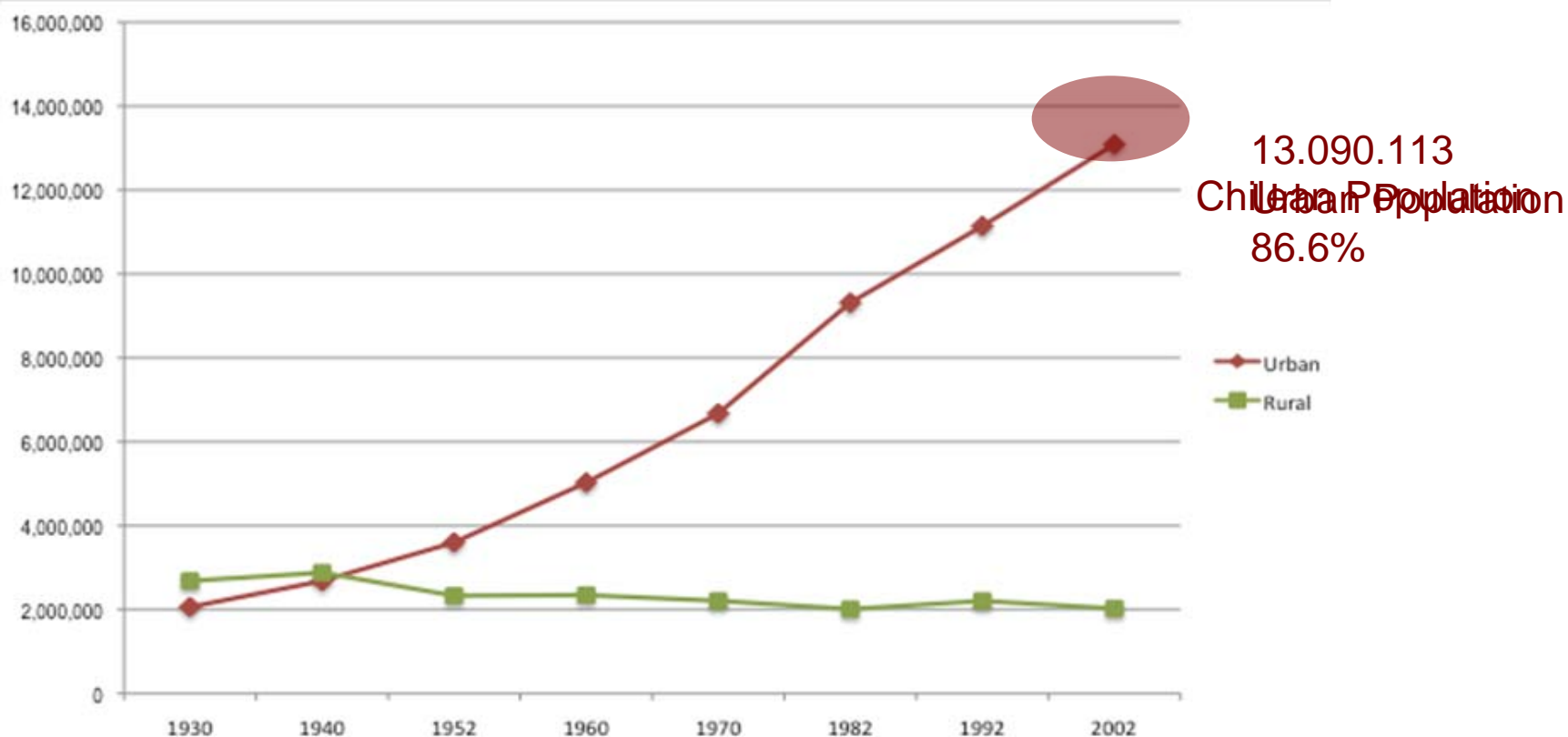


# INCREMENTAL HOUSING: \_the CHILEan experience\_



Margarita Greene Z.  
Facultad de Arquitectura, Diseño y Estudios Urbanos  
Pontificia Universidad Católica de Chile



	1930	1940	1952	1960	1970	1982	1992	2002
Urban	2,063,086	2,684,086	3,601,612	5,028,060	6,675,137	9,316,120	11,140,405	13,090,113
Rural	2,684,520	2,881,202	2,331,383	2,346,055	2,209,631	2,013,616	2,207,996	2,026,322
Total	4,747,606	5,565,288	5,932,995	7,374,115	8,884,768	11,329,736	13,348,401	15,116,435
	43.5%	48.2%	60.7%	68.2%	75.1%	82.2%	83.5%	86.6%

National Census (INE)

# INCREMENTAL HOUSING

a way of meeting the challenges





INFORMAL SECTOR 1  
INCREMENTAL PROCESS 2  
PROGRAMMES AND CASES 3



INFORMAL SECTOR 1  
INCREMENTAL PROCESS 2  
PROGRAMMES AND CASES 3

# INFORMAL HOUSING SECTOR IN CHILE: Considers several situations... at least four:

- 1 • The **production of shelter** out of the legal framework and public programmes, in parallel with the formal housing production.



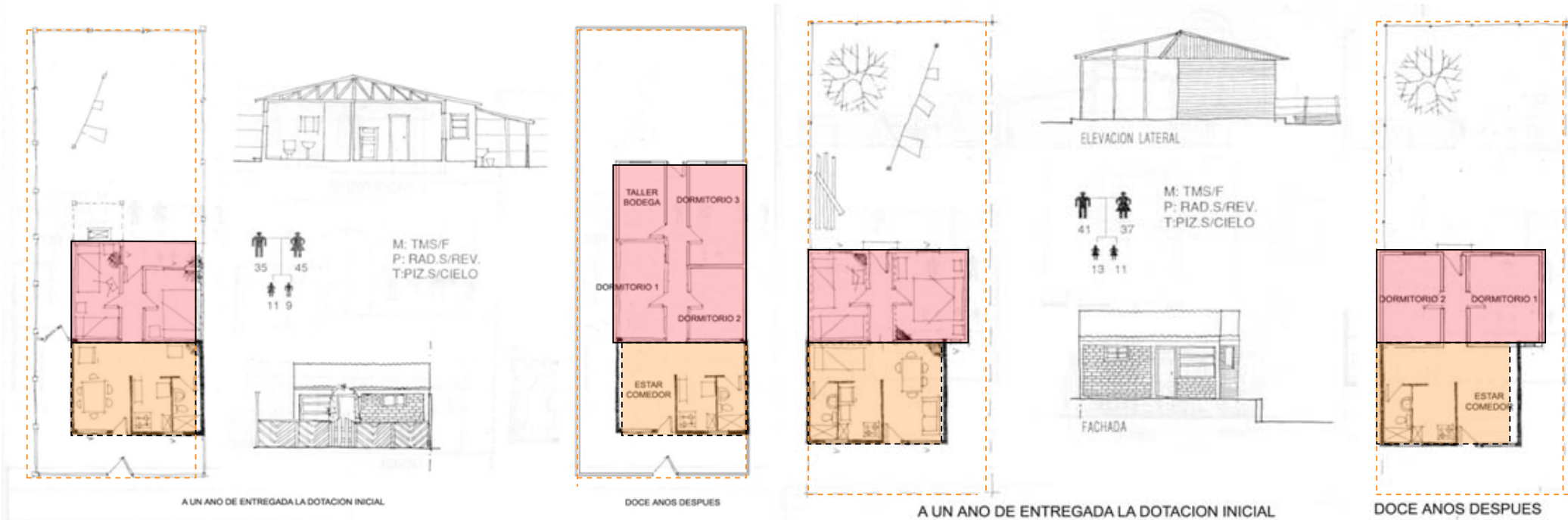
Peñalolén 2003



# INFORMAL HOUSING SECTOR IN CHILE

- The production of shelter out of the legal framework and public programmes, in parallel with the formal housing production.
- The **enlargement and consolidation** of the minimum solutions that the housing programmes deliver.

