

**How to Read the Self-building Manual:
Houses, Self-builders, and Experts in Mexico**

by

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Abstract

A self-building manual is a book written by an expert, such as an architect, an engineer, or a planner, to teach a non-expert how to build their own house. This thesis examines and reimagines these documents as a distinct form of architectural representation, entailing specific forms of production, circulation, and reception.

I track the history of the self-building manual within the Mexican social, economic, and political context, as well as the national housing policy and discussions regarding self-help and self-built housing both in Mexico and abroad. I carry out a close reading of three of the most widely distributed manuals: the *Peasant's Manual*, the *Housing Handbook*, and the *Manual for Housing Self-Building and Improvement*. This thesis argues that while these books were meant to disseminate information, bridge knowledge gaps, and ultimately empower people, they end up doing the opposite. By representing a self-builder as a perpetual non-expert, these manuals prevent their audience from entering the realm of professional construction. Additionally, they misrepresent how allegedly self-built housing is produced.

Based on these findings as well as fieldwork with Tosepan and Antorcha Campesina, two communities that are producing housing that is neither social (produced by the state) nor commercial (produced by developers), this thesis provides a new kind of self-building manual. *The Atlas of Housing Production* is an inventory of existing protocols for producing housing in Mexico. *The Atlas* describes the processes of financing, sourcing materials, designing, and organizing labor to build a house, as they are carried out by Tosepan, Antorcha Campesina, commercial banks, government agencies, and real estate developers. Rather than prescribing a single, ideal solution, *The Atlas* presents a set of equally valid possibilities, flattening the hierarchy between allegedly expert and non-expert knowledge. By laying bare the virtues and shortcomings of each of these processes, *The Atlas* gives agency to its users, allowing them to make informed decisions on how they wish to obtain a house. Finally, by splitting the process into its component parts, *The Atlas* allows its readers to recombine them for imagining new forms of housing production.

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For Pepe, my father, with much admiration

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Contents

Part 1

Introduction: The Self Building Manual as Architectural Representation	12
The Self-Building Manual in Mexico Since 1930	14
The Peasant's Manual: The Rural Manual (1930-1950)	16
Cartilla de la Vivienda: The International Manual (1940-1980)	18
Manual for Housing Self-Building and Improvement: The Market Manual (1980-). . .	21
Close Reading the Manual	26
Land ownership.	26
Construction materials and techniques	29
The Self-Builder	30
The Expert.	32

Part 2

Building from the Self-Building Manual	36
The Atlas of Housing Production.	42
Videos From The Atlas of Housing Production	46
Financing Your House With a Commercial Bank	74

Appendices

Appendix A: Video Scripts for The Atlas of Housing Production	88
Securing Land Ownership With Tosepan	88
Securing Land Ownership With Antorcha Campesina	88
Sourcing Construction Materials With Tosepan.	89
Sourcing Construction Materials With Antorcha Campesina	90
Designing and Managing Construction With Antorcha Campesina.	91
Appendix B: Photos of Cuetzalan	92
Appendix C: Photos of Chimalhuacán.	95

Bibliography	100
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Part 1

Introduction: The Self Building Manual as Architectural Representation

A self-building manual is a book written by an expert, such as an architect, an engineer, or a planner, to teach a non-expert how to build their own house.

Because they distribute architectural designs, self-building manuals are similar to architectural pattern books. However, while pattern books are meant to popularize designs between architects, builders, and clients, self-building manuals address a reader who will build a house without any prior knowledge. The self-building manuals that I present in this thesis are also different from the ones published by the United Nations (UN), such as the famous *Manual on Self-Help Housing*.¹ While many of the UN manuals were written by foreign experts to teach local government officials how to conduct self-help housing programs in their respective countries, the ones produced in Mexico address their reader directly and were predominantly distributed outside any kind of so-called 'assisted' self-help programs.²

As a form of architectural representation, the self-building manual provides a unique window into how architects have understood, represented, and ultimately constituted themselves, the non-expert self-builder, and self-built housing in Mexico. Because the architects who write these documents directly address a non-expert reader instead of another professional, the manuals reveal their authors' assumptions about self-builders. Furthermore, in contrast to construction documentation, self-building manuals include not only architectural drawings but also expand the scope of what constitutes a house: how to procure its land, how to finance it, what materials to use, how to build it, and how family dynamics should be organized spatially. Additionally, given that manuals are published as books, they allow architects to reach a wide audience cheaply and easily.

