverty index which is considered average compared to other communities in the Northern Cone, but not adequate for meeting basic needs. The minimum wage in Peru is about US\$126 per month, and the average monthly per capita income in Independencia is US\$51. It therefore takes more than two people per household to meet basic needs.

Supplements to Income in Independencia

One aspect that all families have in common is that they did not rely upon only one job as the source of income for a family and that residents took any opportunity to bring more money home whether their job was in the formal or the informal sector. Examples of the resourcefulness of people even from the beginnings of Independencia are:

- Local residents started a transportation company to serve the new market of thousands of people that needed to connect to the city and adapted their

service to also carry furniture and construction materials despite the lack of leveled streets.

- Local neighbors set up the first water delivery business by using plastic containers, first on foot and then with trucks.
- One family ran a powerful generator to provide electricity to people for a set price before electricity infrastructure came to Independencia.
- Groceries stores and other businesses flourished despite the harsh conditions of the first decade due to the lack of competition.

Home-Based Enterprises and Businesses

Families supplemented income from jobs by creating home-based businesses that varied in scale. Small scale businesses such as food or grocery stands were mainly run by the women of the family. In the thirty-one, there were sixteen families (52%) that had businesses including grocery stores, cookie and candy stands, radio and television rentals, and seamstress services (Table 6.4). Thirteen percent (13%) of these families were running them from the kitchen ranging from catering for private events, preparing meals for construction workers, snacks or quick meals for the students nearby schools. Not all the home-based enterprises run continuously⁶⁵. Businesses, if not big in scale, changed as the conditions and needs of the family changed. Four of the most established houses in Independencia had stores during the first decade of the settlement and they were highly-profitable business. One other house ran a very successful restaurant making their biggest profit selling alcohol on the weekends. There were many businesses in the area at the time of the interview. Families that owned a business in the past commented that a business in Independencia is not advantageous anymore because “everybody wants to do it and everybody does it – there is too much competition.”

⁶⁵ Two families had just started some months ago.

Table 6.4 - Businesses in Independencia

Business Type	Quantity
Large grocery store	2
Medium-size grocery stores	1
Cookies and candy stand	1
Neon signs sales	1
Ice Cream Stand	1
Juice, snacks and dessert parlor	1
Beer Sales (from living room)	1
Radio/ TV rentals	1
Seamstress/ Hair dresser from living room	1
Meals (varies)	4
Hair salon	1

There were workshops in 23% of the homes including carpentry, electricity, car repair, and radio repair. The breakdown was the following:

Table 6.5 - Workshops in Independencia

Workshop Type	Quantity
Carpentry	3
Electricity/ electrical	1
T-Shirts manufacturing	1
Car repairs and painting	1
Radio/ TV Repairs	1
Artist	1

Two houses had a business and a workshop at the same time and one more family was beginning to set up a new workshop. Sixty-five percent (65%) of the families interviewed wanted to arrange an area within their house to set up a new business and 13% wanted to upgrade their current business.

Remittances

Remittances, money sent home when family members work abroad, were significant complements to some families' incomes. Thirty percent (30%) of families had members of the second or third generation who contributed to the family welfare by sending money monthly for basic expenses or by sending large sums for major expenses such as housing improvements and investments.

Room Rentals

Nine percent (9%) of the families interviewed rented rooms and in the three cases, they rented usually to relatives or friends. A fourth family rented one room for storage and fifth family rented half of the house for a carpentry workshop. Rents ranged between S/80 (\$24) to S/240 (\$74) soles per month depending on the size and quality of the room or apartment.

When asked whether they were willing to rent a room or floor in their house, 63% of the families answered affirmatively. Most of them said also said that they needed to improve the house and add more rooms for that purpose. There is, however, distrust in renting accommodations. There is a not adequate legal protection neither for the renter nor for the landlord currently in place in the country. This has created problems in the past. One female resident, who had a father and son for renters, was left in the awkward situation of having to care for the son. The father left one day and did not return. Not only did the family lose income from this rent but had to face the reality that there was one more person to feed since there was no where else for him to go. They were in the process of looking for a job for him.

Polladas and Parrilladas

One typical scene in Independencia between the years of 1976 and 1983 were the *polladas bailables* and *parrilladas bailables*. There would be eight to fifteen of them on the weekends. These were large parties organized by a single family in which large quantities of chicken or beef would be grilled and served with side dishes. Dozens of people would come to these parties which were had to be held in the street because of their size. Organizers sold tickets for food ahead of time to make sure the right quantities were purchased. Countless bottles of beer and loud music became the most popular feature of these parties and the organizers were always able to retire at the end of the evening with a sizeable profit. Why is this important? It was the preferred way to raise funds for the construction of a new room or a roof slab. Big expenses for a family were most likely partially financed this way. In 1984, Mayor Moreno decided to put a stop to these because, as she claimed, they sometimes got out of hand and were

disruptive to the neighborhood. This probably also contributed to the construction stagnation experienced in Independencia at these times.

Families' Case Stories

The following are examples to illustrate the influence of income, demographics and other factors on housing investments and to understand the different dynamics within the families⁶⁶:

Housing investments due to Work-Related Opportunities

As mentioned already, most families who have members working in the formal sector and have constant incomes have managed to invest the most in their houses.

- Mr. Rosas (family 27) came to Independencia in 1971 and claimed a lot in the hills. Unsatisfied with the conditions, he searched for a new plot in the flat areas of the new community where services were being provided at a faster rate. He found a partially built house but could not afford it. After long negotiations with his company, he was able to sell his shares within the company and acquire the house. He used 50% of the money to buy the house and the other 50% to finish construction. He finished the house in only three months.
- Mr. Núñez (family 4) came to Independencia during the initial invasion of the land. He had a formal sector job with a variable income. Between the years of 1979 and 1987, he took a job that provided a constant income. This is the period where he made the biggest investments in his house. He finished a three-story house during this time. After 1987 he returned to his previous job which he greatly enjoyed.
- Mr. Quiroz (family 8) was also a founding resident. He promised his family he would build a house for them no matter what. He looked forward to the holidays because of the bonuses from his employer. He knew that the money would be used for materials. He fondly remembers Christmas celebrations because of the thousands of bricks and cement bags that would accompany it. His employer would help him buy the steel and would have it deducted from his paycheck. Some of his other loans went against his retirement pension.

⁶⁶ Names presented in these scenarios are fictional and do not correspond to the actual names of family members.

Housing Investment and Early Entrepreneurship

Four of the most developed houses in Independencia, which belonged to founding families, had a store in the first decades of Independencia as a supplement to their income. It is unclear whether this was a coincidence or whether their businesses significantly contributed to their housing investments especially during the early years. It has been mentioned before that there were few stores in Independencia in its difficult beginnings. They were very profitable due to the lack of competition. This was the case of families 25, 10, 4 and 31. The following similar cases may help shed more light in the matter.

Housing Investment for a Production Center

Very few families use their house for production or business purposes. Two of the cases are of successful latecomers who have significantly invested in their houses:

- The Paredes family (family 3) is one of entrepreneurs. All siblings work in the informal market in one of the major wholesale grocery marketplaces in Lima. The youngest has been saving money for some time and after getting married, move to Independencia where he built a two-story structure. It had a full grocery store on the first floor and an apartment on the second floor for him and his mother. He later started building on the third floor. His mother had been living in the hills of Independencia and knew this plot was for sale. They seem to be very successful catering to an area where these commercial services are not readily available. The goals of the family are business-centered. Any investment made in the house is directed to improve the business. They see it as getting a free house out of their job opportunity.
- The Melendez family (family 9) is a similar case, and they use their house for production purposes. They have a clothing workshop that occupies half the house. They sell clothing all over the country. There is a great demand for their product, selling an average of 500 units per week. They also started in one of the major informal clothing centers in the city and transitioned their production activities to their house. To set up the new house/business, Mrs. Melendez bought half of the plot from her mother. The house is organized in a way where employees can access the workshop without going through the more private family areas. The workshop operations are not visible from the street. The Melendez claimed to work

mostly for their kids and their education. They pay in US dollars for preparatory schools for private universities and one of the children is studying English.

Housing Investments Times Two

- The Peñalosa family (family 23) had a previous entrepreneurial activity in earlier times and used their house as a production center. The parents came as founders and had six children. The father had a stable job in the formal sector with a constant income. One of the first investments in their new house was a space for a restaurant and a barber shop. He would work in the barber shop after work and on the weekends and his wife would work in the restaurant. As a very organized couple, most of his income was destined to the basic expenses of the family and the profits from the two businesses were destined to the construction of the house and further improvements. They were able to leverage loans for bigger expenses such as the roof and built their house quickly. However, their house in Independencia remained the production center and they chose to buy a larger plot in a different district where they built a second home. The barber shop is still in operation. It is run by one of the children and the restaurant space on a corner is waiting to be rented.