2





# INFORMAL HOUSING SECTOR IN CHILE

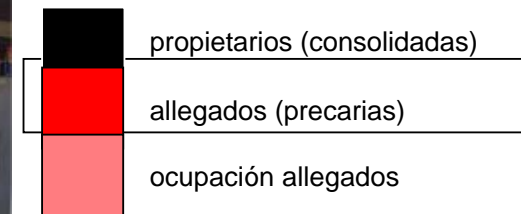
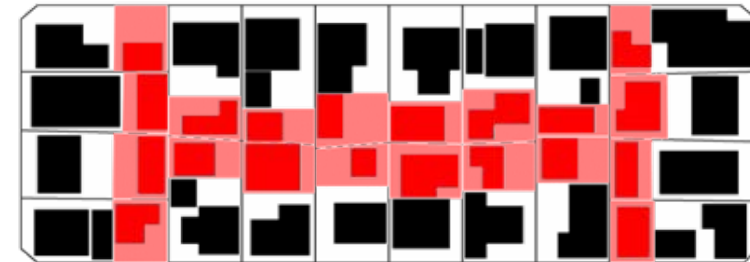
- The production of shelter out of the legal framework and public programmes, in parallel with the formal housing production.
- The enlargement and consolidation of the minimum solutions that the housing programmes deliver.
- **Complements social housing** produced by the different governments

3



# INFORMAL HOUSING SECTOR IN CHILE

- The production of shelter out of the legal framework and public programmes, in parallel with the formal housing production.
  - The enlargement and consolidation of the minimum solutions that the housing programmes deliver.
  - Complements social housing produced by the different governments
- 4** • Builds second and third houses, the housing of the *allegados*, that the families with no house build in the plots of their friends or relatives.

