

# From Shacks to Homes

(De Cuartuchos a Viviendas)

Learning from 40 Years and 30 Recent House Examples  
Chihuahua, México

*Presentados por*

Arquitectura ITESM – Arquitectura ITCH II – BGS Estudios Urbanos  
March 2010

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## INTRODUCTION

Thirty home surveys were undertaken by schools of architecture in Chihuahua. Escuela de Arquitectura del Instituto Tecnológico y de Estudios Superiores de Monterrey carried out 21 home surveys with participation of three faculty and twenty-one students. Escuela de Arquitectura del Instituto Tecnológico de Chihuahua II carried out nine home surveys with four faculty and twelve students. The surveys at both universities were developed with the assistance of Emilio B. Guerra Sousa – MIT '78 – based in Chihuahua, México, and architect Elena Rodriguez.

The settlements where the surveys took place ranged from 300 years to 30 years old. Individual surveys were selected at three different levels, stagnant (not successful), consolidated (successful) and expanded (very successful) depending on the built increments considering at least one room.

The SIGUS – MIT diagrammatic format was used to present the cases in a comparative easy-to-read frame. The vertical axis included several scales: household population, family income and dwelling area; the horizontal axis indicated time. Three data lines show household size variations, dwelling area growth in stages, and family income were charted according to time. The dwelling floor plans and main factors which caused or motivated the variations are shown at bottom.

The key motivations in expanding the dwellings were the growth in family size, a sense of belonging, expansion needed for small home businesses and family pride as shelter builders. The family's low income and their rural origins of a traditional labor-oriented economy were the basis for self-help construction of the house. Labor exchange for goods or for more specialized labor were other important factors.

No evidence of governmental support to the incremental housing process was found. In the sixties and seventies incremental housing was characterized by parallel incremental city water and sewerage networks. Community labor participated in digging and backfilling trenches, a factor absent in latter incremental housing cases.

The students' enthusiasm and work capacity, and the university and faculty support made the surveys a clear success. They discovered new professional fields for architects, new curricula additions and a broader sense of professional practice. They became aware of the social reality of incremental housing, low-income areas, and local social and urban conditions. They saw the need for design assistance, materials supply support, and need for building standards. The absence of housing professionals and a lack of city services was a big factor. They recognized the need for labor and financing capacity.

Both universities are planning further steps to consolidate their studies with the consortium of universities.

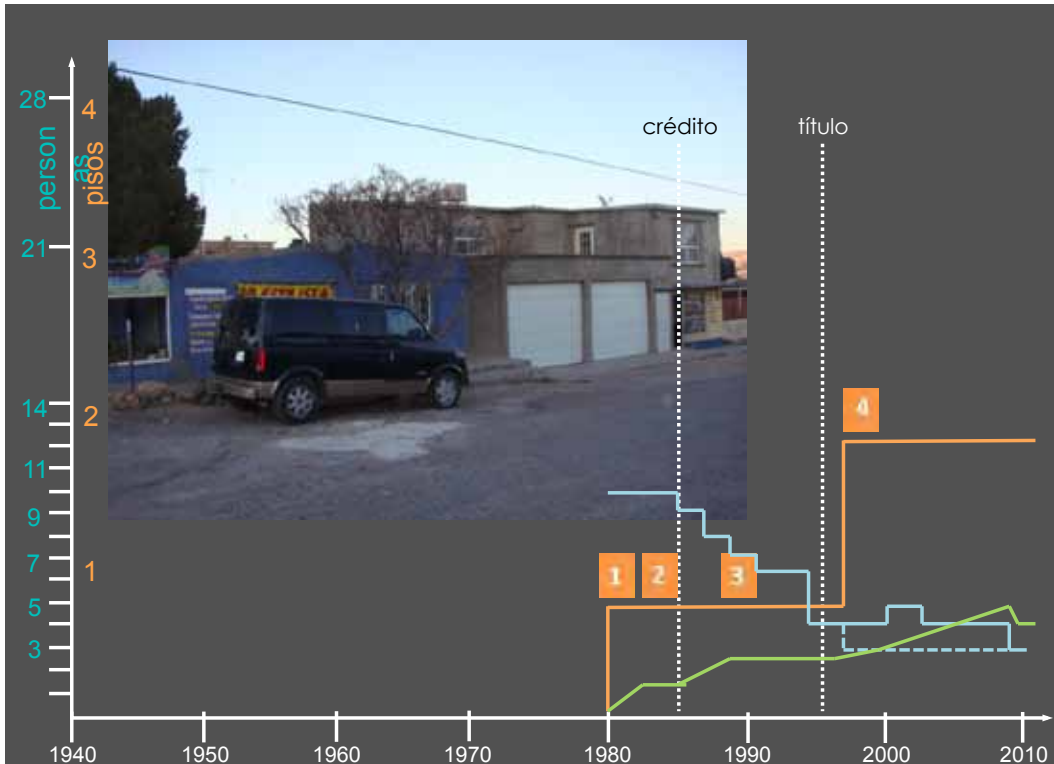


# INICIO DE COLONIA EN 1980

## 2 DE OCTUBRE, Chihuahua México

20-ME  
CUU

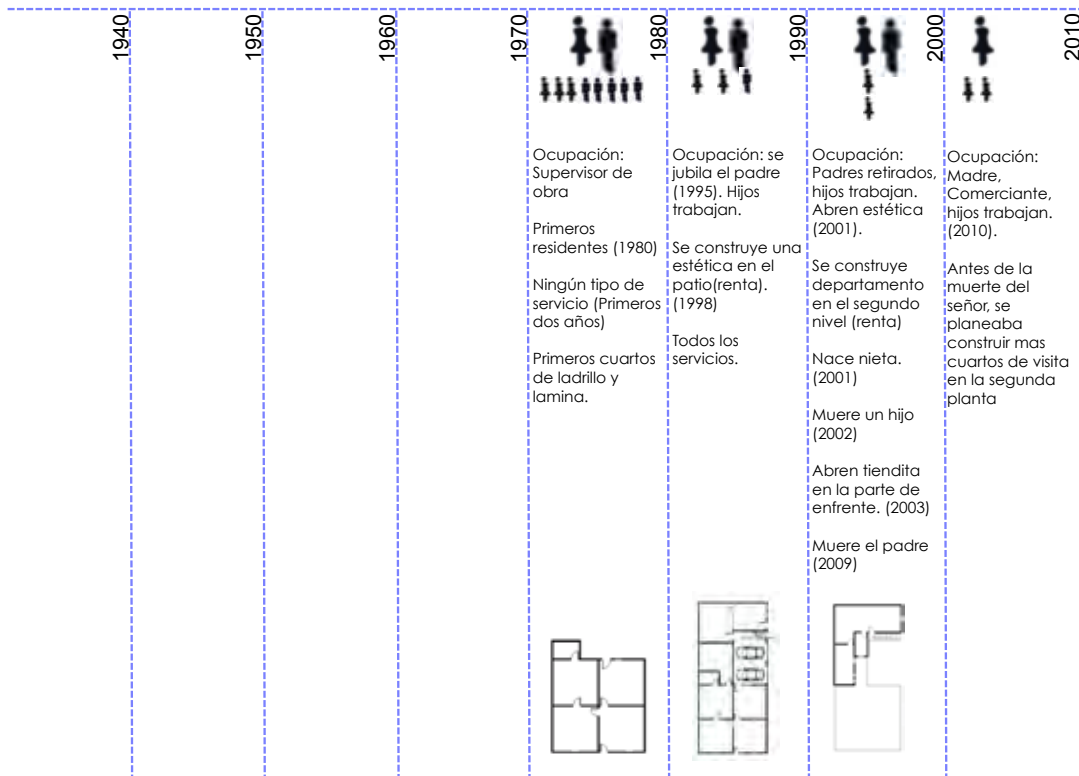
Colonia de clase trabajadora, encerrada entre la zona céntrica y las afueras de la ciudad .