Housing investment to Reunite the Family

- Mr. Lama (family 21) bought a plot of land and built a small house for him, his wife and two children. His wife died shortly after the move and he had no incentives to keep building. The eldest of his sons eventually joined the military and got a good job afterwards. He also got married and just had a baby. He and his wife lived for a short time with Mr. Lama. However, the lack of space and comfort forced them to move to his wife's parent's house. Mr. Lama has made the commitment to rebuild the house for himself and the young family. He demolished the old structures and with the financial support of the oldest son, he is finishing a full compact apartment for the oldest son and a studio for him and the second son. He has been working on his own every weekend and the place is almost ready for his family to return.

Housing Investment with Lack of Income but Motivation

- Mrs. Quiñonez deserves great recognition. She and her family came to Independencia in 1996 after acquiring a small plot of land on the steep side of the hills. Her husband has not been able to work for the past ten years and her two young sons just lost their jobs as delivery drivers for a wholesale store. One of them has started as a mini-bus driver and the other is still looking for work. She has worked hard to get where she is. She chose to work as an informal street vendor at nights so the police would not bother her. She also works in the afternoons taking in laundry. She and her sons have leveled their plot themselves because she cannot afford to pay others to do it. They have conditioned the site and have begun to build, although they have only accomplished two bedrooms and a common space. The rest of the house is constructed with temporary materials.
- Contrary to this is the case of the Alvarez family (family 14). They have been in Independencia since 1960. They came as founders and their house is the only one still with straw mats, cardboard for the walls and a pressed-dirt floor. It seems as if they have just arrived. There were eight children and the mother stayed at home. Ironically, one of the husband's jobs was a construction worker. All the children worked in the informal sector and only half of those who got married moved away. At the time of the interview, the women of the second generation were working as maids in private homes. It is unclear how this family was not able to invest in housing for more than forty years. Their biggest investment was pushing the housing structure from the front of the lot to the back to allow for the water standpipe to be installed.
- The Fernandez family (Family 13) is also a large family, having eight children. They would be in a similar condition as the previous family except for a stroke of luck. In 1969, the father won the "*dupleta*", the winnings from a race horse, which allowed them to buy enough bricks to build two large rooms and one small room. This new construction covered almost one quarter of their entire plot. That would be the last investment made.

Housing Disinvestment Despite Income Opportunities

- Mr. Gonzalez (family 28) claimed he made a lot of money but was not a smart investor. He had a prominent job repairing hearing aids, a very specialized task,

and for a while was one of the only such specialists in Peru. He did that for thirty years. At the same time he operated a small appliances repair shop in his home at night to supplement his income. On the weekends, he was one of the few that rented out sound equipment in Independencia. He would typically rent out from four up to nine equipment sets on the weekends for *polladas*, weddings and other festivities. His best times, he recalled, were the 1970's and the 1980's until the *polladas* were banned. As the availability of stereo equipment increased and technology improved the demand for his services dropped dramatically. The 90's was a rough decade. He had saved no money, having spent all his surplus income during his most productive years on parties, beer and women. He bought a plot of land with a poorly constructed, half-finished house already on the site. Not listening to the advice of siblings and friends to demolish and rebuild, he decided to build on top of it. The house now needs many repairs and additional investments had to be made to repair the existing structure and add a roof slab. The motivation and financial support came from his eldest daughter who is slowly improving the house for her father while building a place for herself.

Housing Investment from Remittances

The following two cases have similar stories. Members of the first generation participated in the invasion of the land but eventually gave their land to one member of the second generation who was unable to build. The third generation then leaves to work abroad and sends money for major investments in the house. Ironically, the biggest housing investments have been done with fewer people in the house. It is very likely that the members of the third generation will not return.

- Mrs. Tintero (family 29) moved to Independencia after she got married. Her husband had a half plot of land he had gotten from his uncle as a gift for guarding the land. The uncle's wife never wanted to move to Independencia. Mrs. Tintero's husband had built two small rooms and they had dreams of building a house. He went abroad to work and after returning only once after three years, he left the family forever. Mrs. Tintero was left with her children and was unable to continue construction despite the many jobs that she took. About thirteen years ago, the eldest of her children went abroad to work and have since then sent money for her

and for the house. Two of her other children were able to join the eldest abroad later.

- Mrs. Chavez (family 30) got the plot from her father in the mid-1970's. His wife, as in the previous case, had refused to come to Independencia because of the harsh conditions so the plot had remained unoccupied for some time. The father built only two small rooms with brick and concrete. Mrs. Chavez, the only daughter from a different marriage, got the place as a wedding present. She claims her husband always kept a negative attitude about building because he believed they never had enough money. They eventually separated and she was also left alone with her children. Family members abroad helped the children leave the country and find good jobs. They have all started a new life and frequently send money home so their mother can build the house she always wanted. Mrs. Chavez's new plans are to build an apartment for each of his children to be used during their visits to Peru.

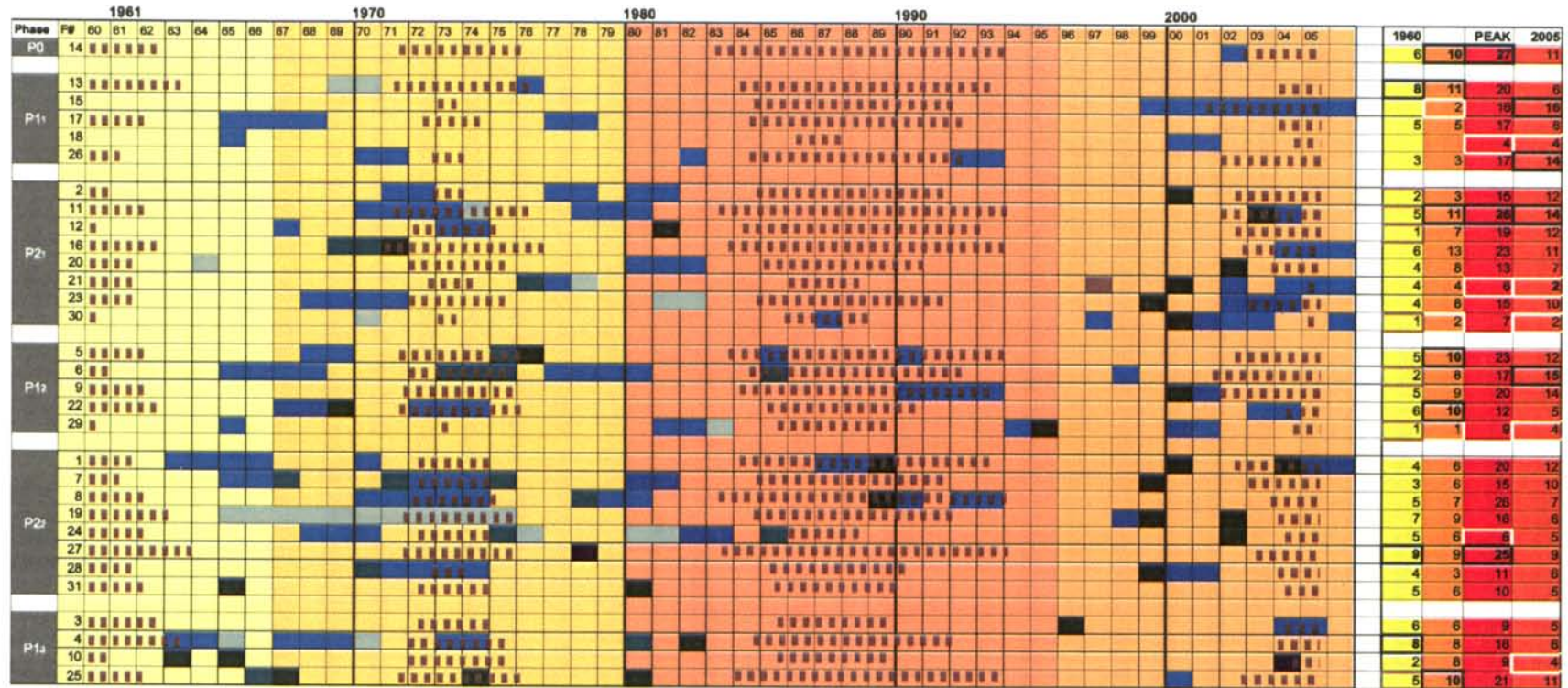
Internal Factors and Housing Investments

The following diagrams summarize the above descriptions and relate different internal factors to different housing trajectories in Independencia:

Family size and Housing Investment

(See Diagram 6.3)

Diagram 6.3 - Family Size and Housing Investment



Source: Field Work
Prepared by Susana M. Williams

LEGEND

- Family Size at Arrival (1960)
- Final Size of Original Family (First and Second Generation)
- Family Size at Peak Times
- Family Size Today (2005)
- Highest Numbers
- Lowest Numbers
- Total number of Family Members
- Family Case Numbers

Family size was not a strong determinant in housing investment decisions and according to the data collected; there is no direct relationship between housing investments, different levels of housing development and family size. The family with the highest number of people at peak times invested the least in their house while the most developed houses had the least number of people. In some cases increased family size prohibited investment in housing, as increased family size without increased financial resources made further investment unlikely.