Although the interest in the self-building manuals has not waned, with new ones being written every year and many of the older ones being re-edited or remaining in print, very little has been written about them. In 2016, Mexican anthropologist Pablo Landa made a survey of 31 self-building manuals for the

1. United Nations and Department of Economic and Social Affairs, *Manual on Self-Help Housing* (New York, United Nations, 1964).

2. While the terms self-help and self-built housing are often used interchangeably, self-help usually refers to the aided programs where families build a house with help from the state or another institution, while self-built refers more generally to structures built without an architect.

Mexican Pavilion at the Venice Biennale, which dealt with participatory design in Mexico. However, Landa's work, which was published digitally by Laboratorio de la Ciudad, only includes a short description of each manual and the social, economic and political context in which each of the manuals appeared.³ Identifying this gap in the literature, I build upon Landa's work. Focusing on three of the most widely distributed manuals—the *Peasant's Manual* (1936),⁴ the *Housing Handbook* (1954)⁵, and the *Manual for Housing Self-Building and Improvement* (1984)⁶—I contextualize them in the national housing policy and the literature regarding self-built and self-help housing, both in Mexico and abroad. Additionally, I carry out a close reading of these three manuals to track how their prescriptions have transformed over time.

3. Pablo Landa et al., *Poder Sobre El Espacio: Cinco Manuales Para El Trabajo Colaborativo*, ed. Pablo Landa (Laboratorio para la Ciudad, 2018).

4. Ramón Galaviz and José Moya, *Manual Del Campesino* (México D.F.: SEP: Comisión Editora Popular, 1936).

5. Félix Sánchez Baylón and Aquiles Mireles E., *La Cartilla de La Vivienda* (Bogotá: Banco Nacional Hipotecario Urbano y de Obras Públicas (BNHUOP-SA), 1954).

6. Marco Aurelio Torres Herrera et al., *Manual de Autoconstrucción y Mejoramiento de La Vivienda* (CEMEX and UNAM, 1984).

The Self-Building Manual in Mexico Since 1930

In this section, I track the national housing policy and review the literature regarding self-built and self-help housing, both in Mexico and abroad. To do this, I have selected three of the most widely distributed manuals, which also correspond to three different moments in the history of Mexico since the Revolution. First, the *Peasant's Manual* (1936) corresponds to the period after the Mexican Revolution when most of the country was rural and the countryside was becoming urbanized under the *ejido*, a newly established form of land tenure. Second, the *Housing Handbook* (1954) was published as a in international collaboration with the Pan American Union at a moment when the housing produced by the Mexican welfare state was insufficient to address the urban migration and population explosion. Third, the *Manual for Housing Self-Building and Improvement* (1984) emerged in a moment of intense economic liberalization, which has continued to this day.

1934: Construcciones rurales by Carlos Leduc (Secretaría de Educación Pública)

1936: Manual del campesino by Víctor José Moya y Ramón Galaviz (Secretaría de Educación Pública)

1934: La cartilla de la vivienda by Félix Sánchez Baylón et al. (CINVA, Colegio de Arquitectos, Sociedad de Arquitectos, IMSS, Arquine, UNAM)

1970: Manual de plomería by Secretaría de Salubridad y Asistencia

1970: Manual de plomería by Secretaría de Salubridad y Asistencia

1978: Manual de auto-construcción by Carlos Rodríguez R. (Banco Nacional de Obras y Servicios Públicos)

1978: Manual para la construcción de escuelas by CONESCAL

1984: Manual de autoconstrucción y mejoramiento de la vivienda by Aurelio de la Fuente, et al. (CEMEX and UNAM)

1985: Proyecto de reconstrucción de las colonias Guerrero y Morelos by Unión de vecinos de la colonia Guerrero and UPIICM-PM