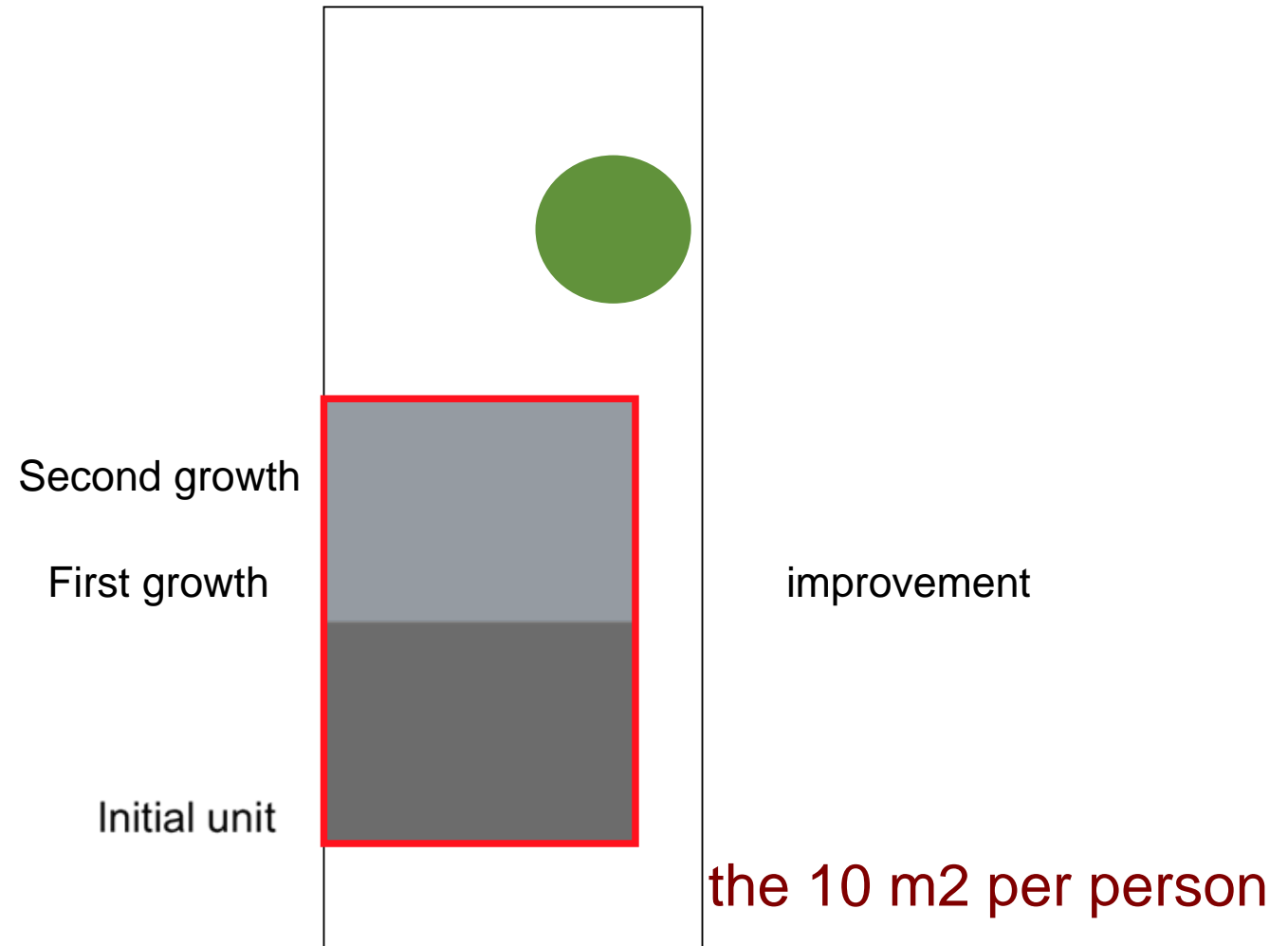




INFORMAL SECTOR 1  
INCREMENTAL PROCESS 2  
PROGRAMMES AND CASES 3

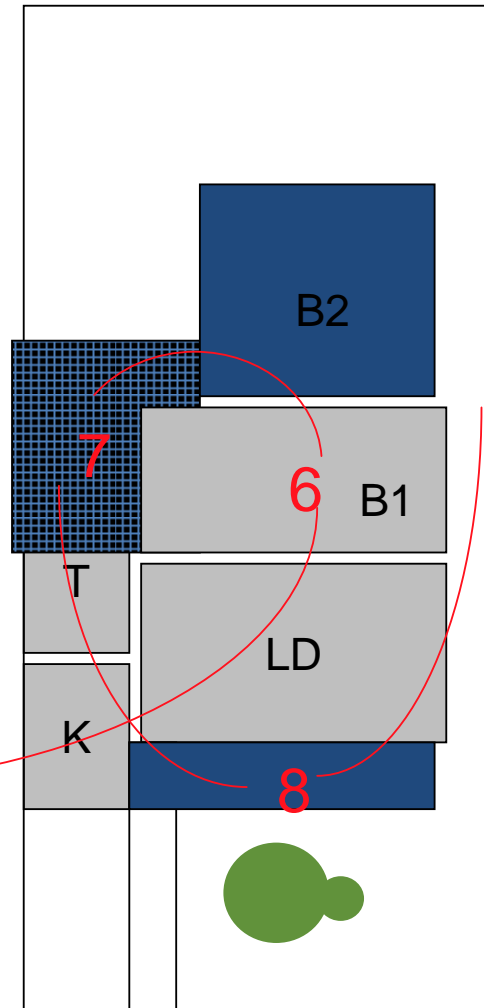
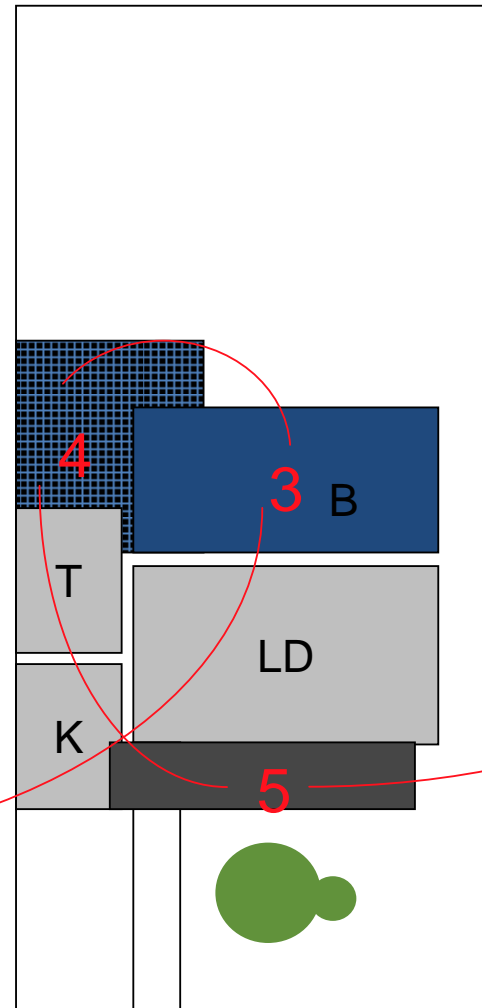
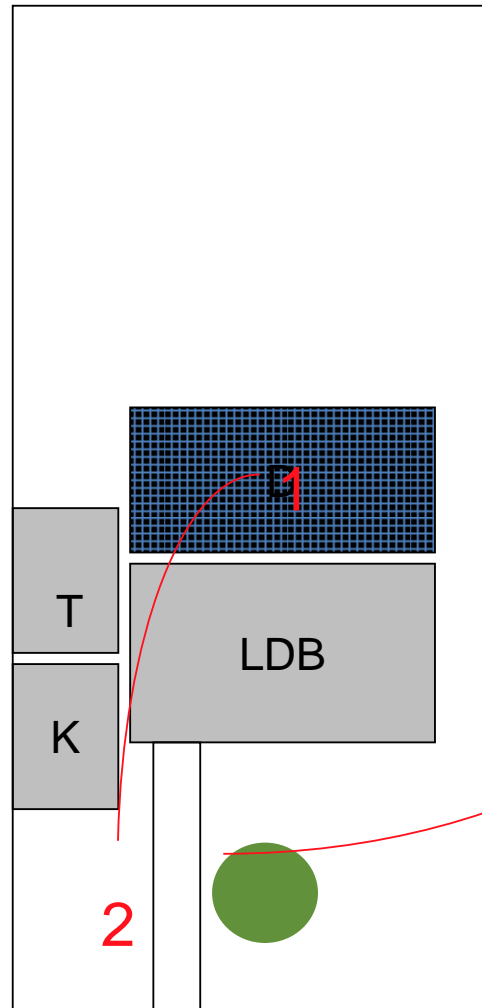
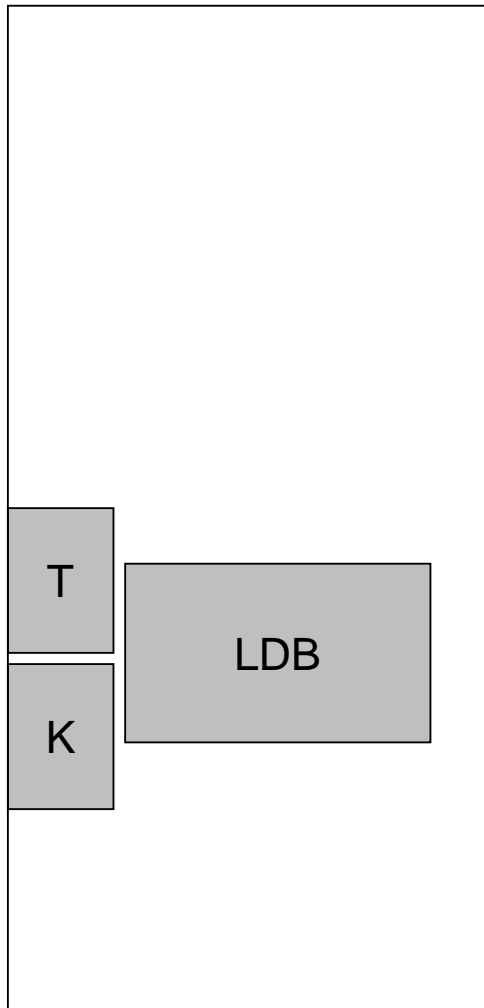
# THREE ASPECTS OF INCREMENTAL BUILDING:

- to reach a minimum space



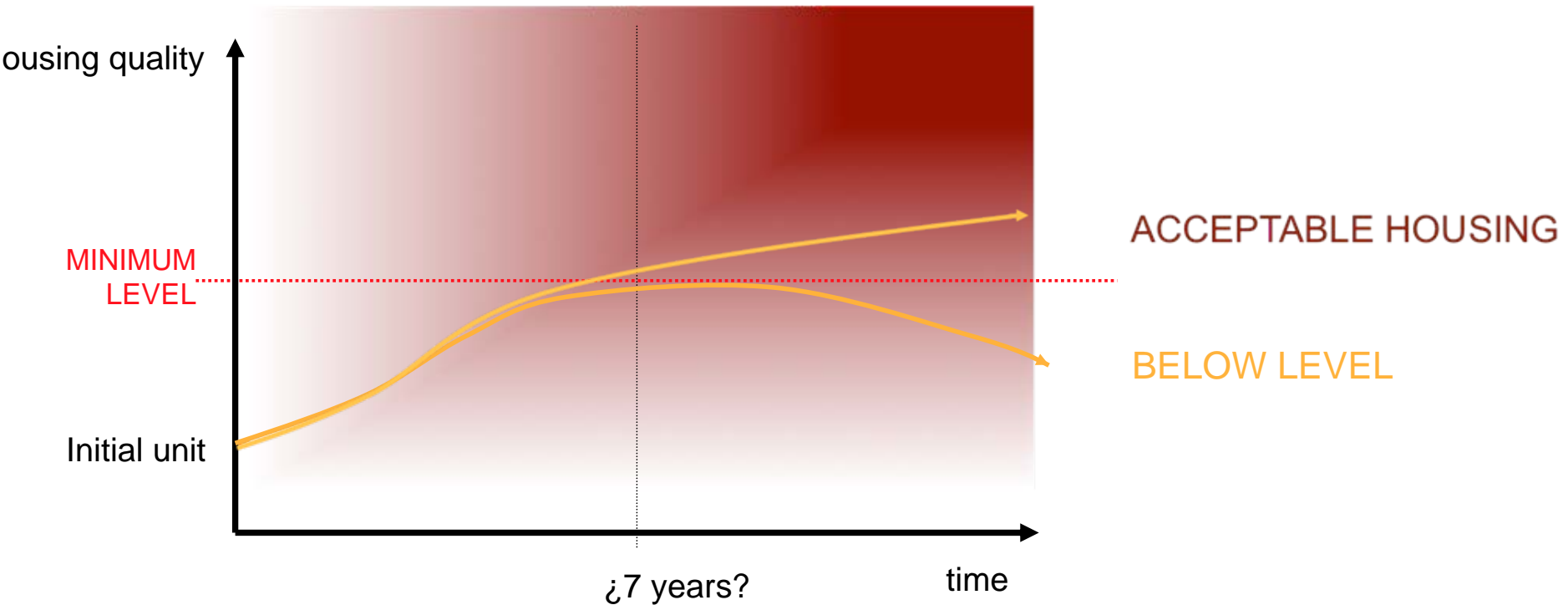
# THREE ASPECTS OF THE INCREMENTAL BUILDING

- to reach a minimum space
- construction as an improvement process



# THREE ASPECTS OF THE INCREMENTAL BUILDING

- to reach a minimum space
- construction as an improvement process
- family and house time line





INFORMAL SECTOR 1  
INCREMENTAL PROCESS 2  
PROGRAMMES AND CASES 3









OPERACION SITIO - 1965

	Carlos Ibañez	Jorge Alessandri	Eduardo Frei	Salvador Allende	Junta Militar c	SERVIU	PNDU-DS420 Augusto Pinochet Iriart		Patricio Aylwin Azocar	Eduardo Frei Ruiz Tagle PRMS	Ricardo Lagos Escobar	
	1950 1951 1952 1953 1954 1955 1956 1957	1958 1959 1960 1961 1962 1963	1964 1965 1966 1967 1968 1969 1970 1971 1972 1973	1974 1975 1976 1977 1978 1979 1980 1981 1982	1983 1984 1985 1986 1987 1988 1989	1990 1991 1992 1993 1994 1995 1996 1997 1998 1999	2000 2001 2002					
Autoconstrucción y Ayuda Mutua												
Asentamientos Informales												
Programa de Erradicaciones												
Operación Sitio												
Campamentos												
Hogares Allegados a Sitio												
Programa Mejoramiento de Barrios												
Programa Vivienda Progresiva												
Programa Chile Barrio												
Vivienda Social Dinámica sin Deuda												
<b>PROGRESIVIDAD:</b>	AUTOCONSTRUCCION	ERRADICACION	NUEVAS SOLUCIONES	RADICACION	SIN APOYO ESTATAL	RADICACION + NUEVAS SOLUCIONES						
	ETAPA I	ETAPA II	ETAPA III	ETAPA IV	ETAPA V	ETAPA VI						





## ASENTAMIENTOS INFORMALES - CAMPAMENTOS

	Carlos Ibañez del Campo <b>CORVI</b>	Jorge Alessandri Rodríguez <b>DFL2</b> <b>PRIS</b>	Eduardo Frei Montalva <b>MINVU</b>	Salvador Allende Gossens	Junta Militar de Gobierno	<b>SERVIU</b>	<b>PNDU-DS420</b> Augusto Pinochet Iriart		Patricio Aylwin Azocar	Eduardo Frei Ruiz Tagle <b>PRMS</b>	Ricardo Lagos Escobar
	1950 1951 1952 1953 1954 1955 1956 1957	1958 1959 1960 1961 1962 1963	1964 1965 1966 1967 1968 1969 1970 1971 1972 1973	1974 1975 1976 1977 1978 1979 1980 1981 1982	1983 1984 1985 1986 1987 1988 1989	1990 1991 1992 1993 1994 1995 1996 1997 1998 1999	2000 2001 2002				
Autoconstrucción y Ayuda Mutua											
Asentamientos Informales											
Programa de Erradicaciones											
Operación Sitio											
Campamentos											
Hogares Allegados a Sitio											
Programa Mejoramiento de Barrios											
Programa Vivienda Progresiva											
Programa Chile Barrio											
Vivienda Social Dinámica sin Deuda											
<b>PROGRESIVIDAD:</b>	AUTOCONSTRUCCION	ERRADICACION	NUEVAS SOLUCIONES	RADICACION	SIN APOYO ESTATAL	RADICACION + NUEVAS SOLUCIONES					
	ETAPA I	ETAPA II	ETAPA III	ETAPA IV	ETAPA V	ETAPA VI					

PROGRAMA MEJORAMIENTO DE BARRIOS – 1982

PROGRAMA CHILE – BARRIOS- 1990

FONDO SOLIDARIO DE VIVIENDA-2000



	Carlos Ibañez	Jorge Alessandri	Eduardo Frei	Salvador Allende	Junta Militar	Augusto Pi	Patricio Aylwin Azocar	Eduardo Frei Ruiz Tagle	Ricardo Lagos Escobar
	1950	1958	1964	1970	1973	1980	1990	1994	2000
Autoconstrucción y Ayuda Mutua	█								
Asentamientos Informales	█								
Programa de Erradicaciones									
Operación Sitio									
Campamentos									
Hogares Allegados a Sitio									
Programa Mejoramiento de Barrios									
Programa Vivienda Progresiva									
Programa Chile Barrio									
Vivienda Social Dinámica sin Deuda									
<b>PROGRESIVIDAD:</b>	<b>AUTOCONSTRUCCION</b>	<b>ERRADICACION</b>	<b>NUEVAS SOLUCIONES</b>	<b>RADICACION</b>	<b>SIN APOYO ESTATAL</b>	<b>RADICACION + NUEVAS SOLUCIONES</b>			
	ETAPA I	ETAPA II	ETAPA III	ETAPA IV	ETAPA V	ETAPA VI			