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### Vivienda Consolidada



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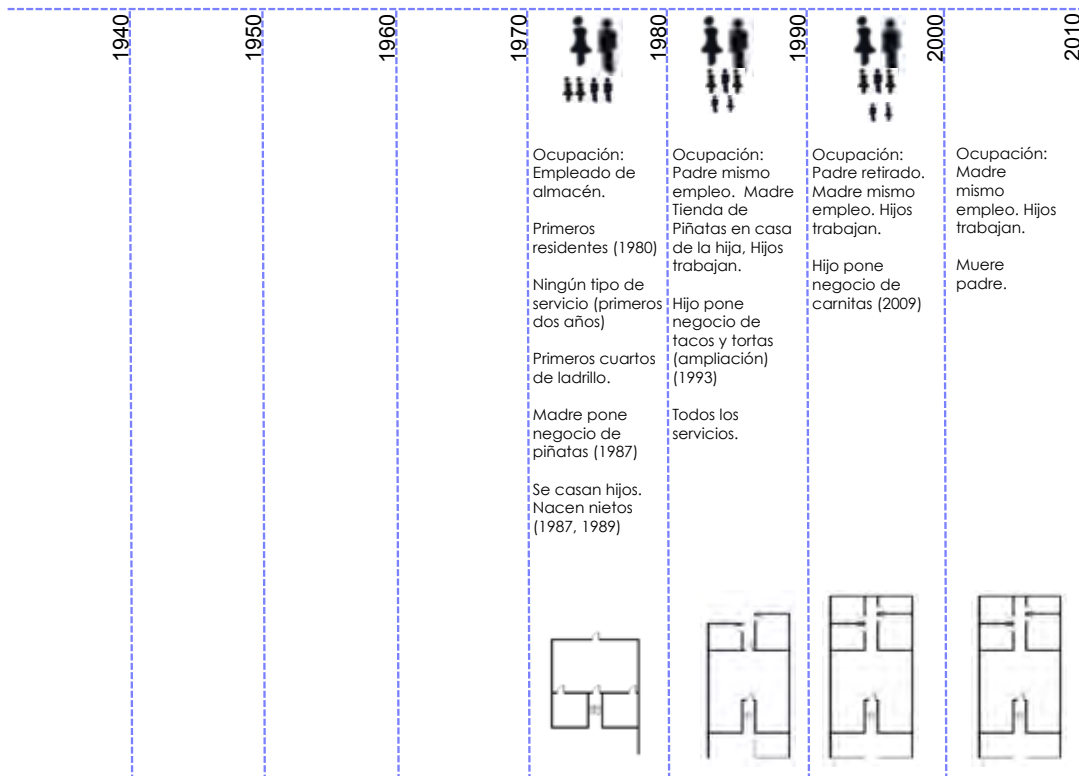
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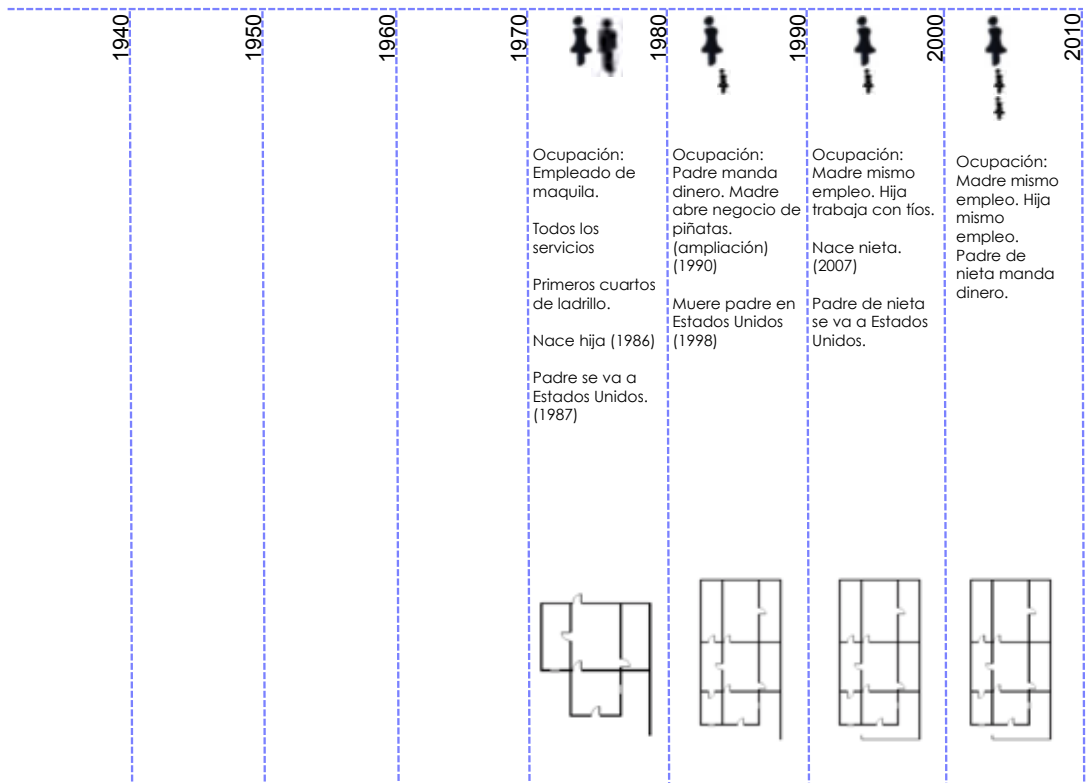
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### Vivienda Consolidada





# INICIO DE COLONIA EN 1960 CAMPEESINA, Chihuahua México



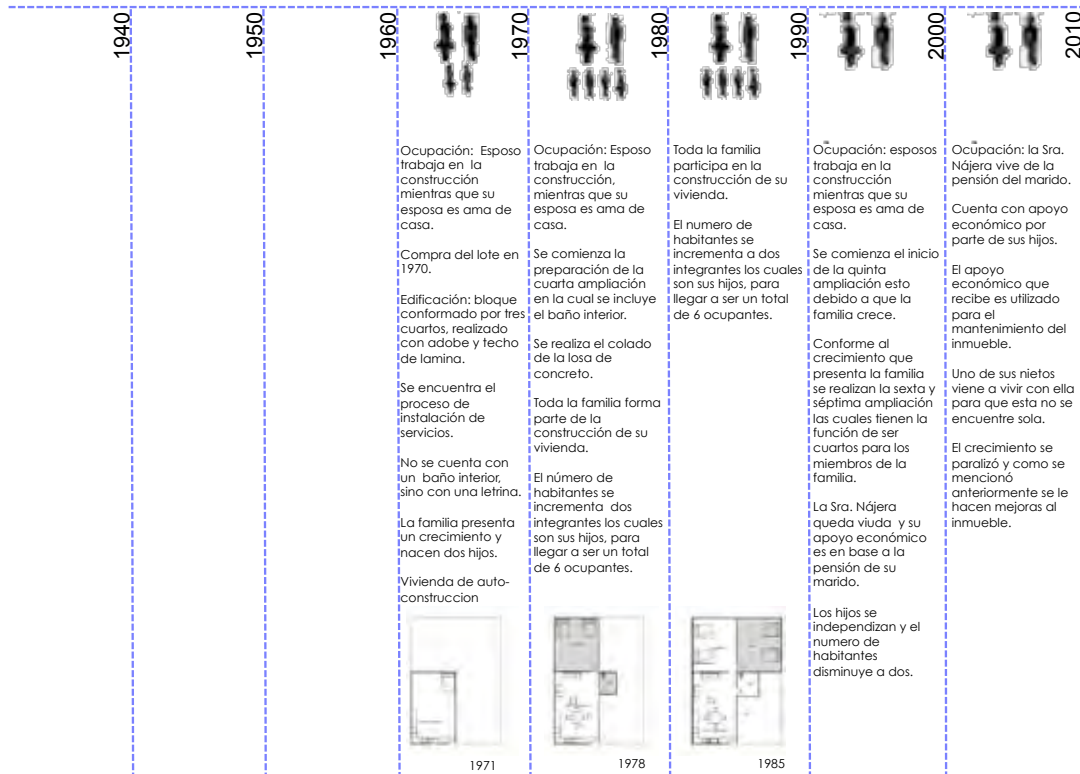
En este caso los terrenos fueron conseguidos por medio del Güero Pérez, se comenta que fueron obtenidos mediante invasión .



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# INICIO DE COLONIA EN 1960 CAMPEESINA, Chihuahua México



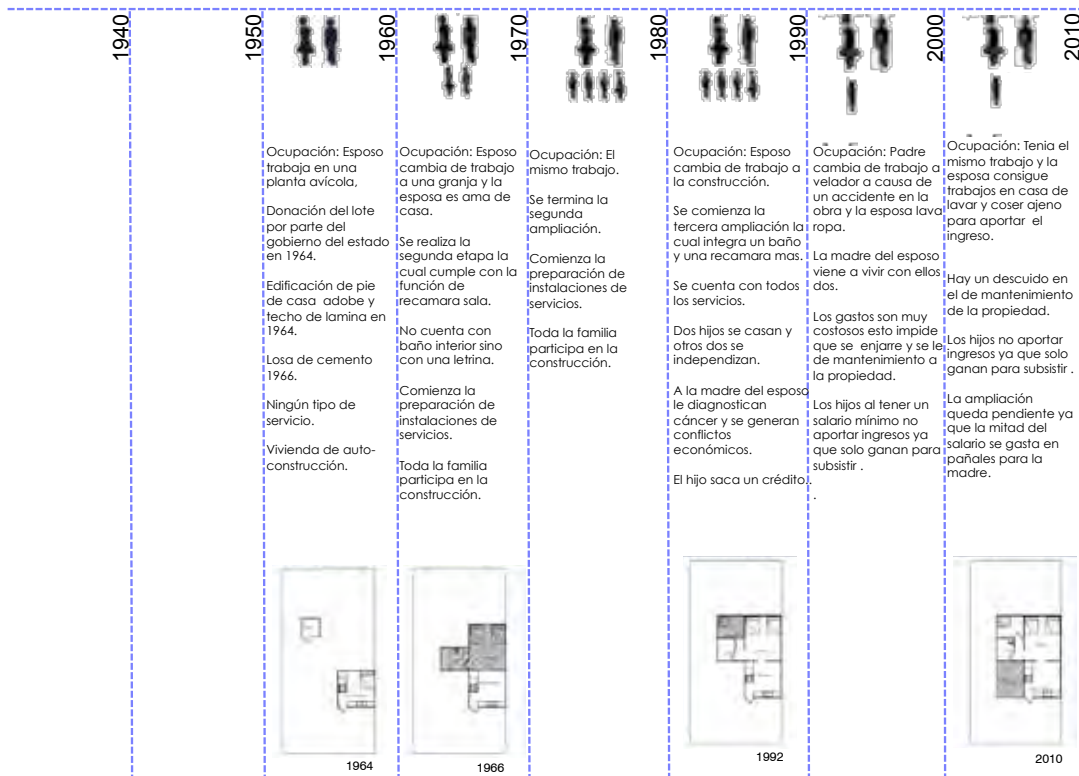
La colonia campesina se fundo en el año de 1964, esto en base a una donación del gobierno.