1985: Asambleas de vecindad by Unión de vecinos de la colonia Guerrero

1981: Manual para la construcción de vivienda rural by Valeria Prieto (COPLAMAR)

1988: Sistema tanda-préstamo by CENVI (CENVI)

1990: Domando el peligro con prevención by ICA (ICA)

1999: Manual de la vivienda con materiales tradicionales, La Venta, Jocotitlán, Estado de México by Guillermina Rosas López et al. (UNAM)

2000: Mi casa. Manual de autoconstrucción by Apasco y Universidad de Coahuila (APASCO, Federación de Colegios de Arquitectos de la República Mexicana, Colegio de Arquitectos de la Ciudad de México)

2007: Transferencia de tecnología y divulgación sobre técnicas para el desarrollo humano y forestal sustentable by Juan Casillas Pintor (Comisión Nacional Forestal)

2010: Aprendiendo en familia. Guía de autoconstrucción de vivienda by SMIE, CONAVI, and CONACYT (SMIE, CONAVI, and CONACYT)

2015: ¿Cómo llevar a cabo el trabajo con grupos en mi comunidad? by Miriam Viridiana Rosas García y Leticia Cruz Rodríguez

2016: Manual de autoconstrucción en adobe by Cooperación Comunitaria A.C.

2016: Diseñando mi casa. Manual de autoconstrucción de vivienda by Paloma Vera and Juan Carlos Cano (A Trabajar)

2016: Instalar un consultorio arquitectónico by David Mora Torres (CAVI)

2016: Armando Casas by Roberto Rodríguez, and Ximena Davis

Self-building manuals since the 1930s.

The Peasant's Manual: The Rural Manual (1930-1950)

The story of modern housing in Mexico starts with the 1910 Mexican Revolution, an agrarian fight to achieve land reform and redistribution. This conflict resulted in the Constitution of 1917, which, included the workers' right to housing for those formally employed by requiring employers to provide adequate lodging to all laborers.⁷

By the 1930s, president Lázaro Cárdenas was implementing many of the revolutionary ideals, including the redistribution of land. However, instead of returning the land to the indigenous peoples of Mexico, which is what the Zapatista faction had fought for, the post-revolutionary government implemented the *ejido*, a form of collectively held, state-controlled landholding, allegedly based on an indigenous form of land ownership. Instead of granting unrestricted property rights to the peasants, a federal bureaucracy directly supervised all aspects of rural community life in the *ejido*, allowing the state to hold a strong influence over vast national territories.⁸ Now that land was being expropriated and turned over to peasants, the country had to be modernized, and Mexican peasants became crucial for this task.

It is in this context that the *Peasant's Manual* was published. Written by the engineers Ramón Galaviz and Víctor José Moya and sponsored by the Public Education Secretariat, this book addresses the peasant directly, and it lays out how to build houses and other rural constructions including dams, chicken coops, playgrounds, and furniture.

7. "In every agricultural, industrial, mining or similar class of work employers are bound to furnish their workmen comfortable and sanitary dwelling-places for which they may charge rents not exceeding one-half of one per cent per month of the assessed value of the properties. They shall likewise establish schools, dispensaries and other services necessary to the community. If the factories are located within inhabited places and more than one hundred persons are employed therein, the first of the above-mentioned conditions shall be complied with."
Mexico, ed., *Mexican Constitution of 1917* (Washington, D. C, 1917), 12.

8. Emilio Kourí, "La invención del ejido," *Nexos*, January 1, 2015, <https://www.nexos.com.mx/?p=23778>.



Peasant's Manual cover.
Galaviz and Moya, *Manual Del Campesino*

As housing historian Richard Harris points out, although self-help housing is usually thought as emerging in 1960s in the context of the Third World, which is when the term 'self-help housing' emerged, similar policies were already being adopted in the Soviet Union, Vienna, and Stockholm in the aftermath of the First World War.⁹ Although it is uncertain whether these ideas influenced the Mexican self-building manuals directly, many of the solutions that the Peasant's Manual intended to popularize were already present in contemporary ideas that can be thought of as part of the self-help housing discussion. For example, the so-called progressive house, a home that can be expanded over time, can be traced back at least as early as German architect's Martin Wagner's 1931 Growing House, which appeared in Germany at the height of the Great Depression.