Turner portrayed demographic events as being one of the factors which influenced people to build. As the family grew, they added a room. However, this did not mean they added a room or invested in one. The families interviewed creatively subdivided an existing room or added a temporary room. More rooms did not guarantee an improvement in the quality of living or appropriate investment, and in fact led to crowded conditions.

A housing investment implied a permanent addition or improvement constructed with brick and concrete. Permanent materials did not necessarily guarantee an appropriate investment either. In most cases, temporary structures are not the best alternative since it was not done with the same level of care. If light-weight materials were to be treated as permanent solutions then the treatment of the spaces would have a different outcome. The psychology of the temporary vs. permanent produces different levels of care to these spaces. This was clear during the visits to the different houses. Storage rooms and workshops built permanently with plywood or other temporary materials had been properly finished and sealed and were receiving adequate maintenance. On the contrary, additional temporary bedrooms were a collection of plywood panels and cardboard with plastics sheets or straw mats for the roof. The hope that the new structure will soon be replaced by a more permanent structure left a poor and inadequate living environment as an unintended consequence.

Although demographics did not predict housing investing, they did influence how the house grew and how it was used. As population increased horizontal (land) subdivisions and vertical (building) subdivisions took place and/or temporary rooms were added. The following examples illustrate this better:

- Once the house or plot is subdivided, parents feel that they cannot build or invest in the areas that they have already allocated to their children since their children are responsible for it. In some cases, however, the children do not return to invest in the house. One member of the third generation's answer to the question of whether he would rent a room for added income was:

What can I do? It is theirs already and I cannot add a room to rent They have a house somewhere else though and they are building there...

Head of Household

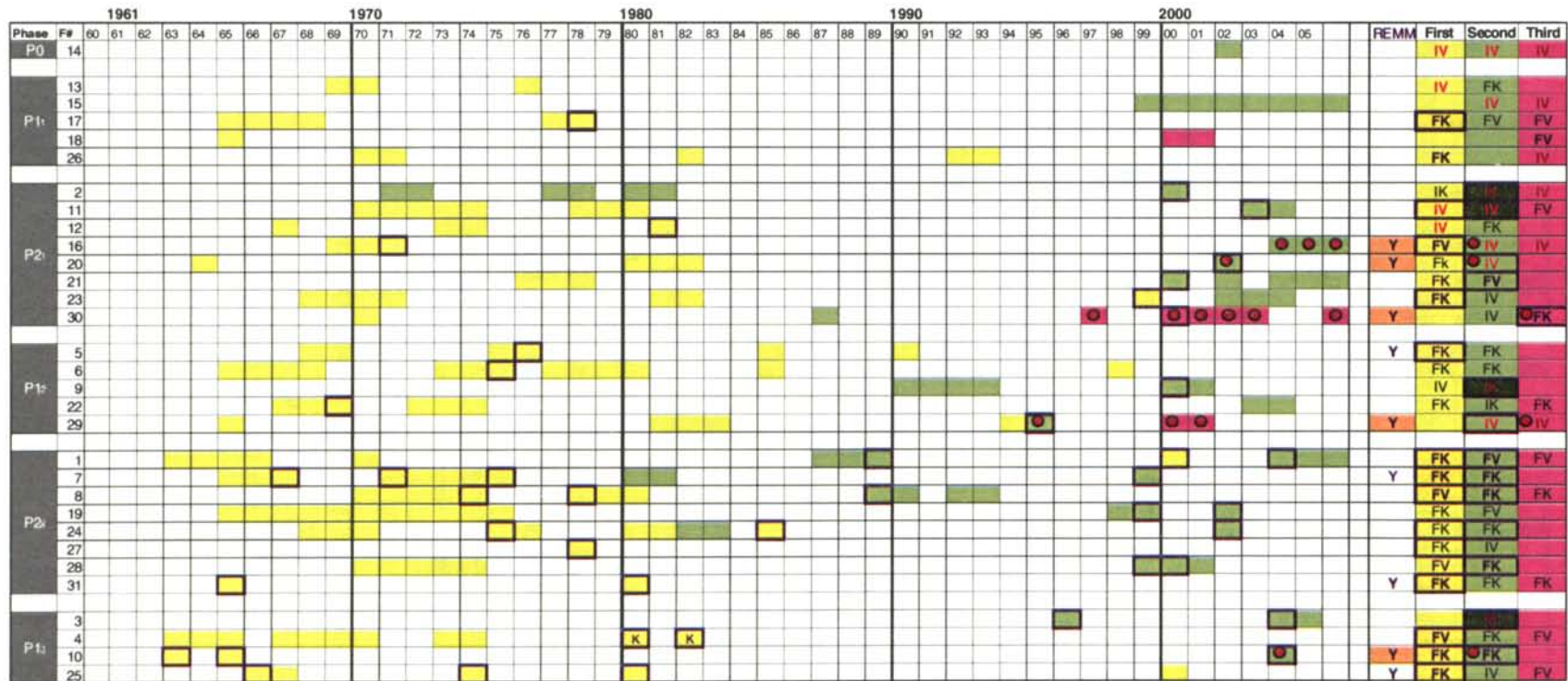
- When asked about selling or renting their house after being subdivided, some members of the younger generations said that their decision depended on the other siblings and according to the "declaration of inheritance" about the house. Since the house now belongs to a group of people, selling or renting becomes a collective issue if the house was finished by one generation – and becomes an individual issue if not. The siblings would make additions on their own for themselves or for renting.
- The way the subdivisions are made among children and at which phase they are made in the housing trajectory affects the different investments that are made in the house. This was already detailed in Chapter 5 and relates to the different levels of coordination in construction.

When parents subdivide the house or the land, they do not do register it legally. In many cases it is only a verbal agreement among siblings and parents. At most, the subdivision will be described in a "declaration of inheritance", a document similar to a will, but the land or building does not necessarily transition legally to all siblings until the parents pass away.

Income Stream, Stability and Housing Investment

(See Diagram 6.4)

Diagram 6.4 - Income Stream, Stability and Housing Investment



Source: Field Work
Prepared by Susana M. Williams

LEGEND

- Job Type**
- FK Formal sector/ constant income
 - FV Formal sector/variable income
 - IV Informal sector/ variable income
 - IK Informal sector/ constant income