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## Vivienda Consolidada





# INICIO DE COLONIA EN 1960 CAMPEESINA, Chihuahua México



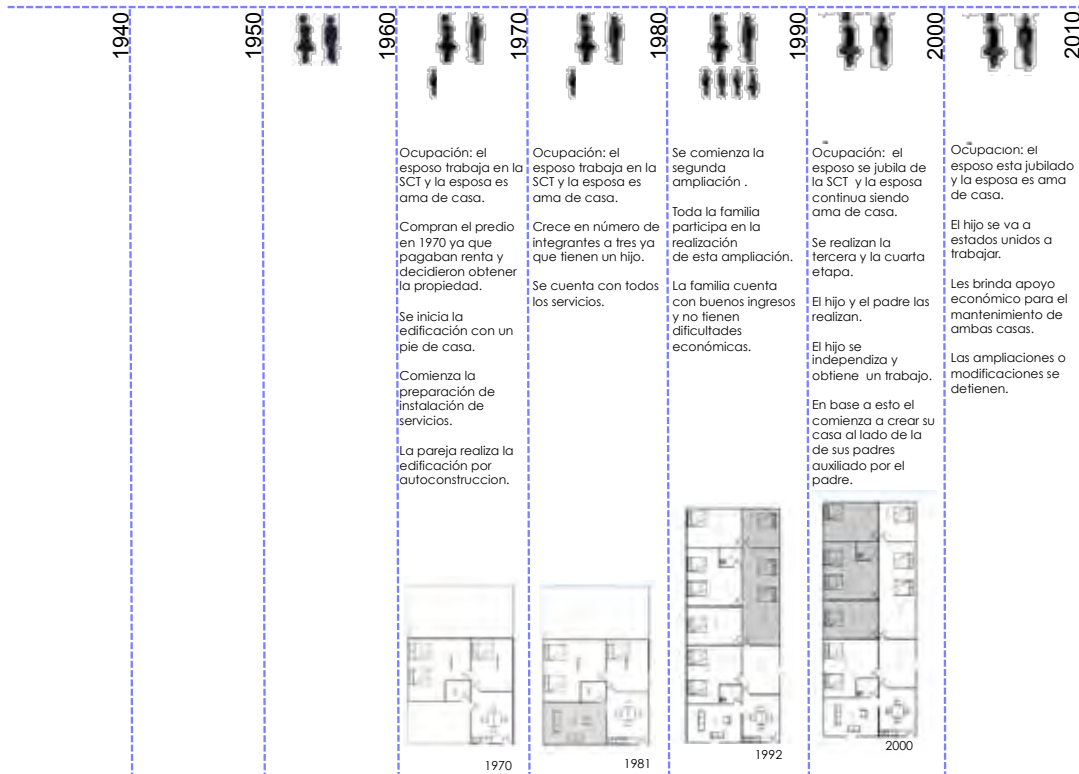
El terreno fue comprado, para 1970 por la cantidad de 400 pesos los cuales serían pagados en un plazo de 20 años.



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# INICIO DE COLONIA EN 1972

## Cerro de la Cruz, Chihuahua México

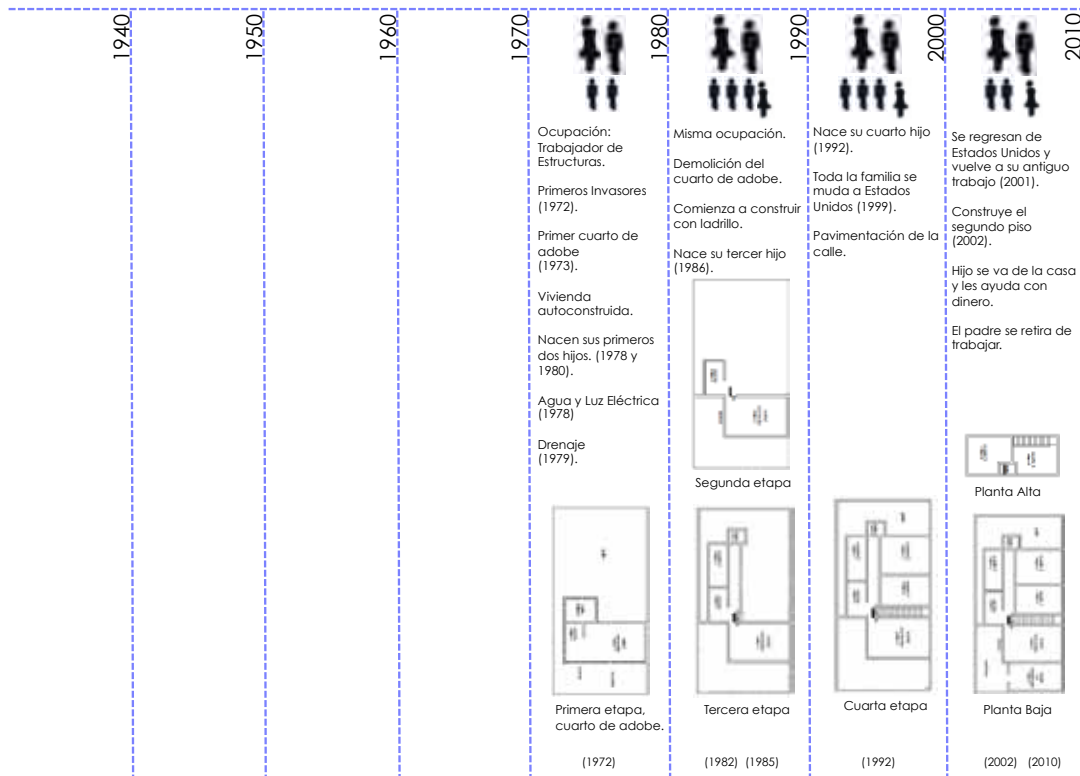


Inició como una colonia por invasión a las afueras de la ciudad, pero ahora se encuentra dentro de la mancha urbana.



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### Vivienda Consolidada

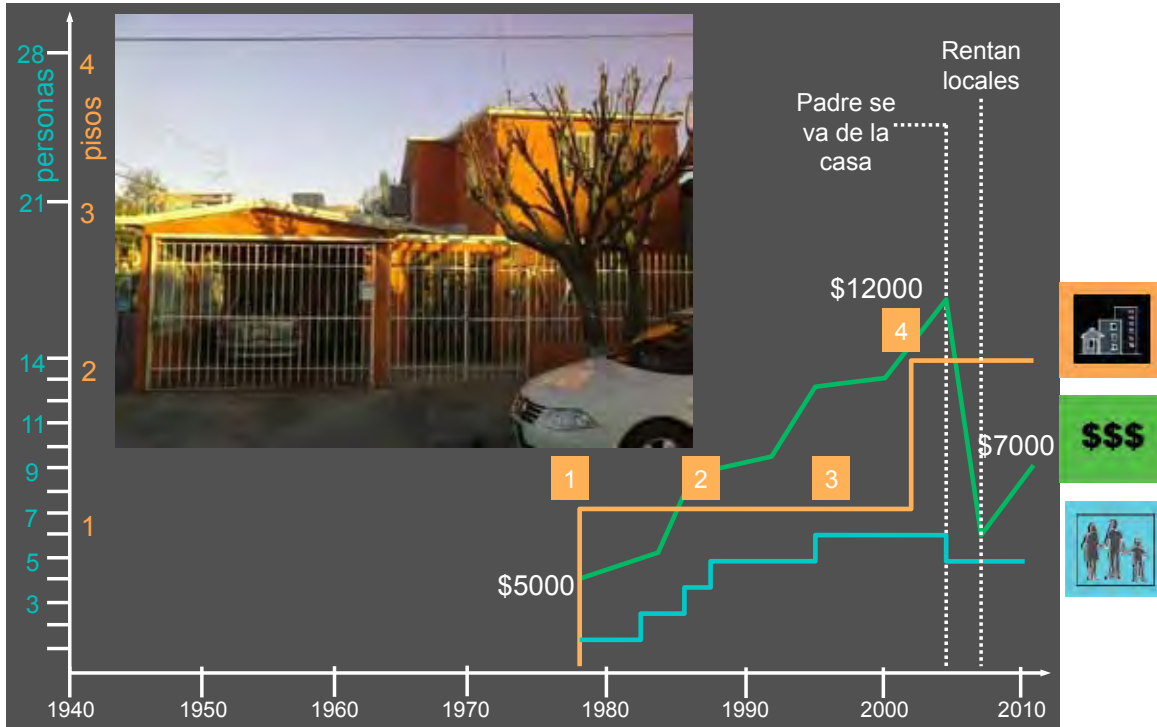


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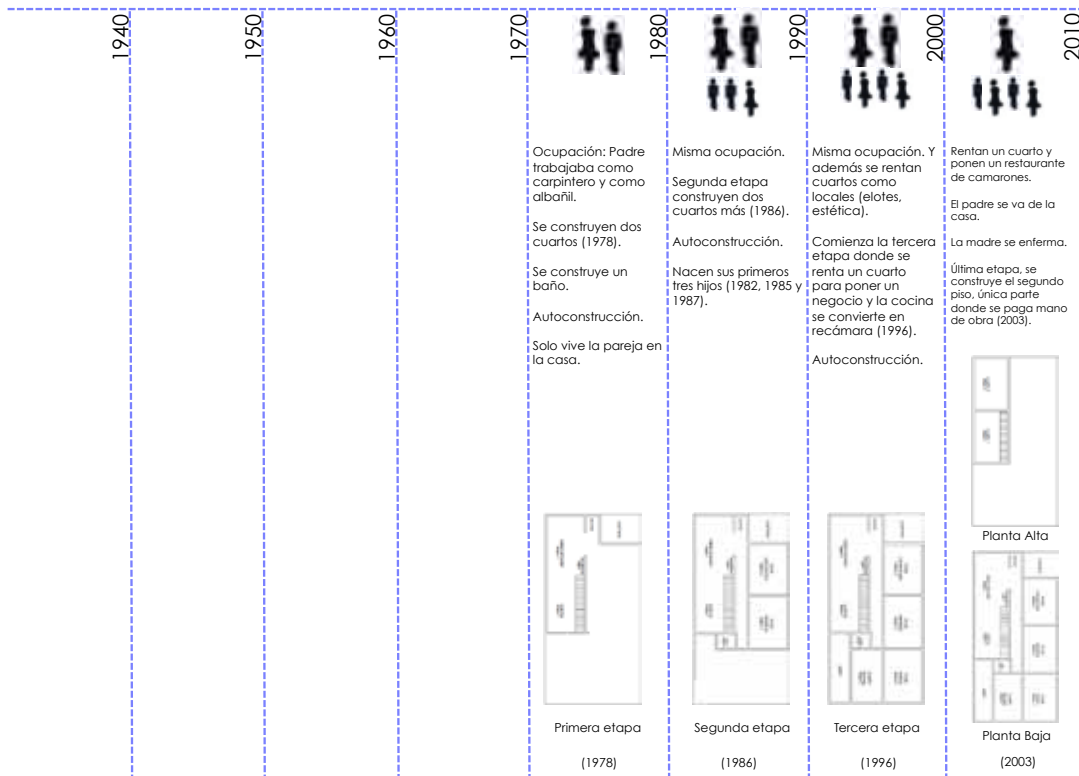