9. Richard Harris, "Self-Building in the Urban Housing Market," *Economic Geography* 67, no. 1 (January 1991): 1, <https://doi.org/10.2307/143633>.



Men building a house near Mexico City, ca. 1940. *Hombres Construyendo Casa*, Ca 1940, 12.7 x 17.8 cms, Ca 1940, Fototeca Nacional, https://mediateca.inah.gob.mx/islandora_74/islandora/object/fotografia%3A399247.

Cartilla de la Vivienda: The International Manual (1940-1980)

While the self-building manuals from the 1930s were designed to develop and modernize the countryside, the ones from the 1940s to the 1970s were mostly produced to deal with the urban housing shortage caused by unprecedented population growth and urban migration: from 1940 to 1980, the urban population in Mexico grew from 4.0 to 34.6 million, an almost ninefold increase.¹⁰ During the last years of this period of sustained economic growth, also known as the Mexican Miracle, the institutions that would briefly produce social housing such as the Institute of the National Housing Fund for Workers (*Instituto del Fondo Nacional de la Vivienda para los Trabajadores*, INFONAVIT) and the Institute for Social Security and Services for State Workers (*Instituto de Seguridad y Servicios Sociales de los Trabajadores del Estado*, FOVISSSTE). As it came to be, these institutions barely made a dent in the housing shortage, and self-produced housing emerged as a viable alternative.

Between the 1940s and 1970s, self-help housing programs were being widely discussed and organized internationally. In the United States, the American Housing and Home Finance Agency had its own self-help housing programs, including the one in Puerto Rico for which the influential *Aided Self-Help Shelter Improvement in Tropical Puerto Rico* was written.¹¹ Similarly, the UN produced the *Manual on Self-Help Housing*.¹² These and other self-housing programs were studied by lawyer, urbanist, and housing expert Charles Abrams, who participated in the UN housing missions and saw core housing, a version of self-help housing in which an expensive 'core' such as a roof is provided, as the better alternative to completely self-built schemes.¹³ Later, this idea would find a different conception with architect John F.C. Turner, who saw the potential for a kind of anarchist mutual aid utopia achievable through dweller control of the housing process.¹⁴

In 1954, the Mexican Urban and Public Constructions National Mortgage Bank published the *Housing Handbook (Cartilla de la Vivienda)* coordinated by Mexican architect Félix Sánchez Baylón. This manual was produced in collaboration with the Interamerican Center for Housing and Urban Planning (CINVA) in Bogotá, which was part of the Technical Assistance Program of the Pan American Union (now Organization of American States)

10. Jaime Sobrino. "La Urbanización En El México Contemporáneo" (Reunión de expertos sobre población territorio y desarrollo sostenible, Santiago, Chile, August 16, 2011).

11. United States, Housing and Home Finance Agency, and Office of the Administrator, *Aided Self-Help Shelter Improvement in Tropical Puerto Rico* (Washington, D.C.: U.S. Housing and Home Finance Agency, Office of the Administrator, 1950).

12. United Nations and Department of Economic and Social Affairs, *Manual on Self-Help Housing*.

13. Charles Abrams, *Man's Struggle for Shelter in an Urbanizing World* (MIT Press, 1964).

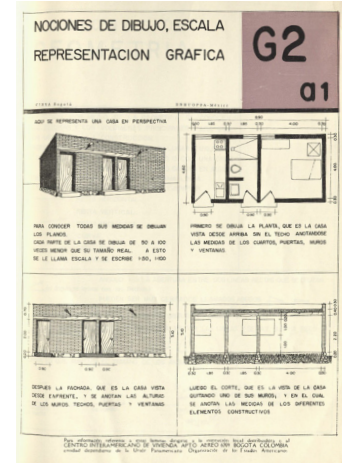
14. John FC Turner and Robert Fichter, *Freedom to Build: Dweller Control of the Housing Process* (Macmillan, 1972).

and famously produced the CINVA-RAM, a tool for making compressed earth building blocks.¹⁵ Interestingly, this manual was based on the *Handbook for the National Campaign Against Illiteracy (Campaña Nacional contra el Analfabetismo)*, an extremely successful literacy campaign led in the 1940s by the prominent writer and politician Jaime Torres Bodet, who went on to become head of UNESCO. According to the Mexican government's logic, now that the population had learned to read and write, they needed to learn how to make their own house.