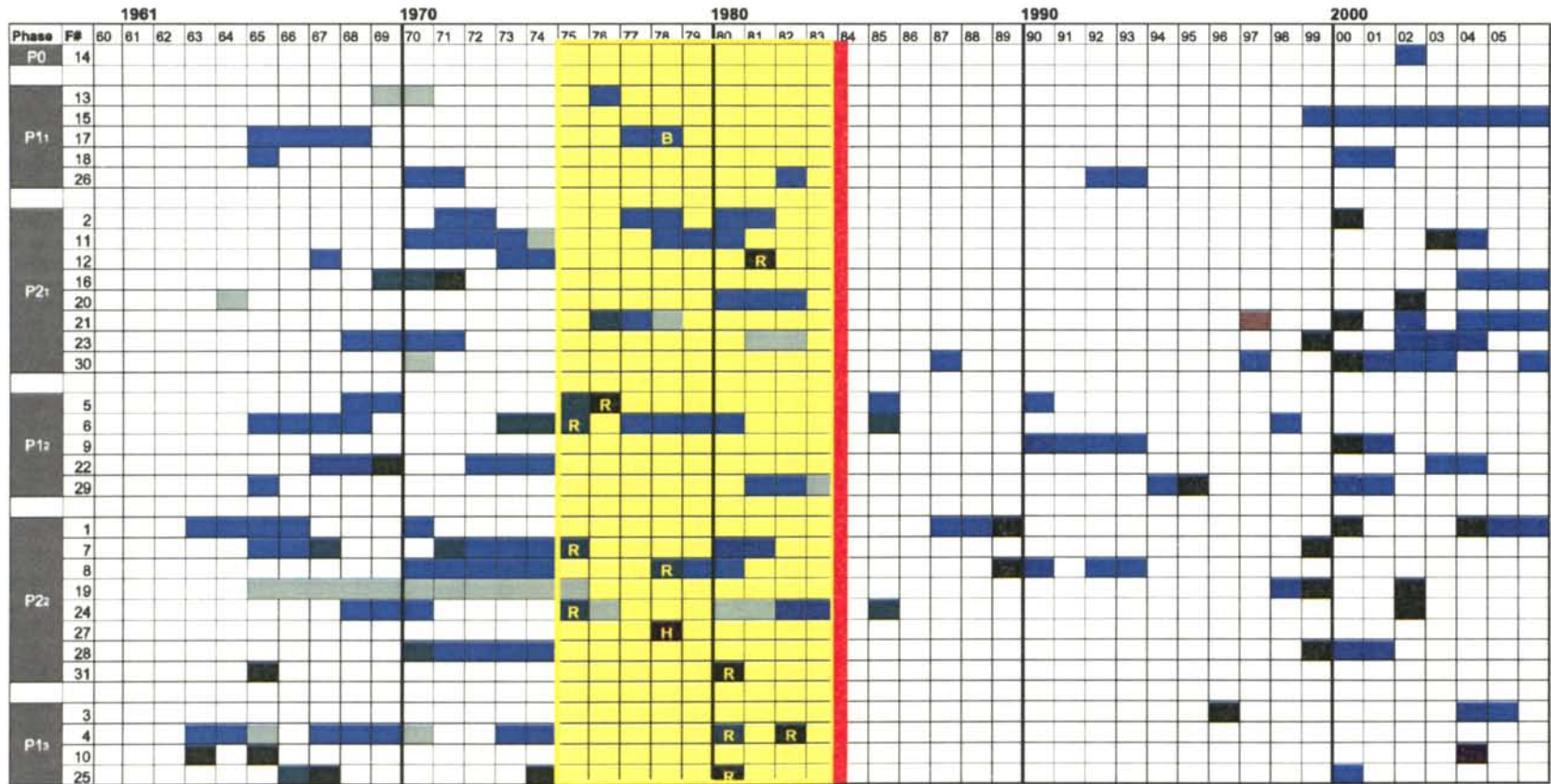
- Y Families Receiving Remittances
- Remittances Used in Housing Investments
- Main Investment

- First Generation
- Second Generation
- Third Generation

Income streams do directly correlate to housing investment. As the diagram indicates, the least developed houses belong to families with jobs with variable incomes, while the most developed jobs belonged to families with constant incomes. The type of job and income streams of the generation who made the building investments were most critical. Constant income was the most important factor regardless of its source. Not all families followed these patterns; however some families with constant income in the formal sector did not invest in housing until later generations. Income may be a necessary condition for investment but not a sufficient one. Ambition and motivation seem to also be important.

Financial resources provided families with opportunities to make major investments such as the roof slab. The advantage of a formal sector job was the ability to receive a loan from the employer or to access other credit sources. The job also provided opportunities to buy materials in bulk. Anticipated holiday bonuses were also an important factor. These prospects are important especially for large expenses such as the roof slab. There is yet no equivalent opportunity in the informal sector. When asked about informal financial mechanisms for building materials, most of the people answered they did not exist. Many families cited increased cost of building materials and labor as reasons for not continuing to build. They stated that although it used to be affordable, now it is very expensive. It is not known whether building materials real prices increased more than real income. Stores will not provide credit and all transactions had to be made with cash. Construction labor costs were easier to negotiate. Many of the construction workers were neighbors and many head of households in Independencia, in one way or another, have done construction work. As mentioned before, many families were able to complement their income with *polladas*, *bailables* (see Diagram 6.5) and other economic activities. There is little difference between a job in the formal sector or the informal sector as long as the income is constant.

Diagram 6.5 - Popular Means of Supplemental Income and Housing Investment



Source: Field Work
Prepared by Susana M. Williams

LEGEND

- Polladas and Parrilladas
- Official Ban on Polladas and Parrilladas
- F# Family Case Numbers

CHAPTER 7: Redefining a Housing Approach

This thesis has addressed the process of self-help housing and upgrading practices in Lima, Peru and examines Independencia, a young town (squatter settlement) which was created in part as a response to lack of affordable housing for the poor. Once traditionally viewed as a problem in the developing world, squatter settlements are now viewed as enterprising and creative solutions.

This thesis studied the nature of incremental housing and the notion of progressive self-managed development. The house was therefore perceived as a process and not as a final product. In order to understand this process this thesis utilized a long-run follow-up approach to collect data and information over time. The unit of analysis was then the housing trajectory.

Using the housing trajectory as the unit of analysis, it was possible to see how this housing model actually worked, how investments were made (building process), why investments were made and what provided the opportunities (influential factors). This thesis has attempted to increase the knowledge base about squatter settlements with a long-run perspective. Looking at Independencia as a case study, the thesis answers the following questions:

Question 1: What factors have influenced family decisions for housing investments and how have they contributed to housing development? Two categories of factors emerge:

- c. Internal family factors: Were families able to build according to means (income) and needs (demographics)?
- d. External family factors: Did upgrading programs (public services, public infrastructure investments, land tenure, micro-credit, etc), created to support housing investments, contribute to or serve as resources for families and were they sufficient?

Question 2: Is the current self-help housing process still a good model for addressing families' housing needs in Lima and Peru?

This thesis has proposed that public upgrading programs⁶⁷ intended to support self-help housing efforts have not directly influenced housing investments and development as predicted. Families' needs (demographics) have not influenced housing investment, whereas families' means (income) have. In addition, self-help housing, despite being a model focused on process, has only addressed immediate housing needs without anticipating long-term family needs.

7.1 Conclusions

After analyzing and processing data from thirty-one family interviews and housing surveys from randomly selected residents of Independencia, the following findings emerged to answer the questions originally posed in this study:

Internal Factors Which Influence Family Decisions for Housing

Investments and Development

Question 1: *What factors have influenced family decisions for housing investments and how have they contributed to the housing development? Were families able to build according to needs (demographics) and means income?*

a. Family Demographics

Contrary to prevalent thinking, demographics did not influence housing investment. They did, however, influence the processes families followed in creating their housing.

Turner proposed that as families increase in size, families would invest in housing. This study did not find that to be true. According to the data collected, there is no direct relationship between housing investments, different levels of housing development and family size. On the contrary, in some cases increased family size prohibited investment

⁶⁷ Some of these upgrading programs include: public services, public infrastructure investments, land tenure programs, micro-credit programs, etc.

in housing, as increased family size without increased financial resources made further investment unlikely.

Although demographics do not relate to whether or not a family invests in the house, they do influence the process the family follows while building. Family composition and dynamics within Independencia are diverse and complicated in a variety of ways. The same dwelling is used by multiple generations, consecutively and sequentially. Residence is fluid, with younger generations moving in and out for a variety of reasons. Also, the house frequently changes to fit the needs of the family as resources allow. Some houses decline due to changes in the family which allow portions of the home to deteriorate. An interesting phenomenon is how land and house subdivisions as well as the willing of a house to the second and third generations affects development of the house and future investments.

b. Financial Resources and Family Income

The ability to access money to build was the most significant factor in determining whether or not families invested in their housing. Building the concrete slab which functioned as a foundation for additional structure is the most critical element of the construction process. Families who were able to build the slab were more likely to continue to invest in housing. Additionally, building the slab instigated further construction. Thus, financial resources are extremely critical in getting the process started.

Families with a constant source of income are more likely to undertake housing investment. When income is constant, income from formal jobs is more effective in stimulating housing investment than incomes from informal jobs. For example, households with the lowest level of development have jobs in the informal sector with variable incomes and households with the highest level of development have jobs in the formal sector with constant income. Similarly, the data reveal that the biggest investments in housing were made during the years families had jobs in the formal sector with constant income. Overall, constant income seems to be the most important factor, overriding actual income amounts. Constant income apparently contributes to saving habits.

Another source of income which promoted housing investment is remittance income. Several families were able to improve their homes when other family members took jobs abroad and sent home either regularly monthly amounts or less frequent larger amounts. Alternative ways to cope with bad economic conditions, such as popular and communal ways (i.e. *polladas* and *parrilladas*), should also be recognized.

c. Families' Characteristics

Although the data from surveys illuminate factors which tend to be related to housing investment when looking at a group of people, there are individuals whose experiences are unique. Some families that made housing investments were able to offset limited financial resources with a strong sense of entrepreneurship. Individual cases of significant housing investment with limited resources are worthy of respect and notice. In contrast, there were families who had resources and did not invest in housing.