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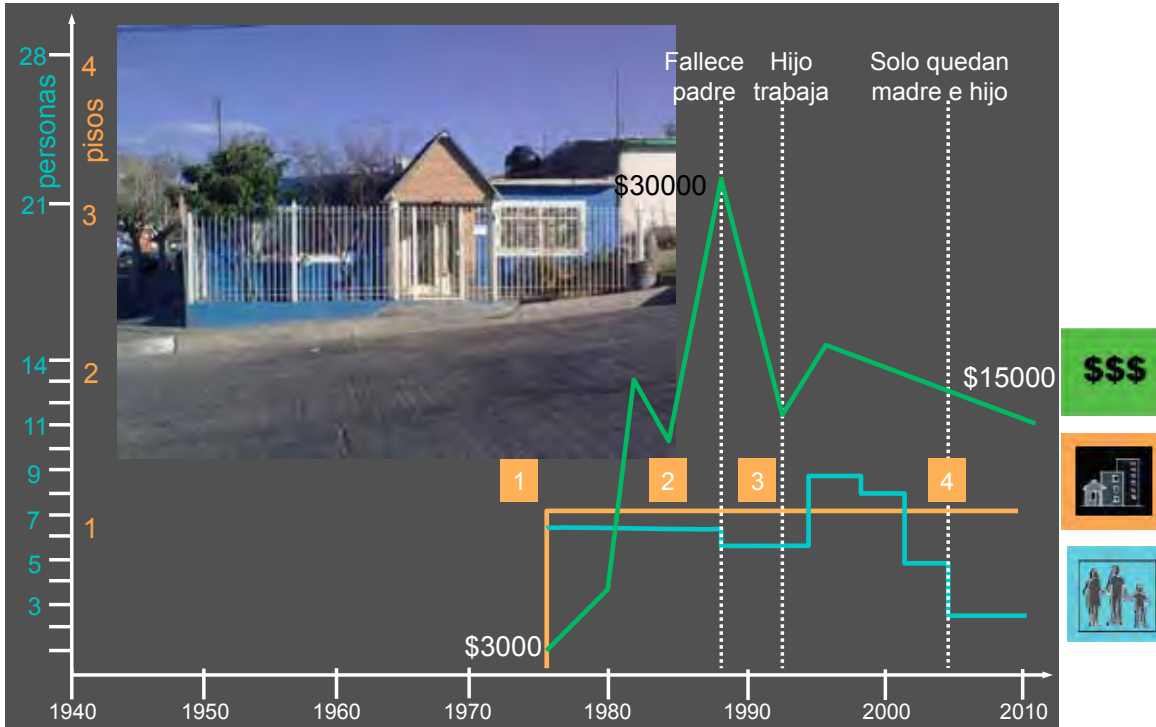


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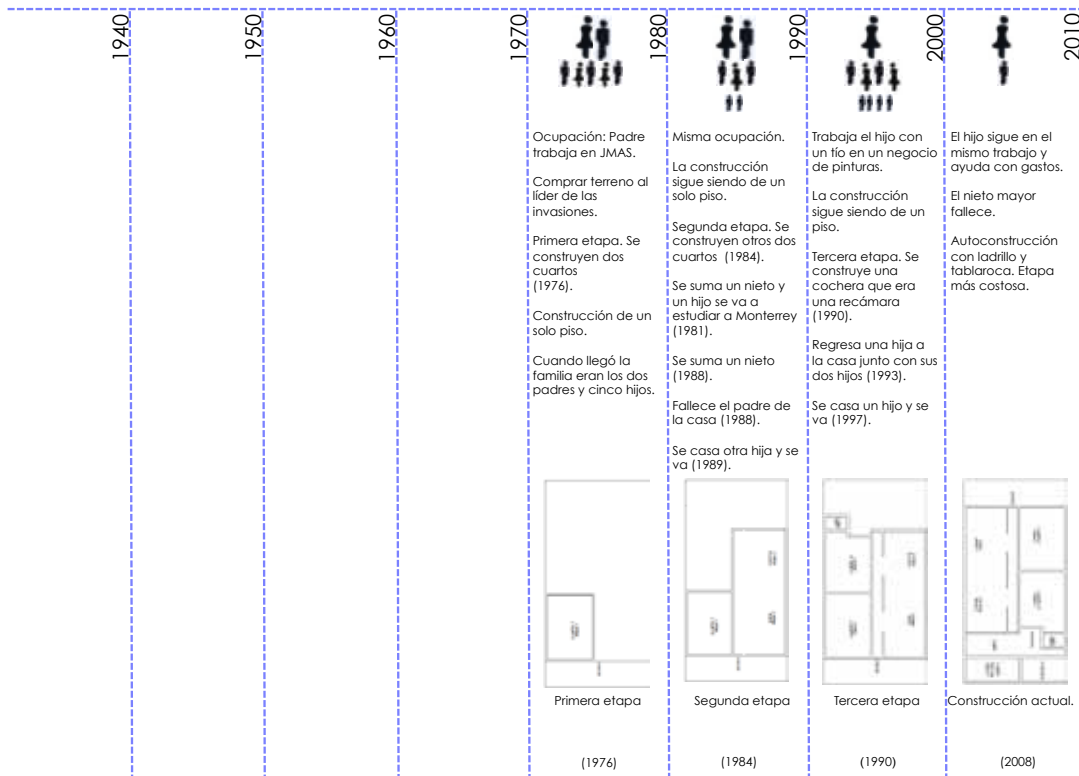
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# INICIO DE COLONIA EN 1958

## Santa Rosa, Chihuahua México

SR- ME  
CUU

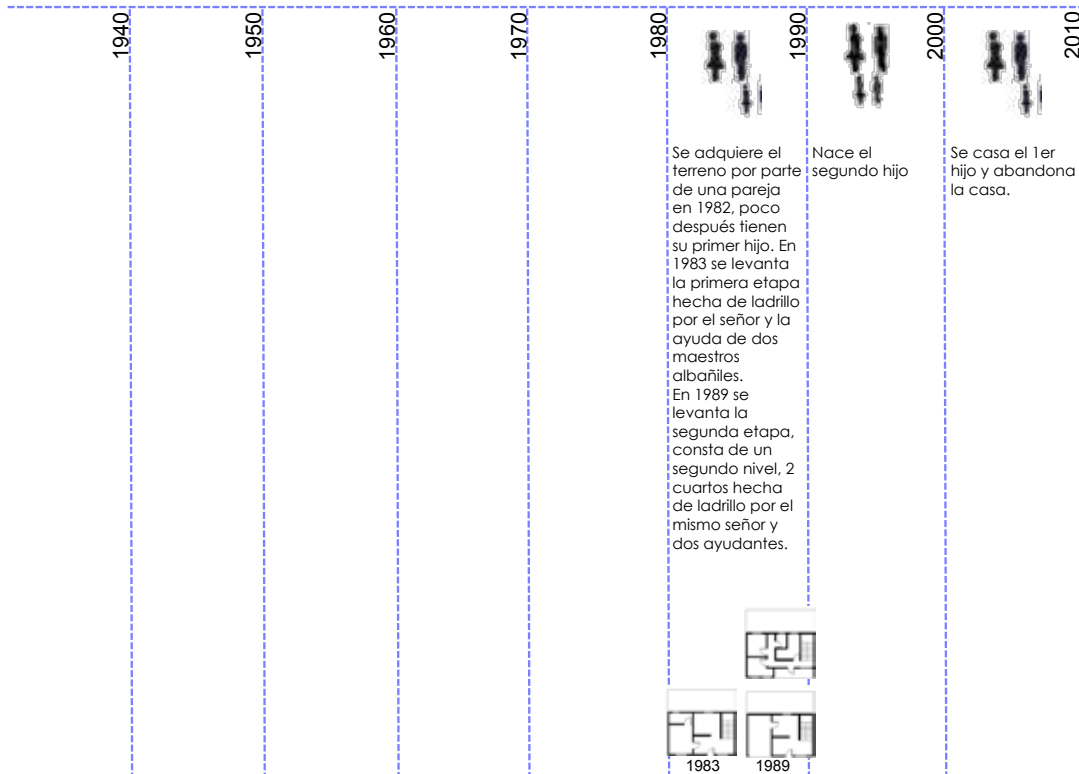
Colonia creada de manera regular, de relieve accidentado. Colonia clase baja