While many of the earlier manuals were written by engineers, architects became more active in the discussions about self-building in this period. Often in cooperation with international development organizations such as the United Nations, designers were now advocating for the importance of professional design in self-building. While the authors of the Peasant's Manual were engineers, the coordinator of the *Housing Handbook*, Félix Sánchez Baylón, was notable as a practicing architect who designed the Faculty of Science for the National University, as well as multiple housing projects like Unidad Modelo, Jardín Balbuena y la Unidad Adolfo López Mateos.¹⁶ Outside Mexico, architect Christopher Alexander published his famous "pattern language" to help anyone design objects of any scale.¹⁷

15. Martha Liliana Peña Rodríguez, "The CINVA Program and the Community Action," *Bitácora Urbano Territorial* 1, no. 12 (2008): 185–92.



"Notions of drawing and scale: graphic representation". The *Housing Handbook* opens with a brief lesson on how to draw. Baylón and Mireles E., *La Cartilla de La Vivienda*

Left: Self-built housing in El Pedregal, Mexico City, ca. 1970
Fernando Díaz Enciso, *Las mil y una historias del Pedregal de Santo Domingo* (Mexico, D.F.: Consejo Nacional para la Cultura y las Artes, Dirección General de Culturas Populares e Indígenas Secretaría de Cultura de la Ciudad de México Unión de Colonos del Pedregal de Santo Domingo Centro de Artes y Oficios "Escuelita Emiliano Zapata," 2002)

16. "3 generaciones de arquitectura," ArchDaily México, July 6, 2017, <http://www.archdaily.mx/mx/875299/3-generaciones-de-arquitectura>.

17. Christopher Alexander, *A Pattern Language: Towns, Buildings, Construction* (Oxford university press, 1977).

Another example can be found in architect Yona Friedman's series of comic book-style manuals that teach people how to build their own homes and other structures, commissioned and distributed around the world by UNESCO. This work started in the late 1970s with pamphlets such as *Housing Is Everyone's Concern, but Particularly Yours* (1977) and *Immediate Education for Survival* (1978) and continued into the 1980s and 1990s with *Community Participation in the Construction of Educational Buildings* (1984) and the books *Roofs, Pt. 1* (1990) and *Roofs, Pt. 2* (1991), which compile many of his earlier ideas.¹⁸

Apart from the buildings which would be produced by the self-building manuals themselves, architects also saw the documents themselves as a space for their expertise as designers and communicators. In the preface to the *Housing Handbook*, Félix Sánchez Baylón explains many of their design decisions: the sheets are not glued together, but collected in a binder and printed on one side only so that the document can be expanded and the sheets can be pinned up at construction sites.¹⁹ Moreover, describing his own manuals, Yona Friedman admits that "in creating a manual, the most difficult work is to conceive the 'story board' which has to take into account the main features of the technique or method to be presented and the skills and resources available to the target public."²⁰

In 1970s Mexico, as the settlements established in the outskirts of larger cities in the 1940s and 1950s evolved, anthropologists and sociologists also contributed to the literature on self-building by looking at urban migration and life in the outskirts of cities. Two books which became very influential to how architects would think about self-building were *How Do Marginalized People Survive*, in which Larissa Lomnitz describes the strategies by which the urban poor solve their problems, and *Urban Struggle and Capital Accumulation*, edited by Jorge Alonso, a collection of anthropological accounts of settlements in Mexico City.²¹

The Mexican state continued to produce more manuals in the following decades, such as the 1970 *Plumbing Manual (Manual de plomería)* published by the Secretariat of Health and Assistance (Secretaría de Salubridad y Asistencia), and the 1978 *Self-building Manual (Manual de auto-construcción)*, which remains in print.