incremental building in city centre 1

plot densification 2

elemental 3

incremental building in city centre 1

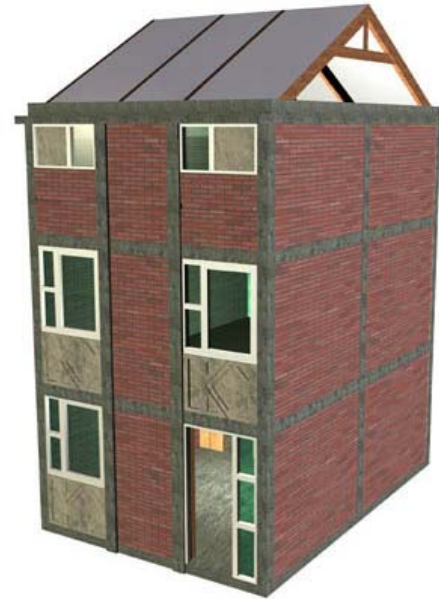
plot densification 2

elemental 3

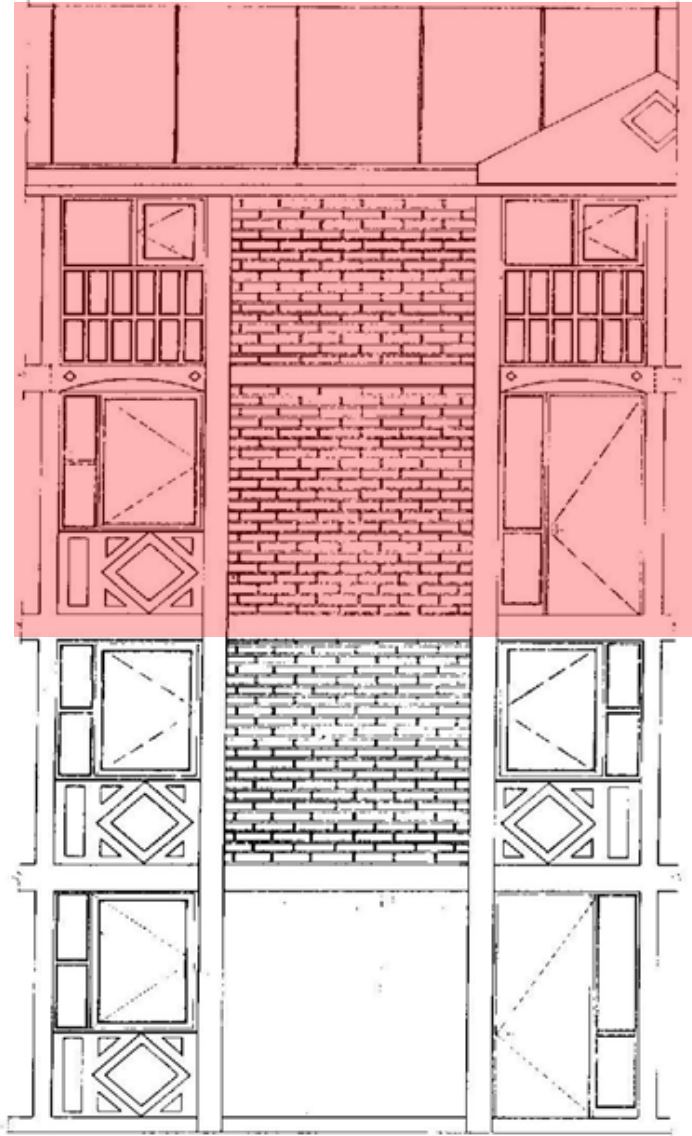
## Situation previous to intervention



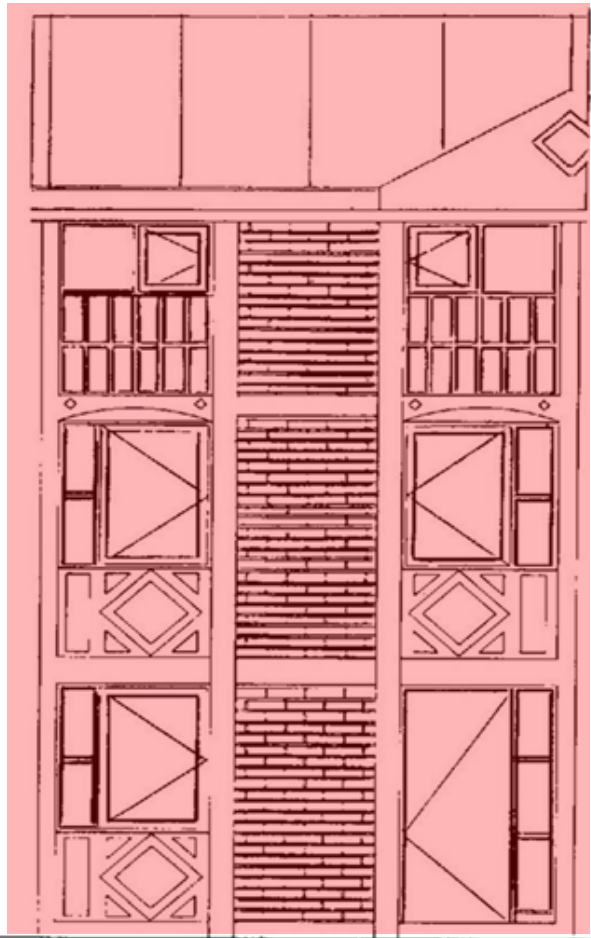




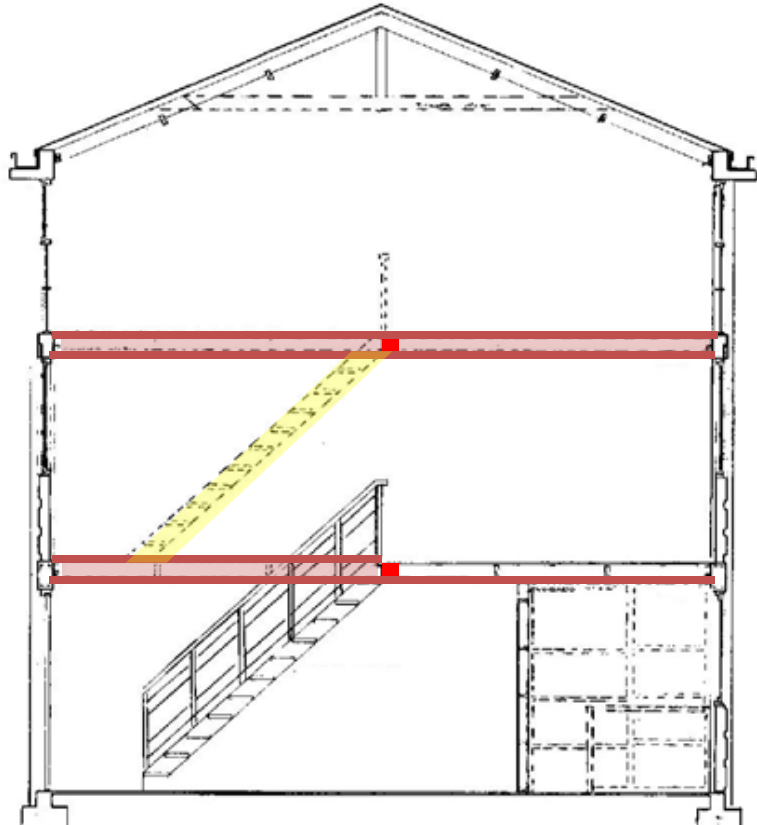
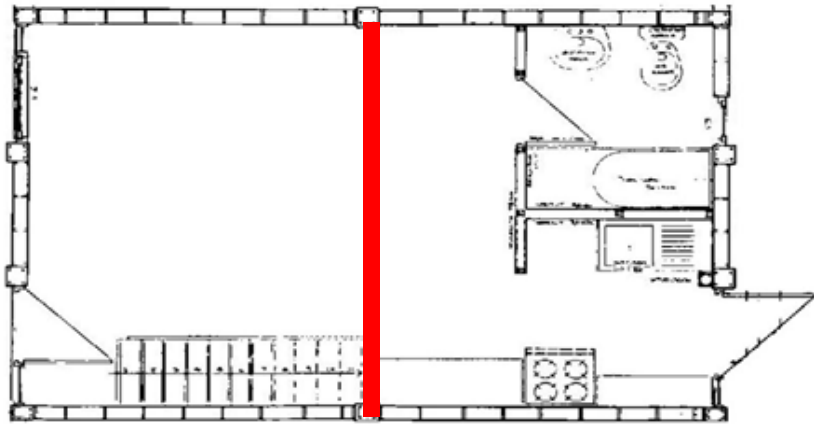