The importance of entrepreneurship is supported by the finding that the four most developed houses in Independencia belonged to founding families who had a store in the settlement's first decades. The surveys revealed a variety of entrepreneurial endeavors including grocery store, cookie and candy stand, beer sales, and seamstress services. At the time of the interview, there were workshops in 23% of the houses. Interestingly, second and third generation families report the potential to create a rental room, small business, or workshop is an incentive for investment in housing.

External Factors Which Influence Family Decisions for Housing

Question 1: *What factors have influenced family decisions for housing investments and how have they contributed to the housing development? Did upgrading programs (public services, public infrastructure investments, land tenure, micro-credit, etc), created to support housing investments, contribute to or serve as resources for families and were they sufficient?*

a. Security of Tenure through Land Granting

The granting of land was an important factor for housing investment. Although there was no initial legal recognition of ownership, most invasions in Peru received de facto

tenure which created a sense of security based on the government's tolerance and its permissive attitude as well as precedence from other communities. This study found that the only non-monetary factor related to housing investment in Independencia was the initial layout of the site and the allocation of plots to families. Immediately after completion of the site layout and plot allocation, families started building. Twenty-two families of the thirty-one interviewed have been in Independencia since the time of the invasion. Out of those twenty-two families, twelve families (54%) invested in housing within the first five years of the allocation of the land and twenty-one families (95%) invested in housing within the first ten years. It can be inferred that the official allocation of the plots enhanced the families' sense of security of tenure, the most important factor for the residents of Independencia. It should be noted that security of tenure, although already addressed in the current housing strategies in Peru, is only addressing access to land and does not necessarily apply to housing.

b. Legal Titling

Although residents were given title twice, initially from the municipality and subsequently from the national government, there is no evidence that legal titling influenced families' decisions to invest in housing. Only three families out of thirty-one invested in housing immediately after the insertion of the titling program, and there is no evidence that those events are related. In fact, not much investment in construction occurred the years immediately following titling. Residents were either unaware of the titling programs or unaware of how they could benefit from them. This suggested the programs were not an important factor to consider.

c. Physical Infrastructure Investment

Contrary to prevalent beliefs, there is no evidence that upgrading public infrastructure promoted housing investment. Rather than stimulating investment, physical infrastructure operated as a complement to the parallel progressive development of the houses. People started building prior to the installation of basic services and the building process continued independently. From the interviews, few people recalled infrastructure as being a motivating factor.

d. Financing Schemes – The Bank of Materials

Financial opportunities have already been identified as important determinants for housing investments. The Bank of Materials Loans, and other important complements to income, were made available to Independencia's residents by various government programs. Six of the thirteen families who had built at least one roof slab since 1997, used a loan program to support the investment. An advantage of loan programs is that they provided technical assistance to families who participated.

The Bank of Materials Loan Program created an opportunity for families to build the first floor roof slab but did not provide for construction beyond a basic unit (one kitchen, one bathroom and one roof per plot). Second and third generation households, wanting to invest in walls or a slab for the second floor, cannot be considered for a loan. This led to some households building the roof slab incrementally which compromises structural soundness. Given the fact that Independencia is a relatively established neighborhood, there is a need for a program that can address the needs for ongoing construction as facts indicate that the presence of more than one household per plot is a common occurrence.

Self-Help Housing as a viable model

Question 2: *Is the current self-help housing process still a good model for Lima and Peru and were family housing needs addressed?*

Beyond an understanding of the factors that contributed or not to make the self-help process successful is the issue of whether this is a model that still works and whether the factors that have influenced the process successfully will still continue to do so in the future.

a. Multiple Generations and Multiple Households

After looking at the housing development over time, housing in Independencia can no longer be referred to as single-family units but as multiple-family units. Younger generations are claiming their rights to housing access in the same building and plot.

Ironically, the self-help model is based on an ongoing process has neither anticipated nor addressed long term issues. The model that met the housing needs of the first two generations is no longer able to meet the needs of some of the second generation⁶⁸ and a majority of third and fourth generations.

The model, conceived with an individualistic approach, is not providing the same opportunities for younger generations to access housing in Independencia where a great deal of investment has been made. Families cannot continue to remodel the house according to their needs. Thus, younger generations are moving to other districts to repeat the process. Some invade a plot of land in the city outskirts, in the hills that surround Independencia or buy plots in other districts.

b. Government Intervention

When Turner advocated this model, he did not want the bureaucratization of ownership and development. However, there are limitations to that model. The current supporting programs work on the basis of one family and one basic housing unit per plot. Supporting programs, already recognized as successfully complementing family efforts, need to be revisited to recognize and address multiple-family housing and multiple households in one plot. This means stronger government intervention on issues of tenure and financing mechanisms.

c. Vertical and Horizontal Subdivisions

Critical to the previous discussion are the issues of vertical (building) and horizontal (land) subdivisions which occur at any housing development phase and involve different households within the same housing structure. This is one way people are investing in existing resources and provide more families with houses where most support is needed.

There is a strong opportunity to used subdivision as the start for addressing the new housing needs of young towns like Independencia. This is feasible since most houses are occupied by many generations of the same family or extended family and there is presumably, a stronger incentive to work together to achieve both the individual and

⁶⁸ This is referring to the new families of the second generation.

collective good. The investment that families have already made should be acknowledged and build upon. It is important to capitalize on the drive families and individuals have to promote new housing-related programs.

d. Technical Assistance

Physically and technically, there are some limitations to self-managed development when more than one household is involved and when the building starts growing vertically. Looking at the housing infrastructure itself, technical assistance is critical to successful and efficient housing investment. Unfortunately, only 13% families from the sample benefited from technical assistance.

Due mainly to a lack of long-range planning⁶⁹, many problems with self-help housing were identified including inadequate open spaces,⁷⁰ poor lighting or ventilation conditions (dark and damp spaces)⁷¹, poor circulation, inefficient functioning of spaces, and structural problems which occur when different structural systems occur at the same time. Many critiques of the self-help and incremental construction process in Peru are based on the absence of adequate technical assistance and guidance. Critics have claimed that the housing stock in these settlements is already dilapidated, distressed and aging and needs professional intervention ((Riofrío, 1996; Tokeshi, 2001; Ward, 2001).

Although the follow-up of the housing trajectories has identified problems in the building process, it has acknowledged that the architecture of Independencia is partially a representation of missing resources. Changes between or among different structural systems, the late addition of columns for a roof and the building of a slab in parts were all coping mechanisms by families, which often compromises the safety and structural stability of their investment. However, it is important to also recognize that some houses in Independencia are good examples of forward planning and building programming.

⁶⁹ Particularly if one looks at building codes, housing and health standards

⁷⁰ Currently only 5% to 10% of the total built area is open spaces.

⁷¹ This situation gets worse in the case of kitchens and bathrooms if they are not properly ventilated

Hypothesis

The hypothesis presented at the beginning of the study was partially correct. As presented in the above conclusions, security of tenure and loans were the two factors that influenced housing investments. Material loans that residents were able to access contributed significantly to their efforts since all of them were used to build the first roof slab. Families' demographics did not influence housing investments whereas families' incomes did have significant influence on housing investments. Lastly, immediate housing needs were met for the first generations by the model followed by Independencia's residents but younger generation needs have not been met. The tools that supported investments at the beginning of the process could not help families over time.

7.2 Future Considerations

The Peruvian government's policies have been more reactive than proactive. The answers to the second question of this study raise outstanding issues that have not been directly addressed here due to lack of time and funding. There is a need for additional research that can guide institutional changes and the government's proactive and preemptive measures to further the development of communities like Independencia.

Most families in Independencia want to continue building for their children and their grandchildren, and some want to make improvements for their business. Since most families have remained in the same place for generations, there are great opportunities to work with individual families to improve their housing conditions and pursue collective benefits for all households involved. The identified outstanding issues are:

- a. Settlement Location and Regional Planning
- b. Legal Tenure Issues
- c. Forms of Ownership
- d. New Credit and Financing Mechanisms
- e. Technical Assistance

a. Settlement Location and Regional Planning

Housing is not an isolated phenomenon, and it is important to recognize its role in urban growth and development. Land access strategies have allowed young families to access housing, but this model cannot continue forever. Undeveloped land is becoming scarce⁷² and the high costs of extending public infrastructure and services are straining already tight government budgets, and fewer communities and families are able to benefit from basic resources.

Government regional planning is important with a prioritization of growth areas in the city and revisiting communities like Independencia. The latter is to build on the investments that families (houses) and governments (infrastructure) have already made and to create new housing opportunities for more families. It is important to acknowledge the dynamics of growth within the city and access to jobs and education facilities, as well as proximity to amenities within the city. Regeneration and revitalization strategies for communities like Independencia need to be analyzed.