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### Vivienda Consolidada

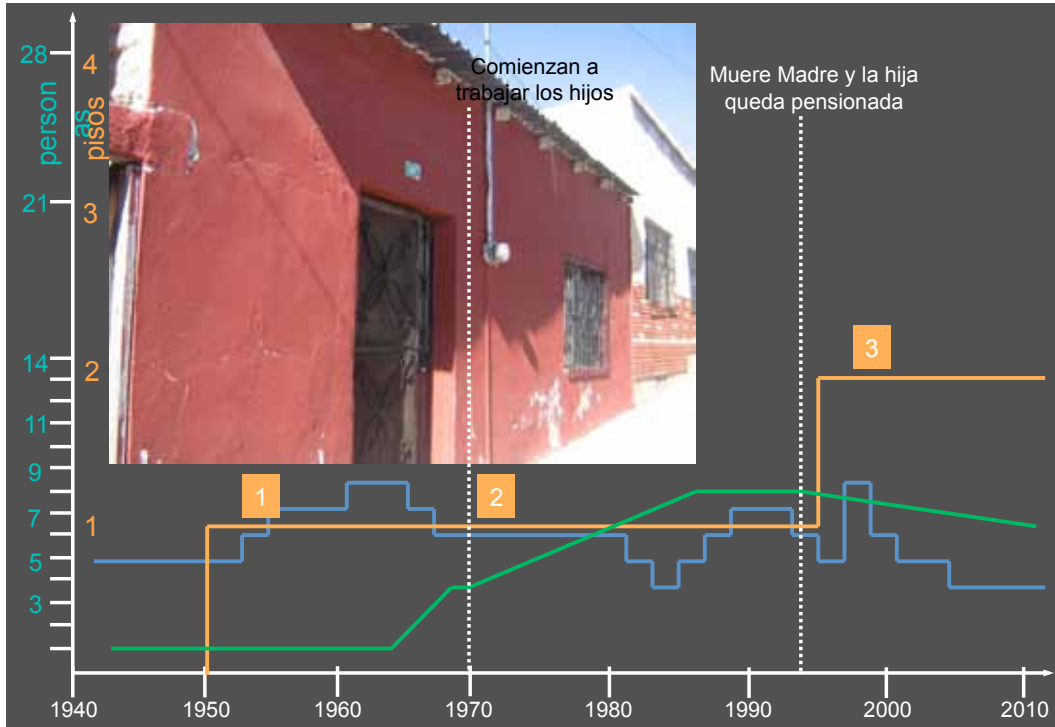


# INICIO DE COLONIA EN 1958

## Popular, Chihuahua México

SR- ME  
CUU

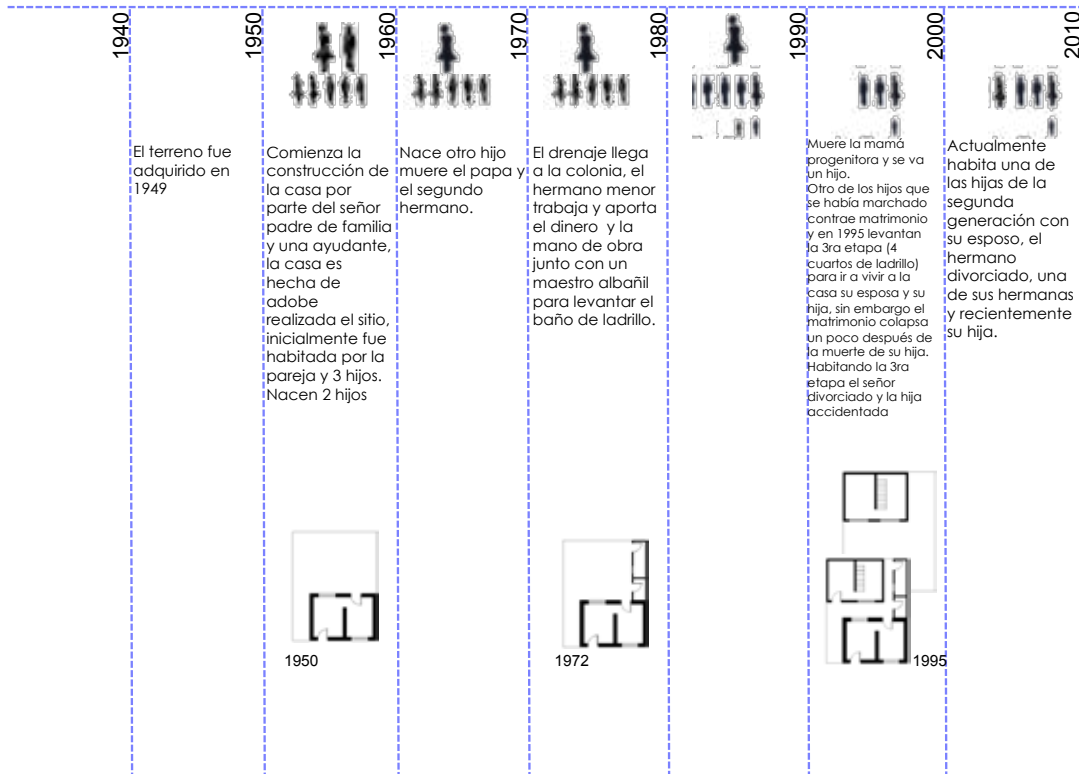
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### Vivienda Consolidada



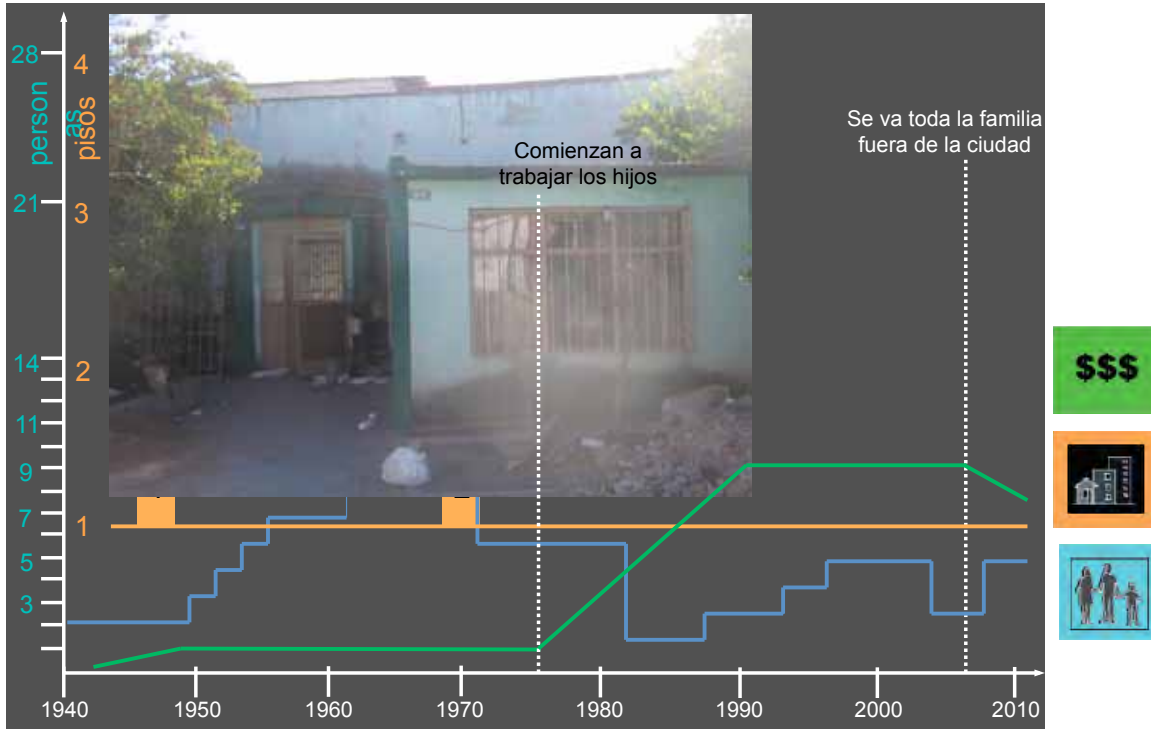


# INICIO DE COLONIA EN 1930

## Santa Rosa, Chihuahua México

SR- PE  
CUU

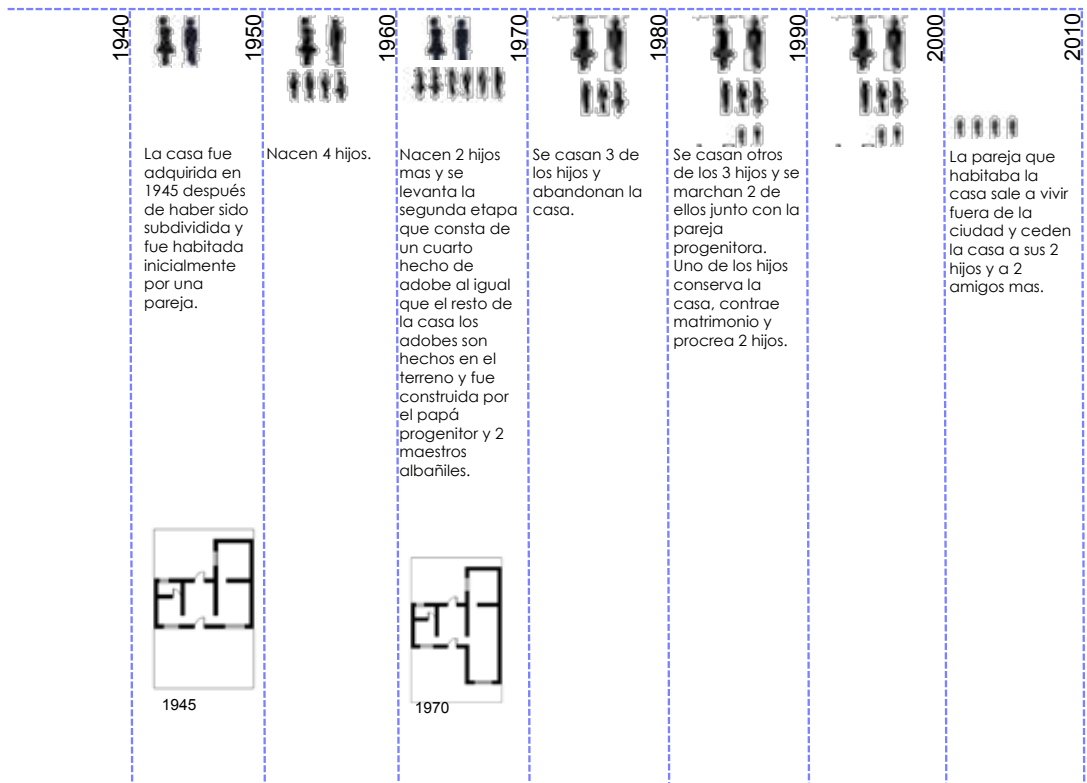
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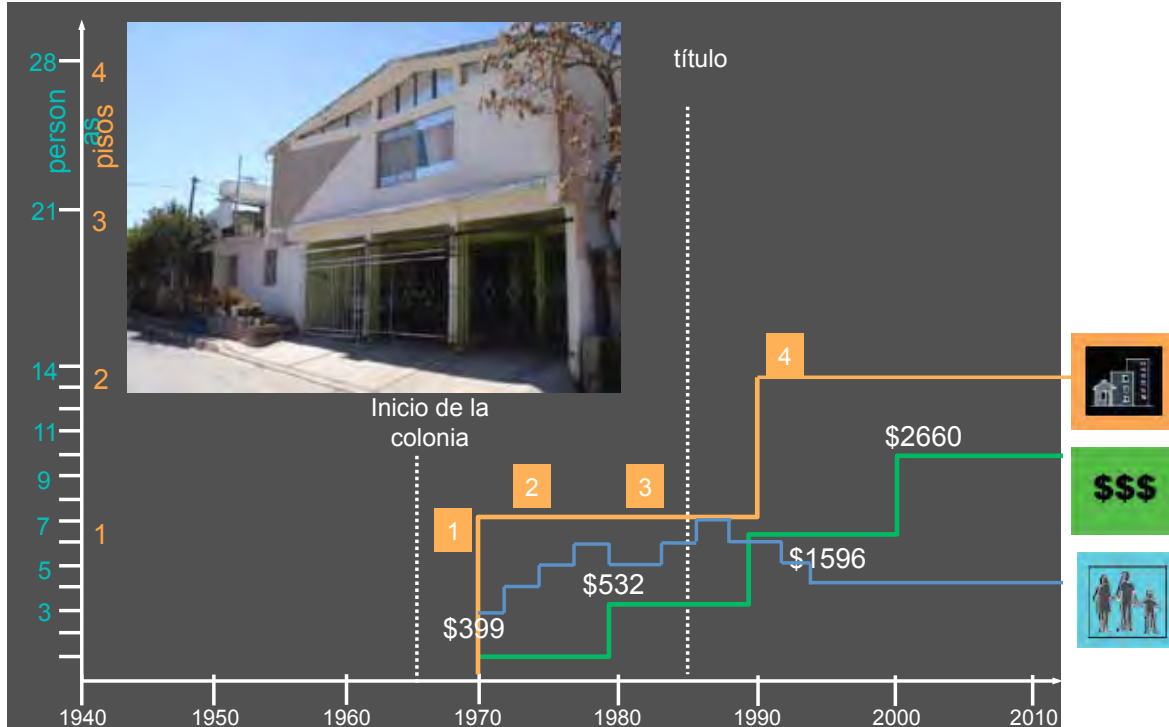