# House Type A – two floors



# House Type B – three floors



# House Type B – three floors





**COMUNIDAD ANDALUCIA**

**Arquitecto: Fernando Castillo Velasco**

incremental building in city centre 1

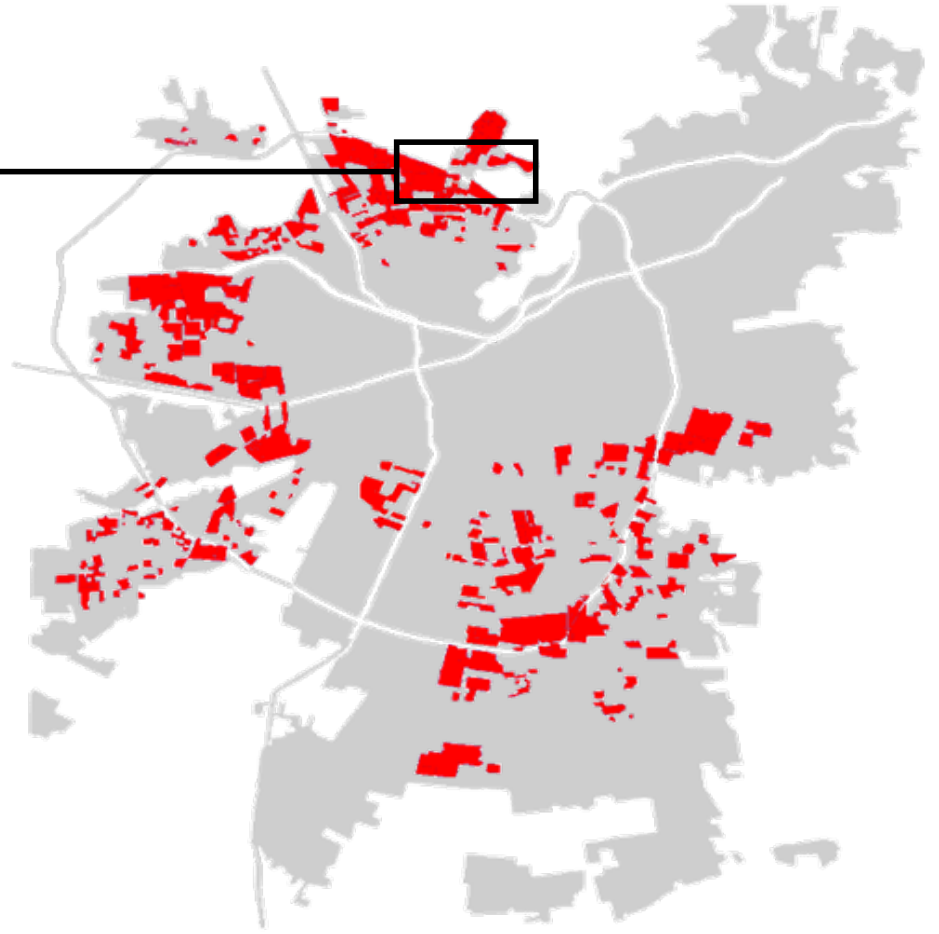
plot densification 2

elemental 3

# 9x18 POBLACIONES IN SANTIAGO



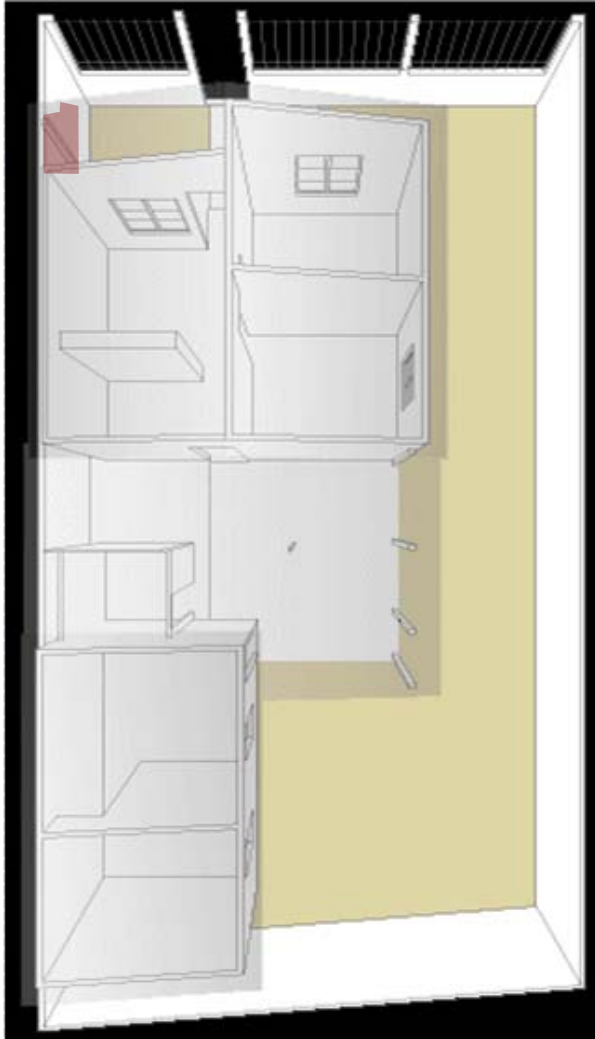
Urban grid in 9x18 plots



# The allegados

In the analyzed poblaciones, there is on average more than one family of allegados per plot.