Additionally, researching other young towns within the city of Lima would undoubtedly offer valuable information.

b. Legal Tenure Issues

The model has not addressed issues of different generations and transfer of ownership within one building and among many. Most tenure programs focus on land. There are limitations to the utility of land, and a land focus ignores the embedded investment of labor and materials in building the house (fixed capital).

Adequate titling of the built structures will facilitate turnover mechanisms and transfer of rights ownership through sales, inheritance, donations, etc. The Peruvian government has already set up a program to address these issues but the program needs to be strengthened and more awareness should be promoted at the community level. Additionally, with documentation and valuation of the built structures, families will be

⁷² The expansion of the city has reached two agricultural valleys at the south and north of the city. Agricultural land is disappearing as it gets taken for other types of development.

able to tap into the wealth of their housing investments to potentially generate wealth in other spheres.

There is a need for more research of the current legal tenure programs existing in Peru, how they are working, and why they have not yet reached communities like Independencia.

c. Forms of Ownership

A much broader and less urgent issue is exploring different forms of ownership that could develop over time to allow for easier transfer of ownership and a more efficient usage of the properties. The most common forms of communal ownership to explore and compare are:

- Cooperative - Building is owned by a legal entity families purchase shares
- Condominium - Building is divided up and families purchase individual physical spaces. Common spaces are owned by all according to shares.

Many variations from these two forms exist in many parts of the world. Variations of cooperative housing can be seen in many cultures from the waqf system in Egypt, the Madragan in Spain the apartment complex cooperatives in NYC. Concepts of strata titling and 3d titling are worth exploring as well as ownership and rental mixed schemes.

d. New Credit and Financing Mechanisms

A house is fixed capital, as much of an asset as it is shelter and therefore, the basis for credit and access to programs. Through self-help building families generated wealth in a basic way. Credit institutions can multiply this wealth and offer the grandchildren the possibility to build their own house by building on the works of previous generations.

Further research is needed about the ways in which new generations can build on inherited assets and use housing as leverage and as credit to generate other investments.

e. Technical Assistance and Housing Upgrading

As mentioned before, the architecture is a reflection of the institutional structures that support it. Although technical assistance was recognized as a critical component to the self-help building process, it will address main problems more efficiently when complemented by other support programs.

Planning and design professionals cannot prescribe housing solutions but must continue to provide adequate tools that help families make better decisions that maximize their investment of time and money. If the institutions and programs are developed according to identified family needs, then the architecture will also develop more properly.

Research on ways to promote awareness on building healthier and safer houses is also important.

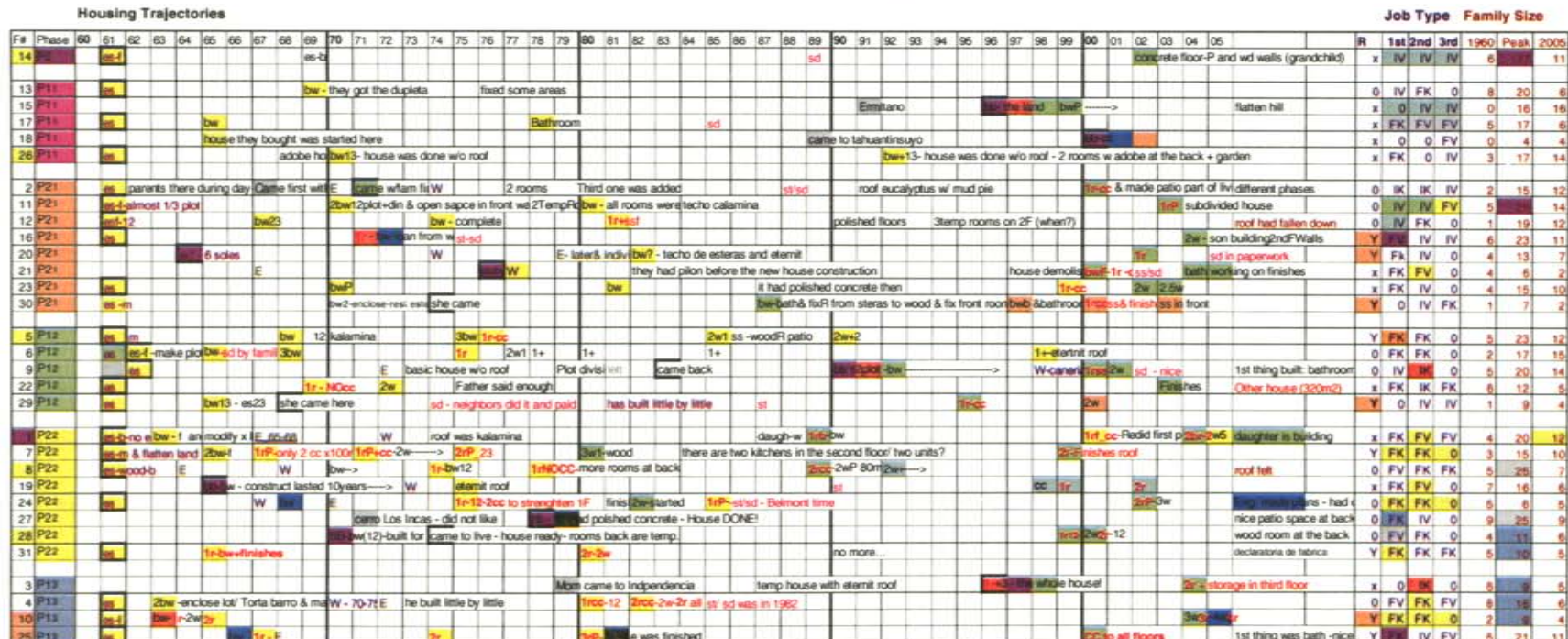
7.3 Final Remarks

Although Independencia is considered a typical young town in Lima, it is difficult to say that the same findings can be applied to other communities in the city due to the specificity of its history, location and geography. The housing trajectories developed in this study provided valuable detailed information about Independencia's self-help housing process, how housing investments were made, and what factors contributed to those investments. For the purposes of this thesis, the richness of information that interviews and trajectories provided were more important than larger statistical data and gives clues to policy directions. However, the author acknowledges that both types of surveys are necessary to be able to follow trends and patterns of development. Beyond communities in Lima, other countries undergoing the same housing conditions should also be studied. There is a great opportunity to do this with the great legacy of these communities all over the world.

APPENDICES

- Master Diagram of Housing Trajectories
- Questionnaire Sample
- Completed Questionnaire Sample

Housing Trajectories (Working Diagram)



LEGEND

Housing Investments and Materials

es	esteras/ straw mat
aw	Adobe walls
bw	birck walls
1r	1st F Roof
2r	2nd F Roof
ss	stairs
cc	add columns

Additions

P	Partial
34	3/4 lot
12	1/2 lot
13	1/3 lot
14	1/4 lot
1	1 rooms
2	2 rooms
3	3 rooms
4	4 rooms

Physical Infrastructure

water	W
electricity	E
sewage	S
Streets	st
Sidewalks	sd

Main Housing Investment & Generations

	First generation investment
	Second generation investment
	Third generation investment

Technical Assistance

	Used engineer/ architect
	Placed columns from the beginning

Property Acquisition

	Bought
	Beginning of Habitation
	Came to Independencia but no to place of interview

Job Type

FK	Formal sector/ constant income
FV	Formal sector/variable income
IV	Informal sector/ variable income
IK	Informal sector/ constant income

ENTREVISTA E INVENTARIO

El objetivo de esta entrevista es educativo. La información recolectada es componente esencial de una Tesis de Investigación de Maestría y será utilizada solo para esos fines. Su participación es voluntaria. Gracias por participar.

Fecha : _____

Dirección: _____

Esta entrevista esta diseñada para recolectar información sobre la trayectoria de familias y sus viviendas en Independencia. Consiste de cuatro partes:

- El "árbol genealógico" de residentes
- Una línea de tiempo
- Cuestionario de preguntas par representantes de dos generaciones, incluyendo la hoja de historia de Migración
- Fotos y levantamiento de la vivienda a través del tiempo

TRAYECTORIA FAMILIAR

**1. PREPARA el árbol genealógico de los residentes
(ver hoja separada)**

2. INGRESA en la línea de tiempo:

- Estructura Familiar
- Ingresos económicos
- Inversiones
- Contribuciones a la vivienda

3. PREGUNTA a representantes de las diferentes generaciones:

"¿Cual es tu ingreso mensual? Cual es el ingreso total del núcleo familiar (incluyendo las rentas de alquiler)

1

2

"¿Es dueño de un televisor, de un radio, lavadora de ropas, teléfono, equipo de sonido,, VHS, DVD placer, auto, etc.?"