18. Yona Friedman, "Housing Is Everyone's Concern, but Particularly Yours" (Unesco, 1977); Yona Friedman, "Immediate Education for Survival" (Unesco, 1978); Yona Friedman, "Community Participation in the Construction of Educational Buildings" (Unesco, 1984); Yona Friedman, *Roofs, Pt. 1* (Unesco, 1990); Yona Friedman, *Roofs, Pt. 2* (Unesco, 1991).

19. Sánchez Baylón and Mireles E., *La Cartilla de La Vivienda*, sec. Prefacio.

20. Yona Friedman, "Communication Centre of Scientific Knowledge for Self-Reliance." *Leonardo* 19, no. 4 (1986): 335, <https://doi.org/10.2307/1578382>. through-wall posters, training manuals and other methods, makes information for the improvement of living conditions available in developing countries." container-title": "Leonardo"; DOI": "10.2307/1578382"; ISSN": "0024094X"; issue": "4"; journal-abbreviation": "Leonardo"; language": "en"; page": "333"; source": "DOI.org (Crossref

21. Larissa Adler De Lomnitz, *Cómo Sobreviven Los Marginados* (Mexico: Siglo XXI, 1975); Jorge Alonso, ed., *Lucha Urbana y Acumulación de Capital* (Mexico: Ediciones de la Casa Chata, 1980).

Manual for Housing Self-Building and Improvement: The Market Manual (1980-)

The 1980s inaugurated a period of intense economic liberalization, which continues to this day. Additionally, the constitutional right to housing was extended to every Mexican family, and this right was to be materialized through secure property rights and market solutions for housing. The state would make subsidized mortgages available to formal workers, and the real estate market would organize to meet the demand for affordable housing. This, in turn, would allow homeowners to accumulate capital and incorporate into the formal economy. Internationally, perhaps the most notable advocate for these solutions in Latin America was Hernando de Soto, who famously argued for secure property rights in Peru.²² In order to enact these policies, major state agencies formerly in charge of producing social housing, such as INFONAVIT and FOVISSSTE, stopped building their own projects and became subsidized mortgage lenders. While these policies made some economic sense, incorporating large swaths of the population into the formal economy proved impossible, and far from solving the housing problem, these policies would eventually result in the proliferation of sub-standard houses.²³

22. Hernando De Soto, *The Other Path: The Economic Answer to Terrorism*, Reprint edition (New York, NY: Basic Books, 2002).

23. By 2010, there were an estimated five million abandoned homes in Mexico, most of which were made by developers taking advantage of these policies. Consejo Nacional de Evaluación de la Política de Desarrollo Social, *Estudio Diagnóstico Del Derecho a La Vivienda Digna y Decorosa 2018* (Ciudad de México: CONEVAL, 2018).



Houses in Víctor Puebla, State of Mexico, in the outskirts of Mexico City.
Photo: Arturo Ortiz Struck

In 1984, the first edition of the *Manual for Housing Self-Building and Improvement* was published by National Autonomous University of Mexico (UNAM) and the Mexican cement company Tolteca, now Cementos Mexicanos (CEMEX) for the millions of families who were not buying a house in the formal market through these subsidized credits. It was coordinated by civil engineer Marco Aurelio Torres Herrera, motivated by his discovery of the fact that most of the cement being sold was being bought by individual buyers and not large construction companies. This manual has been updated and reedited as recently as 2017 and is perhaps the most widely distributed Mexican housing manual.

Universities also became key to the development of the manual, developing and publishing many of these books. Five years prior to the publication of the 1984 *Manual for Housing Self-Building and Improvement*, co-edited by the architecture faculty at UNAM, Autogobierno, a group of students and young faculty members formed in the aftermath of the 1968 student protests to build an alternative curriculum, reedited a manual for building adobe houses originally published in Peru.²⁴ Similarly, Universidad La Salle edited *Construction Materials and Procedures (Materiales y Procedimientos de Construcción)*, a textbook for teaching construction to architects.²⁵ Conversely, these documents have been used in the university setting to teach building techniques. *The Barefoot Architect*, (*Manual del arquitecto descalzo*), a popular self-building manual by the Dutch architect Johan van Lengen, written and originally published in Mexico in 1982, has been used to teach “green architecture” in classes such as Juan Casillas courses at Universidad Iberoamericana.²⁶