98% of the allegados are family relations to the plot owners



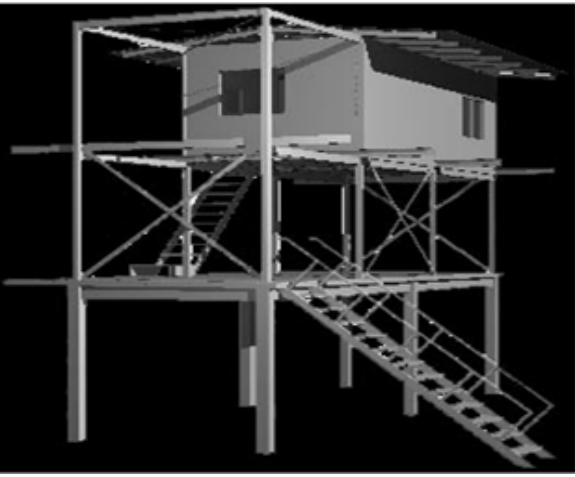
**Allegado family**



**Main family**



# THE HOUSE

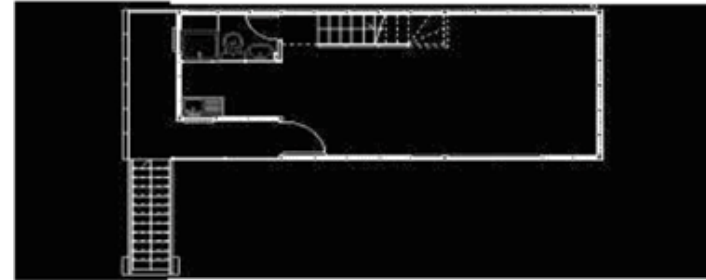


Front Elevation

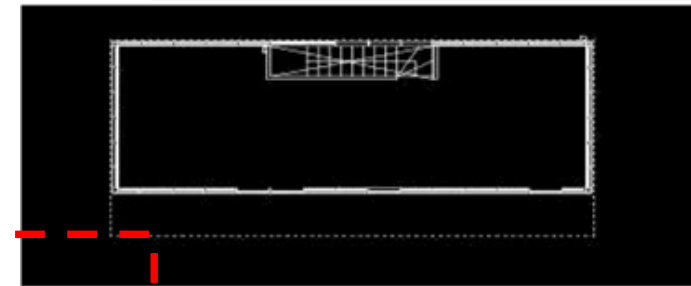
Ground floor: plot owner 32 m<sup>2</sup> roof



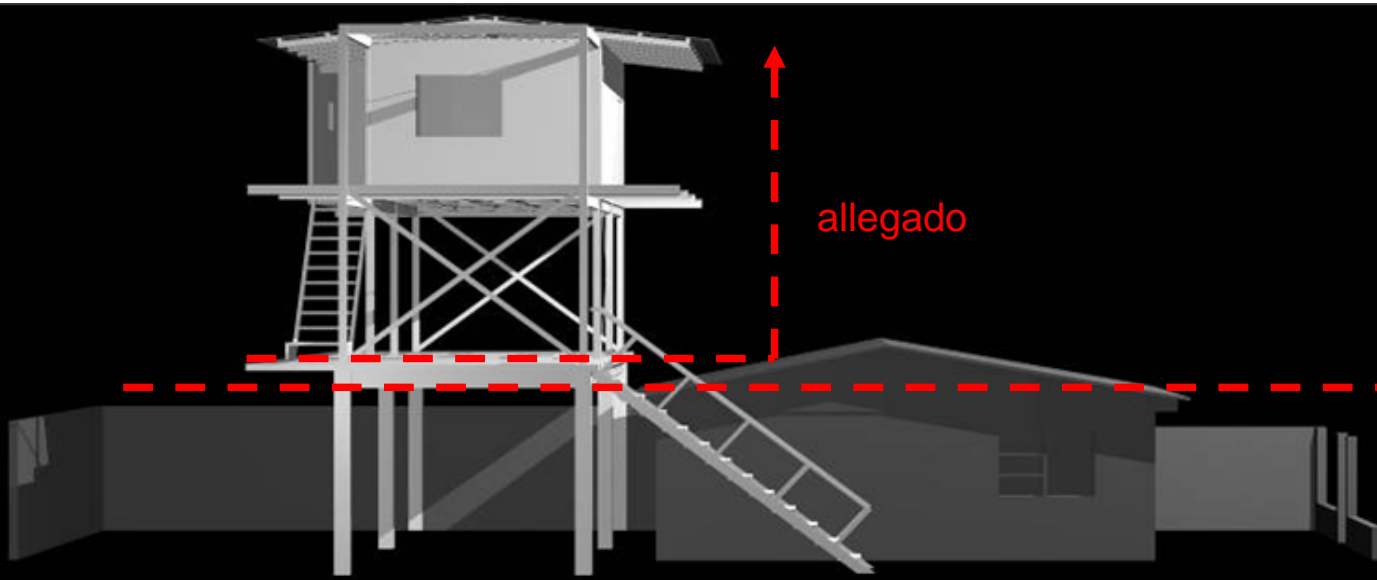
First floor allegado: 29 m<sup>2</sup>



Second floor: additional 32 m<sup>2</sup>



↓ OWNER



The radication strategy consists on the construction of a new floor, through the construction of a concrete slab that allows the allegado to receive a new independent house in second and third floors.

# PILOT PROJECT 2003

## Financing:

### 1. Government Subsidy:

280 U.F. (6.430 €)

### 2. Beneficiary:

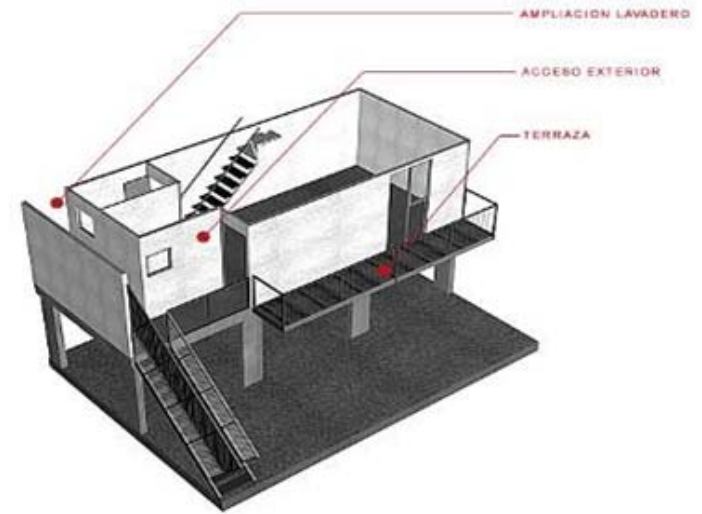
Savings 10 U.F. (230 €)

### 3. Other Funds:

Demand Organization: Fundación Rodelillo.

Project Development: P.U.C., Fundación Rodelillo, Fundación Invica.