1

2

“Si se ganara la TINKA, ¿invertiría en su vivienda (mejoras adiciones), en su familia, educaron y salud) o en un negocio? Cubriría sus cuentas?”

100 soles

1

2

1000 soles

1

2

Premio Mayor

1

2

“¿Pediría un préstamo pequeño y para que lo utilizaría?”

1

2

“¿Vendería su casa o edificio?”

1

2

“¿Alquilaría su casa o edificio?”

1

2

“¿Alquilaría parte de su casa o edificio?”

1

2

“¿Utilitaria su casa o edificio como aval o garantizará para un prestamo?”

1

2

“¿Pondría un negocio?”

1

2

“¿que nivel de educación ha adquirido?” (Primaria, secundaria, técnica, superior)

1

2

“¿Que le gusta mas de su barrio?”

1

2

“¿Se mudaría a otro barrio o distrito y por que?”

1

2

“¿que le gustaría que cambia en su barrio??”

1

2

4. ENTRA en la LINEA DE TIEMPO:

- Adquisición inicial de la vivienda o de la edificación
- Estado de Tenencia legal de la vivienda

TRAYECTORIA DE LA VIVIENDA

5. PREGUNTA:

“¿Cual es el tamaño del lote (largo por ancho)?”

"¿cual es la edad de la edificación actual?" (a partir de sus inicios, o cimientos)

"Cual es el número de unidades de vivienda o departamentos en el lote hoy"? _____

"¿Cuál es el número de cuartos en cada departamento o unidad de vivienda?" _____

"¿Cuántas cocinas hay en el edificio ? _____

¿Cuántos baños hay en el edificio? _____

6. OBDERVA Y AVERIGUA si hay fotos antiguas de la edificación o de la vivienda. TOMA fotos con la cámara.

7. DIBUJA las plantas y elevaciones de la vivienda o viviendas a través del tiempo

8. ENTRA en la LINEA DE TIEMPO:

- **Uso**
- **Distribución de ambientes y crecimiento vertical**
- **Infraestructura y servicios**
- **Estructura**
- **Materiales de Construcción**
- **Ayuda Externa**

9. PREGUNTA a representantes de las diferentes generaciones:

"¿Desea añadir otros ambientes a si vivienda: para los hijos, para alquilar, para un negocio, para tener mas espacio?"

1 _____

2 _____

"¿si responde no, ¿Por qué no?"

1 _____

2 _____

“¿vendería su casa o edificio y por que?”

1

2

“¿Por cuanto la vendería?”

1

2

“¿vendería los derechos de aire, y por que?”

1

2

“¿Por cuanto los vendería?”

1

2

“¿Vendería un piso o un departamento de su casa o edificio, y por que?”

1

2

“¿Por cuanto lo vendería?”

1

2

“ Si ha considerado vender su vivienda o parte de ella - ¿Consideraría hacerlo a través del Programa Mi Vivienda? ¿Por que?”

1

2

"Alquilaría su vivienda o parte de ella?"

1

2

"Por cuanto alquilaría su vivienda? ¿Por cuanto alquilaría un piso? ¿Por cuanto alquilaría un cuarto?"

1

2

9. LLENA la hoja de Historia de Migración

10. Fotos

- 3/4 frontal
- Fachadas
- Interiores: cocina, sala, comedor, baños
- Detalles de Construcción

HISTORIA DE MIGRACION

Para jefes de familia

“¿Donde nació?”

“¿Donde creció?”

¿Si no crecio en Lima, cuando llego a Lima y a donde llego?”

“¿Donde vivio antes de venir a Independencia? En que distrito”

“¿Cuánto tiempo ha vivido en Independencia?”

“¿Cuales fueron las razones principales para mudarse a Independencia?”

“¿En que topología de vivienda vivía antes: casa, departamento, cuarto de alquiler, callejón, casa incipiente con servicios, cuarto en casa de familiares, otro, etc.?”

“¿Cual era su situacion previa: dueno de la vivienda, inquilino, visitante, otro?”

LEGEND

INGRESOS

"¿Cuántas personas trabajan o han trabajado en tu familia?"

Entra la información para todos los miembros de familia (incluyendo niños).

F Empleo Formal (ex. Empleado)
Empleo Informal (ex. Vendedor, Comerciante)

IC Ingreso constante

INC Ingreso no constante

NN No trabajo

Detalles y comentarios a escribirse en la forma misma.

ESCRIBIR oficios y monto de sueldos.

UTILIZA los nombres que estaban en el árbol genealógico de residentes.

INVERSIONES

Si tuviera dinero extra invertiría en:

Viv Vivienda

Fam Familia (Ex. Educación, salud etc)

Com Comercio, Negocio

O Otro/Especifique

ADQUISICIÓN INICIAL DE LA VIVIENDA/ EDIFICACIÓN O TERREN

IN Invasión

CO Compra – **ESCRIBE** la cantidad pagada por la compra y la modalidad. "¿Como se encontró la casa – pariente, le pasaron la voz, anuncio de periódico, propaganda, aviso en la vivienda misma?"

TR Traspaso/ Herencia

DISTRIBUCIÓN DE AMBIENTES Y ALTURA

A Ampliaciones. Indicar si es horizontal (mas cuartos, mas ambientes) y/o vertical (mas pisos)

S Sub-división de lote

MATERIALES DE CONSTRUCCIÓN

Para el techo

CON Losa/ Encofrado

ME Paneles de Metal

ES Esteras

MAD Madera

PL Plastico

MP Material Precario.

Especifique _____

OT Otro. Especifique _____

Para paredes externas

LA Ladrillo

BC Bloque de Concreto

AD Adobe

ES Esteras

MAD Madera

ME Metal panels

MP Material Precario.

Especifique _____

OT Otro. Especifique _____

ESTRUCTURA

CV Columna y Viga

MP Muro portante

CONDICIÓN LEGAL DE TENENCIA DE LOS RESIDENTES

DÑ - ST Dueño sin título de propiedad

DÑ - CT Dueño con título de propiedad

DÑ - CTC Dueño con título COFOPRI

DÑ - DF Dueño con Declaratoria de Fabrica

INQ-P Inquilinos con pago/ Indicar el área de la parte alquilada y la cantidad de pago.
"¿Quiénes son los Inquilinos? ¿Pagan servicios de agua, desagüe y electricidad?"

INQ-S Inquilinos sin pago, Posesionarios

VIS Visitantes

USO

R Residencial

Ti Tienda (tipo?) Detallar _____

Ta Taller/ (tipo?) Detallar _____

Almacén/ para negocio (N) o vehículo (V)

O Otro?

INFRAESTRUCTURA

Agua – Tipo de Servicio (camión cisterna, ca comunal, tubería)

Pago

Desagüe – Tipo de Servicio (ninguno, letrina, tubería)

Pago

Electricidad – Tipo de Servicio

Pago

Calle

(ninguna, tierra compactada pavimentada)

Veredas

Árboles y vegetación

MATERIALES DE CONSTRUCCIÓN (2)

Para Piso

LOZ Losetas/ Parque/ Vinilicos

CEPU Cemento Pulido

FAPI Falso Piso

TERR Tierra pisada

Para Acabados

E Material Expuesto

BA Barro

SAL Salpicado de Cemento

PA Pintura

CT Cerámicos

Para Puertas y Ventanas

ES Esteras

MAD Madera

AL Aluminio

ME Metal

APOYO EXTERNO

Financiamiento para a Inversión de vivienda

PF Préstamo formal a través de instituciones financieras

BM Préstamo del banco de Materiales

GP Programa del Gobierno/ Subsidios

PI Préstamo Informal de amigos y familia

Credito en tienda

AE Ahorros del Extranjero

RP Remesas del Extranjero (parientes)

AH Ahorros

Asistencia Técnica SI/ No?