This period of liberalization also saw a proliferation of manuals arguing against many of the ideas promoted by the popular books published by the state and cement companies, a criticism which continues into the present. In response to their prescription of houses made of concrete masonry unit (CMU) and cement, a series of manuals for traditional materials have emerged, such as the 1981 *Manual for Rural Housing (Manual para la construcción de vivienda rural)* by Valeria Prieto, and the 1999 *Manual for Housing With Traditional Materials (Manual de la vivienda con materiales tradicionales)* by Guillermina Rosas López. Instead of addressing this problem with broad,



The cover of the 2017 edition of the *Manual for Housing Self-Building and Improvement* features the logos of all the brands of cement produced by CEMEX.

Manual for Housing Self-Building and Improvement (1984)
Galaviz and Moya

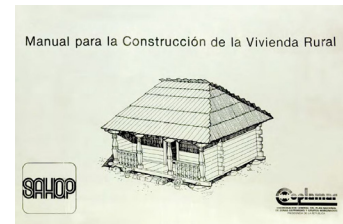
24. Víctor Jiménez M., ed., 2. *MANUAL PARA LA CONSTRUCCIÓN DE VIVIENDAS CON ADOBE*, Arquitectura y Autogobierno. Cuadernos de Material Didáctico. 10 (Escuela nacional de Arquitectura-Autogobierno. UNAM., 1979).

25. While this book is not technically a self-building, it is often cited in subsequent self-building manuals, and its descriptions and language are very similar to later self-building manuals. Universidad La Salle (México, Mexico) Escuela Mexicana de Arquitectura, *Materiales y procedimientos de construcción* (Diana, 1984).

26. Johan van Lengen and Verónica Flores Morales, *Manual del arquitecto descalzo* (México, D.F.: PAX, 2011).

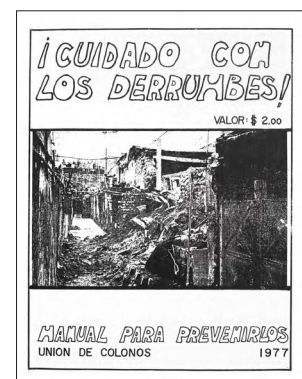
general solutions, the 2016 *Manual for Self-building With Adobe* (*Manual de autoconstrucción en adobe*) by Cooperación Comunitaria A.C. was designed for a traditional building technique in a specific region. Arguing against the almost exclusive focus on construction found in most manuals, newer manuals have focused on teaching people how to design, instead of simply how to build, their own house: *Designing my House* (*Diseñando mi casa*) by Paloma Vera and Juan Carlos Cano, *How to install an architecture office* (*Instalar un consultorio arquitectónico*) by David Mora Torres, and *Assembling Houses* (*Armando Casas*) by Roberto Rodríguez and Ximena Davis were all published in 2016. Finally, there have been manuals which were produced by members of neighborhood groups, such as the ones in Guerrero and Morelos, to self-organize in a moment when the state was absent, such as during the earthquake that hit Mexico City in 1985.

Along with other spaces for architectural discourse such as conferences, university courses, and other books, the self-building manual emerged as important medium in which ideas about self-built housing were defined and spread. As more diverse authors wrote documents of this kind, the self-building manual also became a space for contestation, in which experts discussed ideas about self-built housing by addressing—not each other, but the self-builder. Additionally, the recent proliferation of self-building manuals shows that these books have emerged as one of the default ways of intervention for architects, defining the social role of the architect in Mexico as a communicator: someone who teaches people how to build or design properly through a book.