Architect: Francisco Vergara y Equipo Lote 9x18



The house from the street





incremental building in city centre	1
plot densification	2
<b>elemental</b>	<b>3</b>



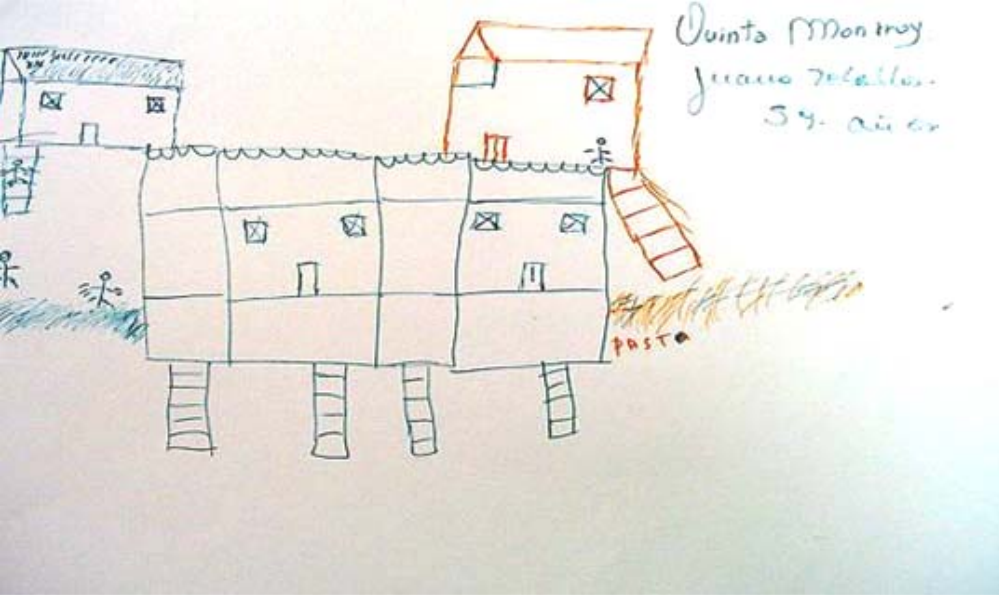
In spite of poor housing conditions, due to community and good location in the city (access to urban services) ... the demand was to STAY

Radication was the answer

BUT  
The plot was 3 times the price normally paid for social housing

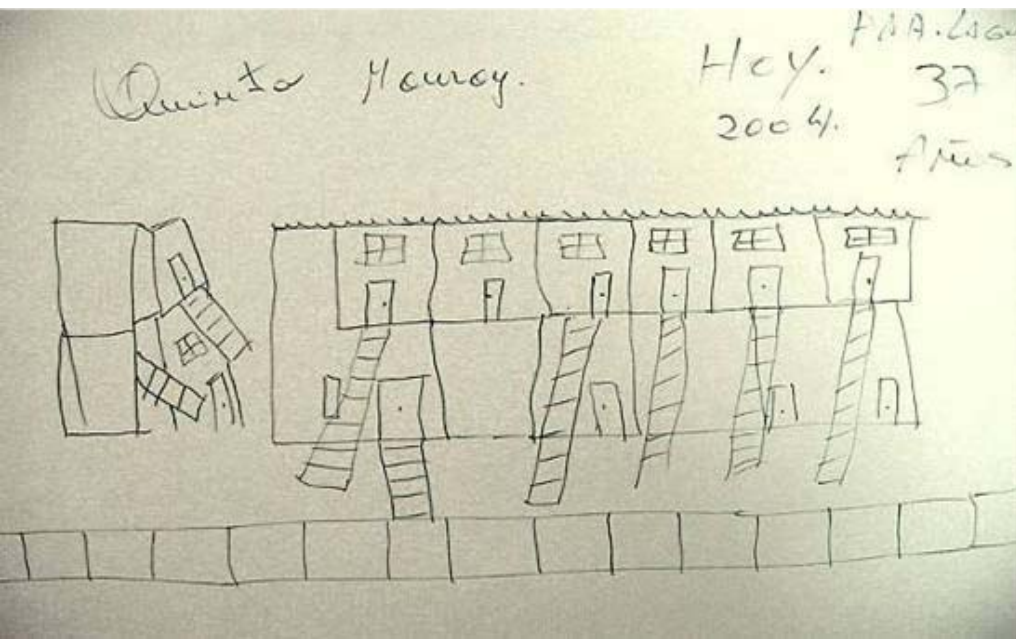




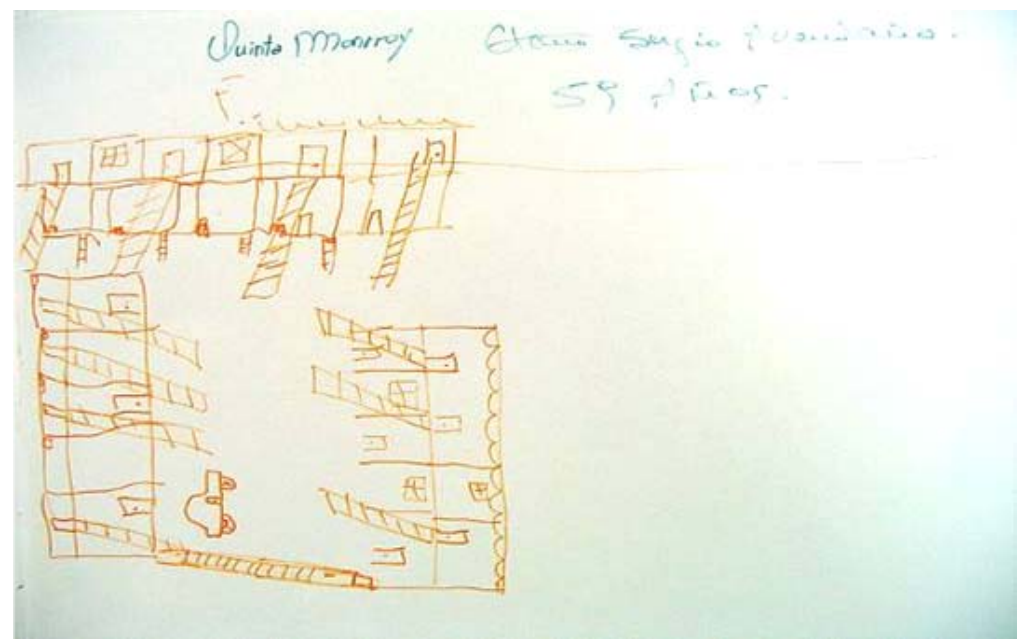


Juana Zeballos

PAA Lagos



Sergio Avendaño



the houses by the future inhabitants



1. Planned growth to 72 m<sup>2</sup>
2. Ventilated kitchen and toilet
3. Definitive structure and external walls
4. Crossed ventilation
5. No corridors or shared stairs
6. Modular rooms 3x3 mts
7. Colective space for 20-30 families

This was the result:



Arquitecto: Alejandro Aravena y Equipo Elemental













# Quinta Monroy 2004



Welcome to the Quinta

Basilio Quispe H  
54.



the end.