GP Program de Gobierno

P Privada (arquitecto, ingeniero)

M/A Maestro de Obras, albañil

"ARBOLE GENEALOGICO" DE LOS RESIDENTES

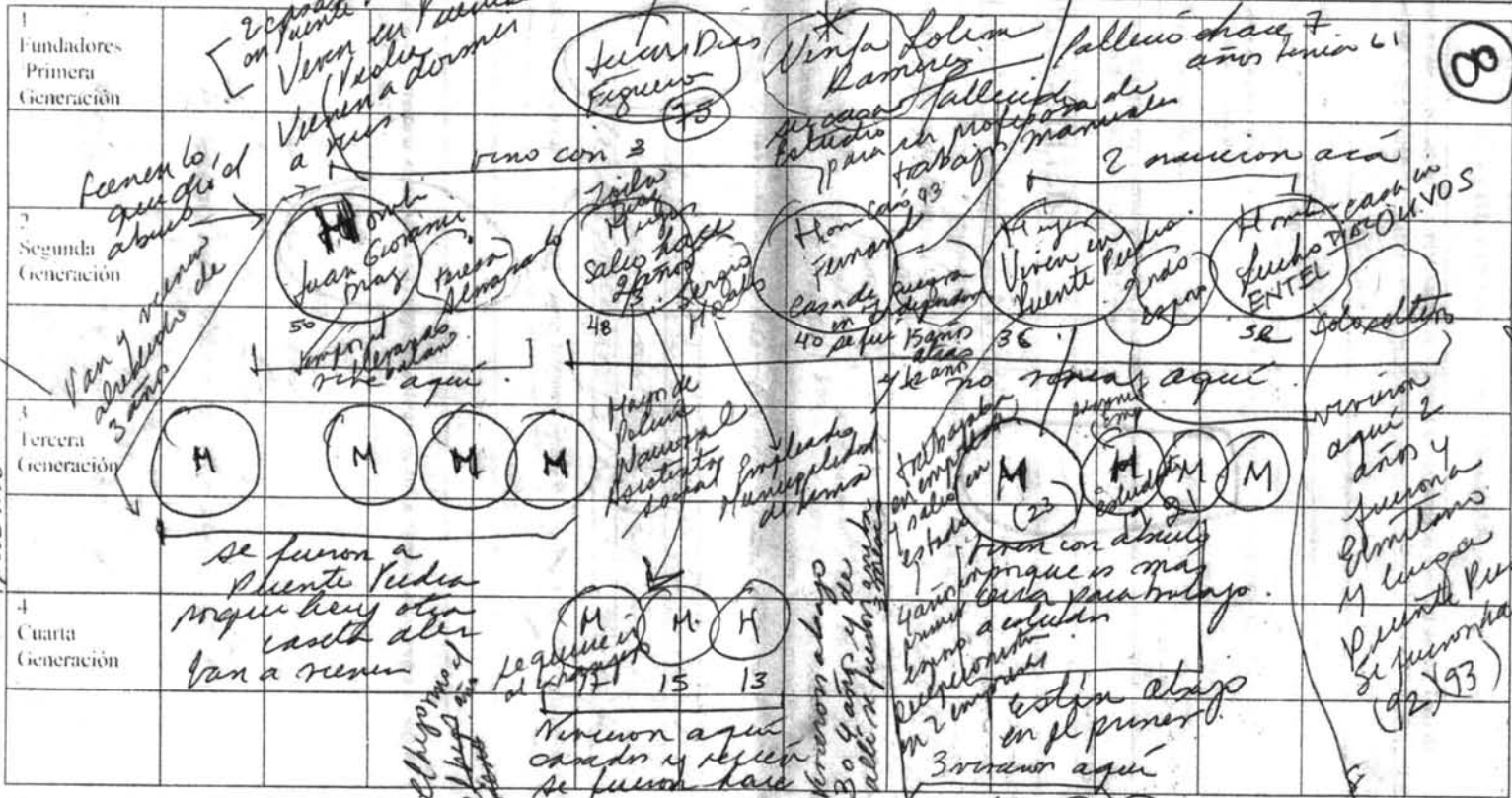
(solo con las personas que han vivido o todavia viven en la edificación de estudio)

INDICAR:

- Nombres o sobre nombres como referentes
- Las diferentes relaciones al jefe de familia
- Los diferentes núcleos familiares con ciclos

Definición de núcleo familiar: familia o grupo de individuos que cocina y que come juntos

- Las edades de todos los miembros de la familia
- Las diferentes generaciones



Se compraron un terreno 100 m² en 1900 m² y se compraron un terreno 100 m² en 1900 m²

En el segundo piso son 3 / anulos

Vienen aquí a trabajar en el primer piso

Vienen aquí a trabajar en el primer piso

Vienen aquí a trabajar en el primer piso

Trabajo en la casa de mis abuelos (72-54) / 5 - 5 personas abajo (Vere con nietos trabajadores y calificados)

28 años * Trabajo en casa de mis abuelos (72-54) / 5 - 5 personas abajo (Vere con nietos trabajadores y calificados)

Vienen aquí hasta que fueron a la casa del suegro, le seguía fallando

80

2 nacieron acá

Vienen aquí 2 años y luego se fueron a Puerto Rico (92) (93)

25 años

13

4er PISO

SE INICIO EN 1970

① EN CHOCRA MIENTRAS SE CONSTRUIAN X 10 AÑOS

TRIPLAY + ETERNIT

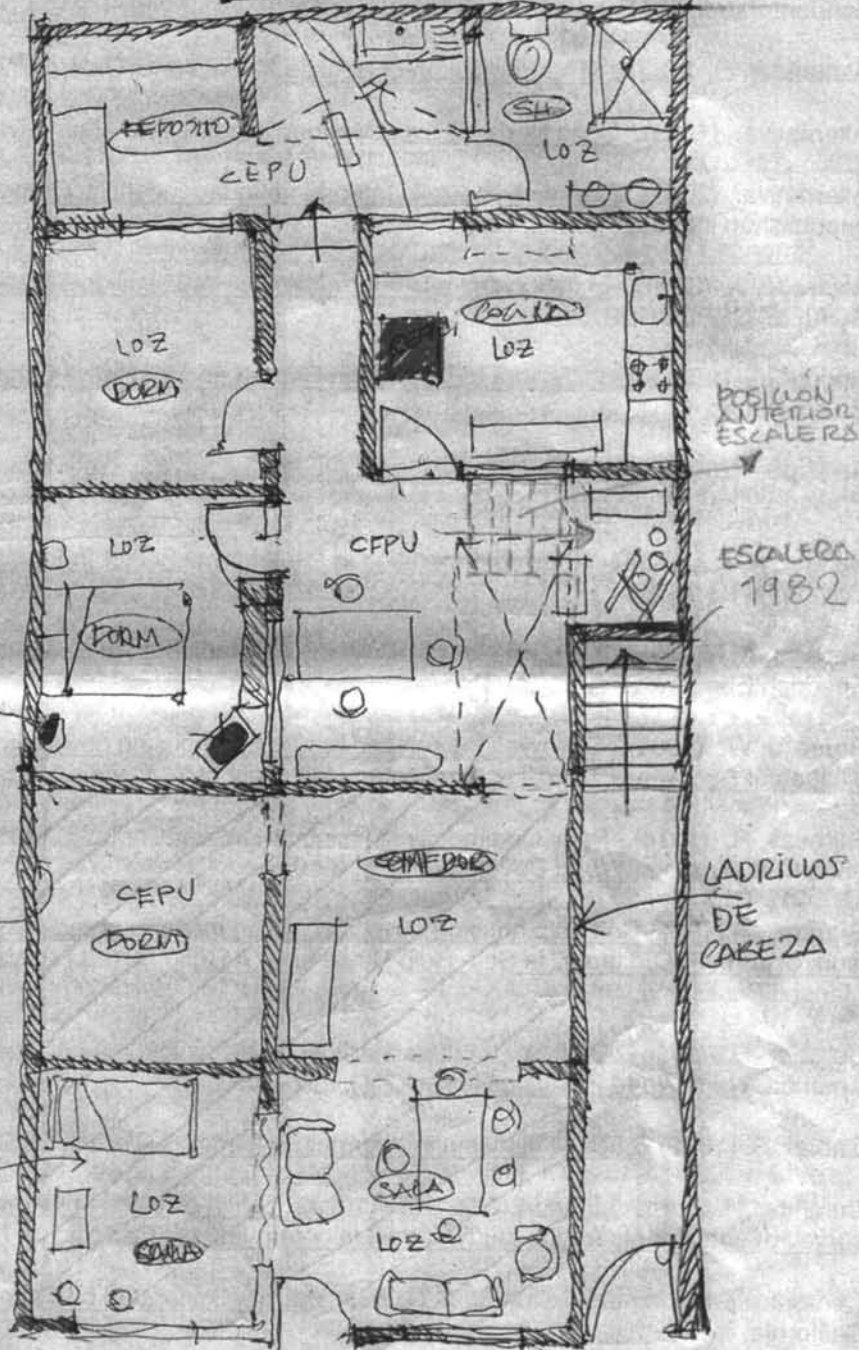


RADIO

PAREDES: TARRAJEADAS Y PINTADAS

originalmente comedor ahora dormitorio temporal

TELEVISORES



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