# INICIO DE COLONIA EN 1965

## Villa, Chihuahua México



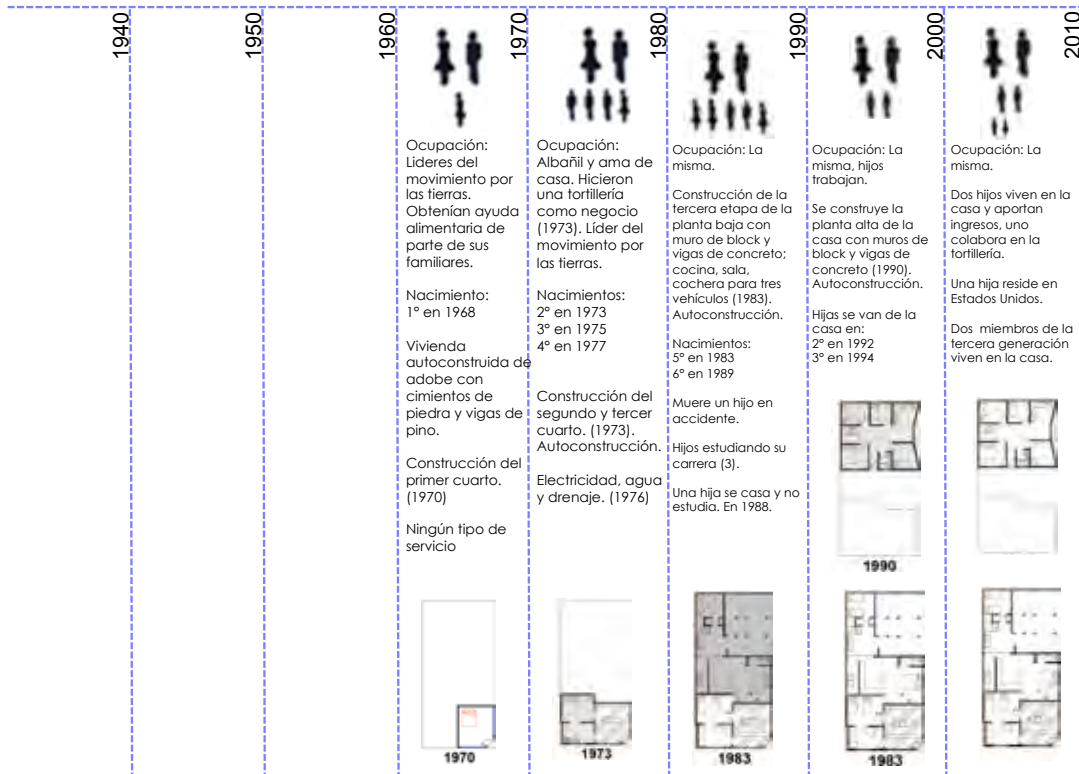
Antiguos terrenos privados que fueron invadidos por una gran cantidad de personas con necesidad de vivienda.



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### Vivienda Consolidada

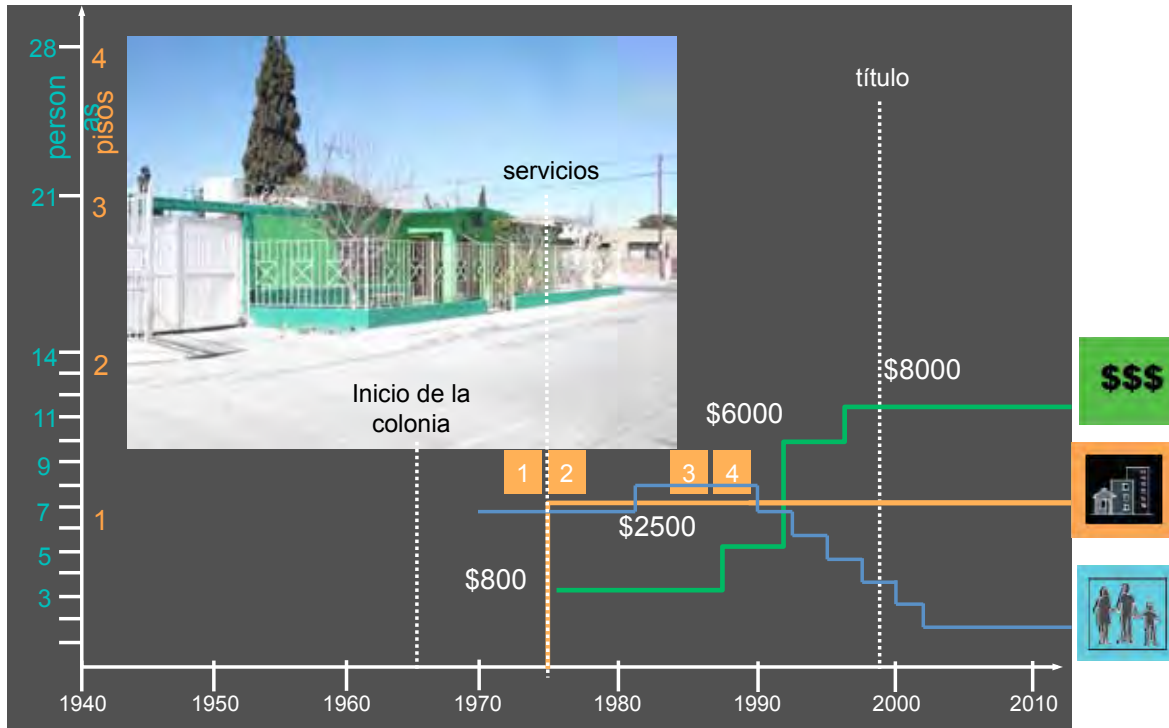


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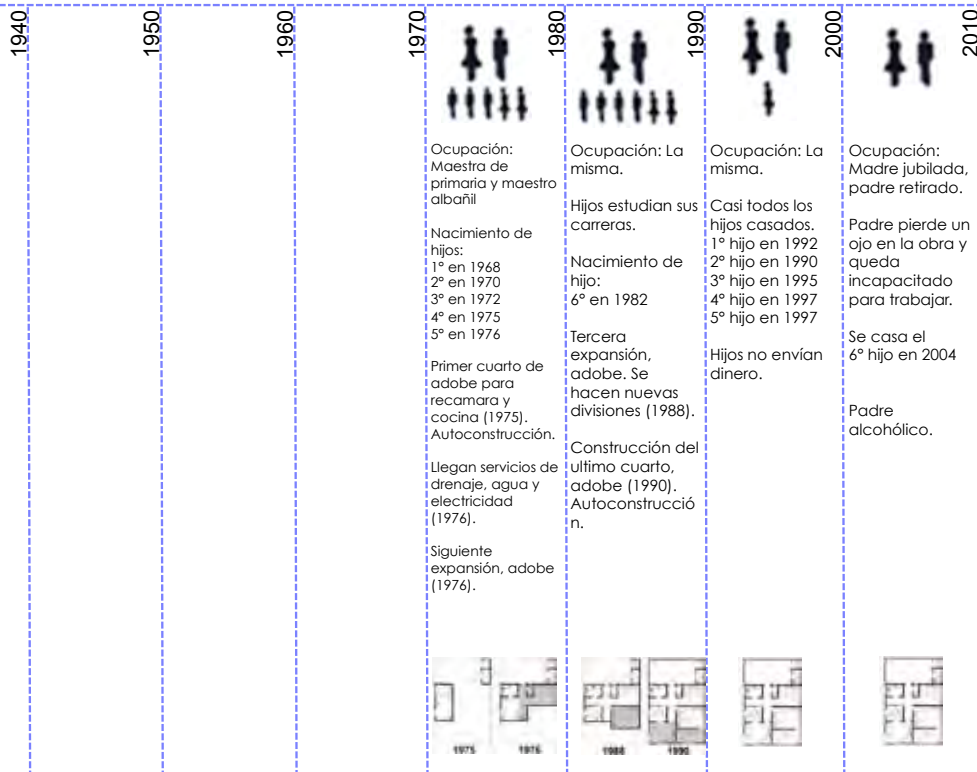
VI-E  
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ITECH II - CHIHUAHUA -  
Taller 2010

### Vivienda Consolidada

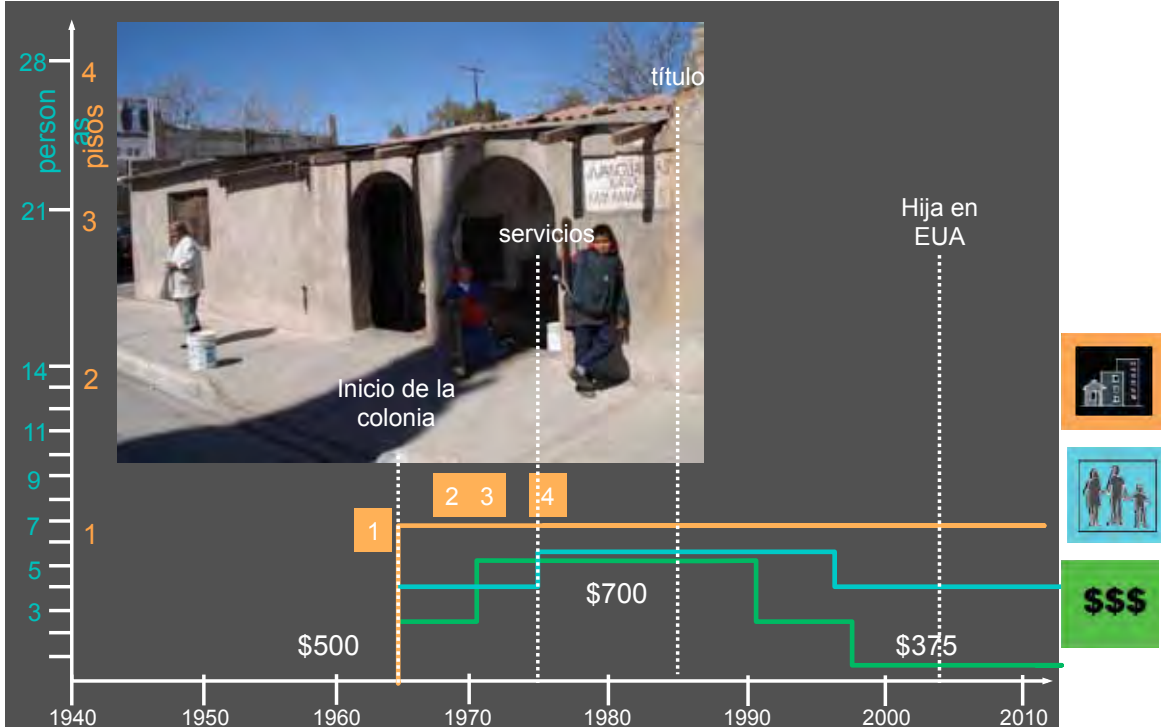


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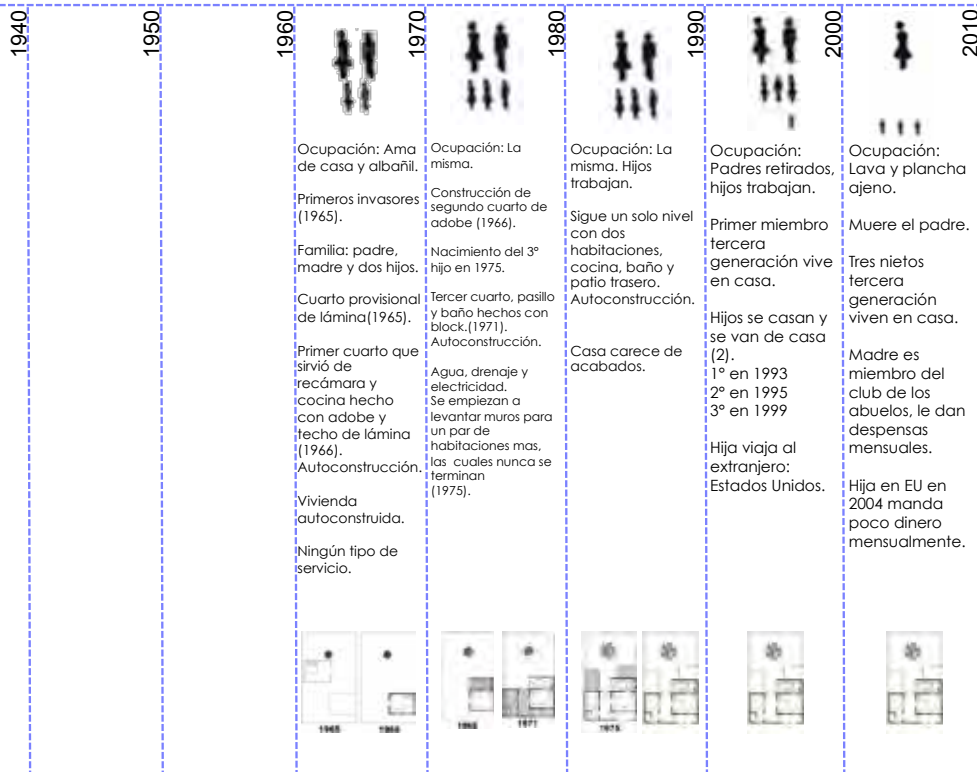
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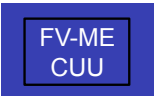


### Vivienda Consolidada

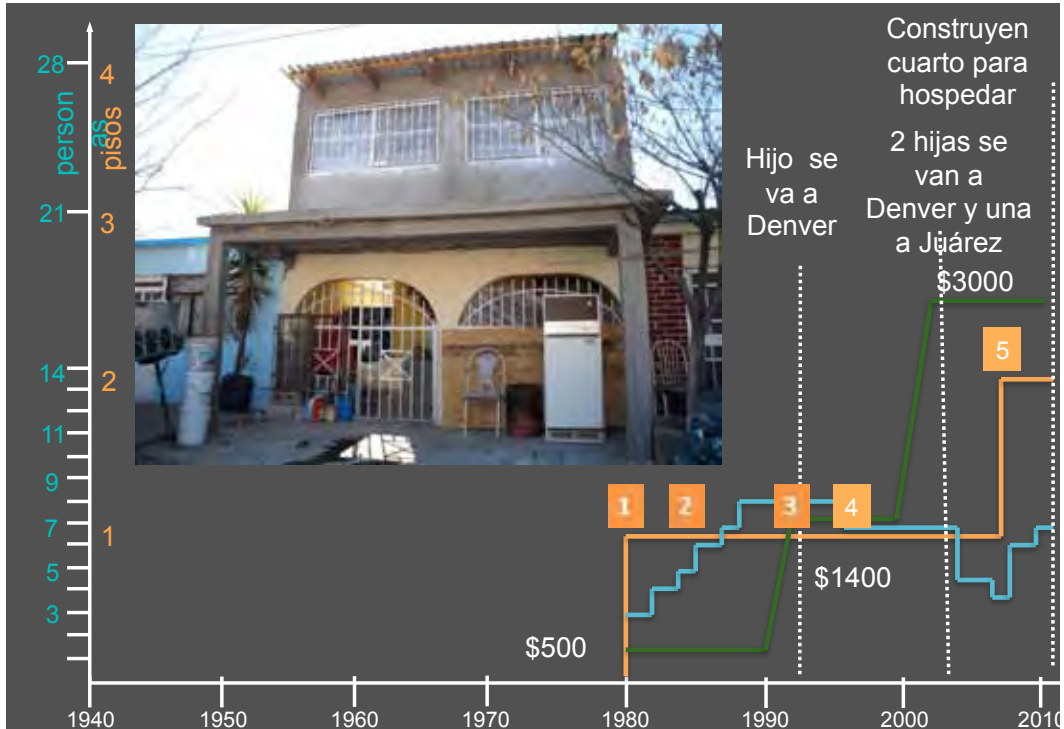


# INICIO DE COLONIA EN 1970

## Francisco Villa, Chihuahua México

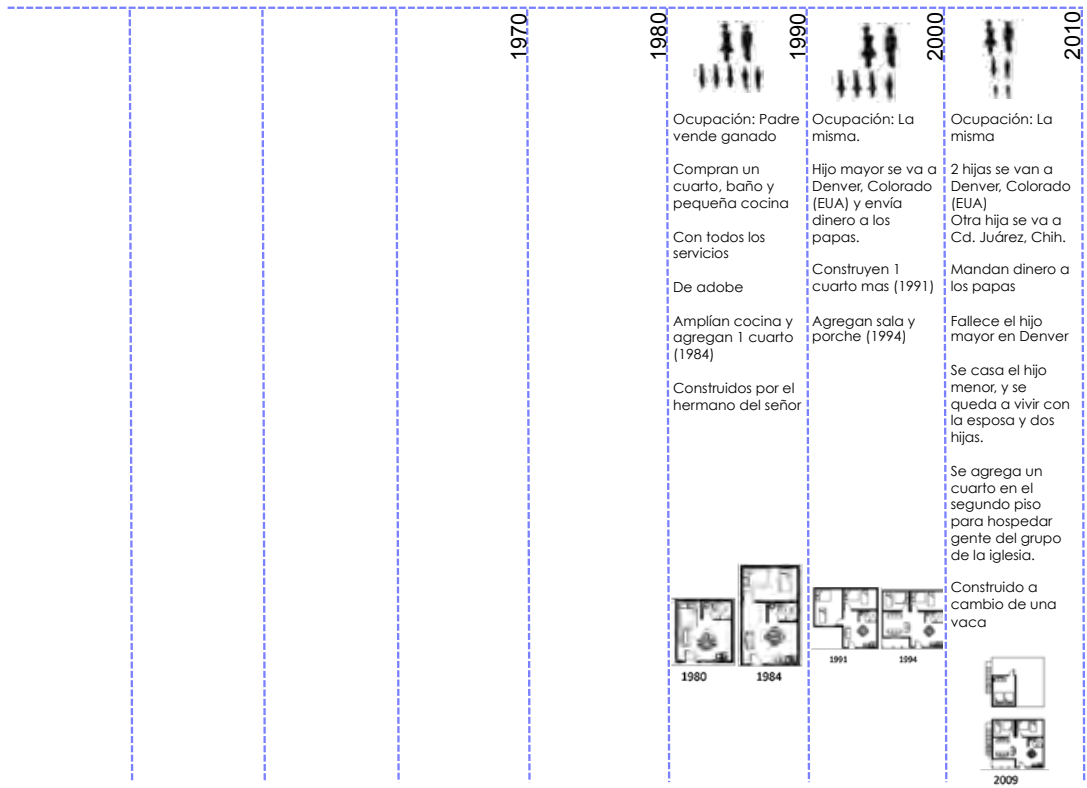


Colonia que comenzó por invasión. No contaba con los servicios primarios.



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### Vivienda Consolidada

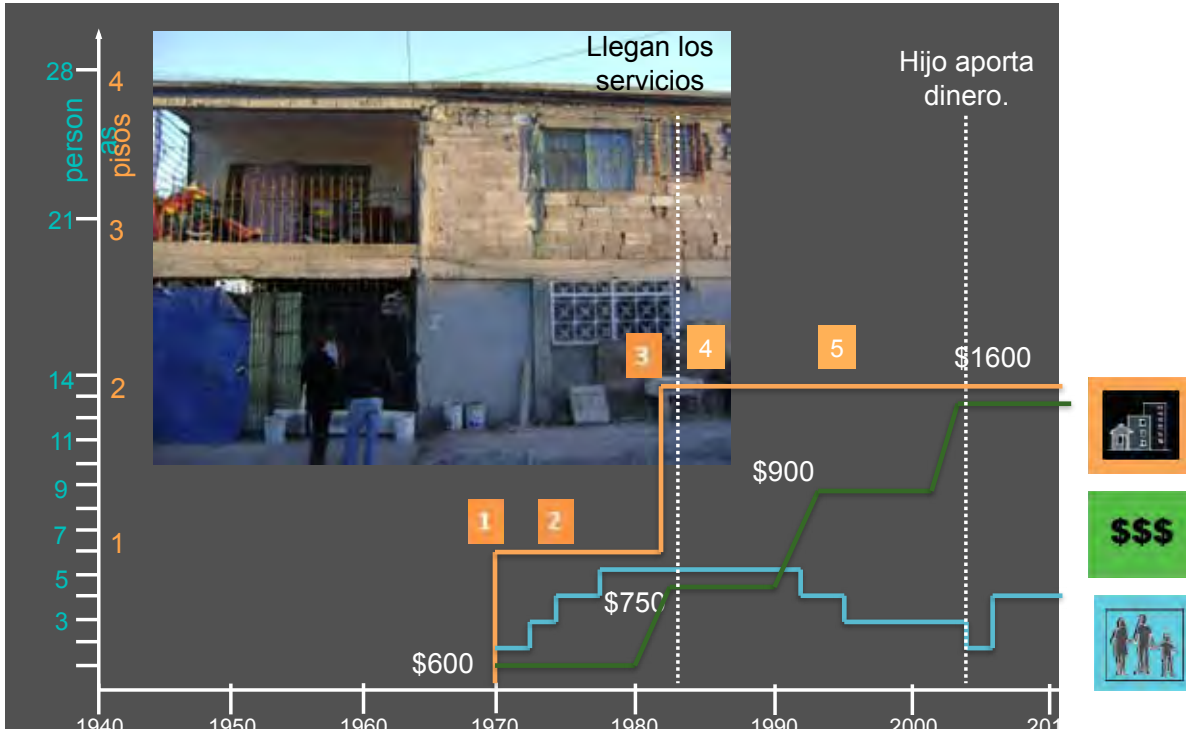


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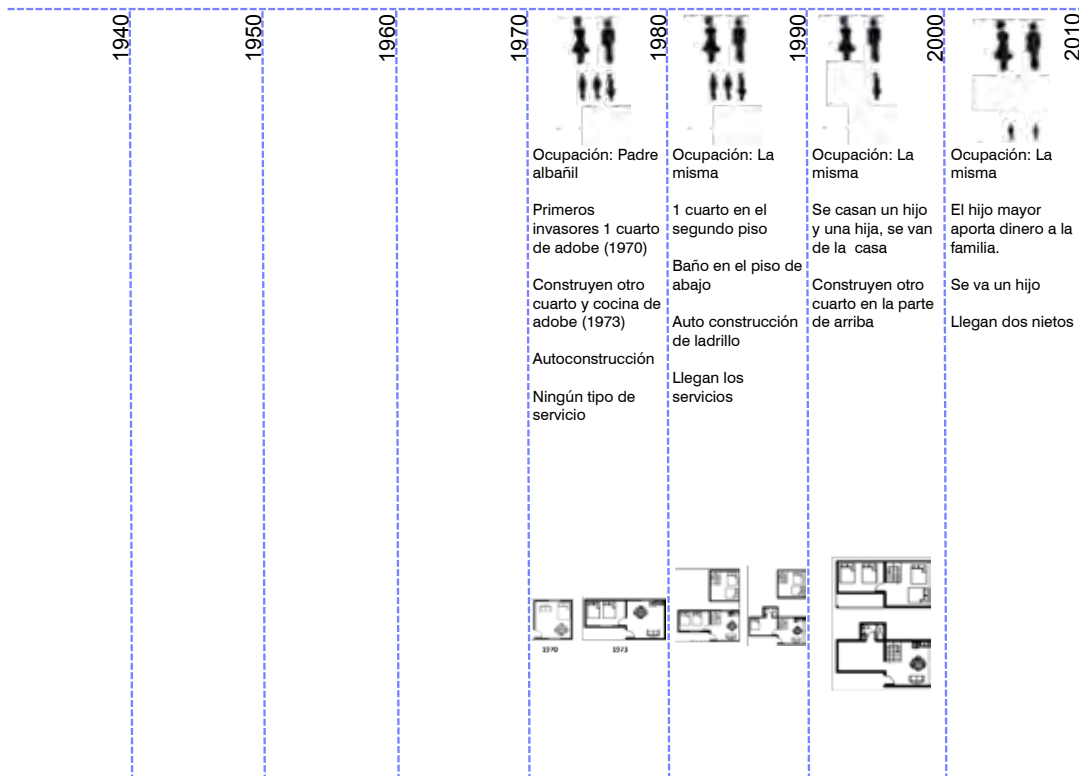
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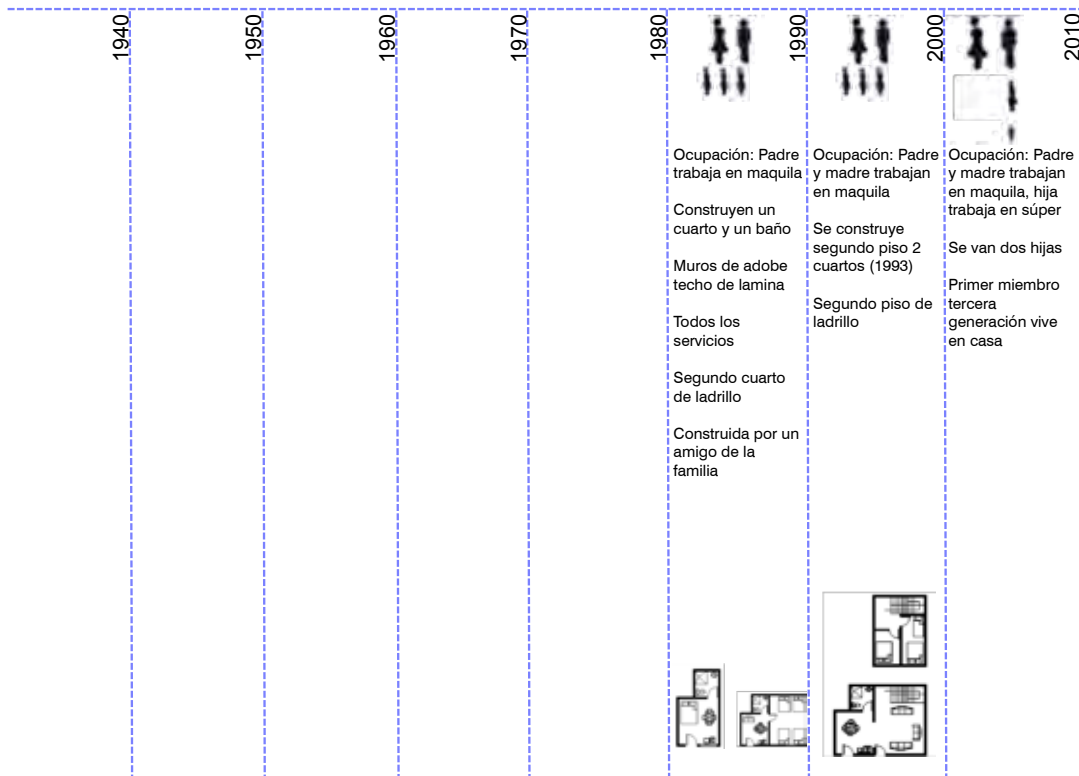
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## **Lessons for Planning**

City needs to provide adequate infrastructure before people move in.

Planning should be the source of public urban policies and city attendance should be guided by such policies.

All urban needs should be measured and monitored to provide adequate governmental distribution of funds.

Public policies must promote social networks, self-help solutions, energy and water saving and local resources conservation.

Sanitation should be an important priority.

Make possible affordability of construction materials, lower costs, higher quality and adequate to climate.

University involvement: Include field research for feed back on city planning; include formal courses on best practices and theoretical issues.

## Characteristics of Housing:

- Have secure land tenure or an expectation of getting it.
- Additional income by second or third generation employment
- Income from small home business, or second or third generation employed in the US.

When asked:

***“How much would you sell your house for?”***

Three out of four answered:

***“Houses are for living, not for selling”***

***“My house is a dream come true, and here is where 30 years of my family’s efforts are.”***

**Emilio B. Guerra-Sousa** is a Mexican engineer-architect based in Chihuahua City. In 1970 he focused on social work in low-income settlements on the city's periphery searching for alternative technologies for labor-intensive self-help housing construction. He developed a workshop where families shared loans, low-cost materials, technical assistance and teamwork. The housing construction developed into a neighborhood organization for introduction of water and sewer networks. He received his Civil Engineer degree from Chihuahua State University in 1974. In 1976 MIT accepted him in the Master's Program Urban Settlement Design.

His professional work in Mexico includes national, state and local consulting for field research, diagnosis and project implementation on a broad range of areas including urban poverty policies, public works and urban planning. He has worked as consultant for the World Bank in Salvador, Costa Rica and Peru and for KfW-Germany in El Salvador. At present he runs BGS Estudios Urbanos a small consulting firm.