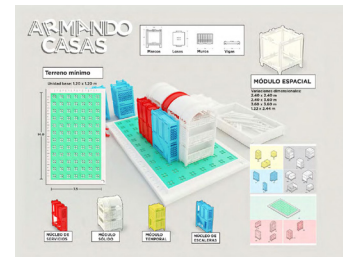
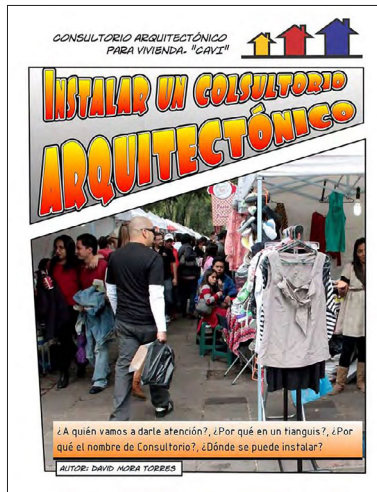
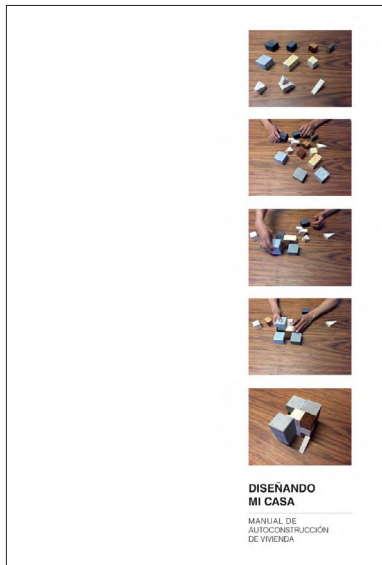
Top: *Manual for Rural Housing* (*Manual para la construcción de vivienda rural*) by Valeria Prieto and the 1999 *Manual for Housing With Traditional Materials* (*Manual de la vivienda con materiales tradicionales*) by Guillermina Rosas López both argue for traditional materials.

Bottom: The neighbors of Guerrero and Morelos in Mexico City, produced a series of self-building manuals for dealing with landslides and earthquakes.



Behind this logic, however, there is also an unproductive, naïve optimism that is perhaps best exemplified in the following quote from Mexican architect Javier Sánchez from an interview with Pablo Landa for the catalog of Mexican Pavilion at the 2016 Venice Biennale: “If we are capable of making a manual that people will genuinely use, if it is used in some of the 97% of constructions taking place without the participation of architects, we are reaching a far more extensive population than the 3% that constitutes our usual clients.”²⁷ The caveat that for the self-building manual to be effective, it would need to be “genuinely used” in 97% of all constructions makes this argument tautological: if a self-building manual had a great impact on the built environment, it would indeed have a great impact on the built environment.

27. Pablo Landa, Javier Sánchez, and Emiliano Godoy, “Manuales y Optimismo,” in *Despliegues y Ensamblajes: 15. Muestra Internacional de Arquitectura de La Bienal de Venecia* (Ciudad de México: Secretaría de Cultura, Instituto Nacional de Bellas Artes, 2016).



More recently, manuals have focused on design, rather than construction.

Designing my House (Diseñando mi casa) by Paloma Vera and Juan Carlos Cano, *How to install an architecture office (Instalar un consultorio arquitectónico)* by David Mora Torres, and *Assembling Houses (Armando Casas)* by Roberto Rodríguez and Ximena Davis

Close Reading the Manual

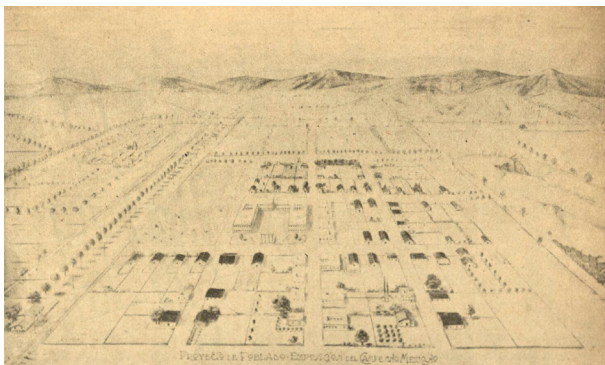
In this section, I do a close reading of the manuals described in the previous section: *The Peasant's Manual* (1936), *The Housing Handbook* (1954), and *The Manual for Housing Self-Building and Improvement* (1984). This allows me to track how certain instructions about how to produce a house changed across the twentieth century. First, by prescribing how to procure land, how to finance construction, and what materials to use for a house, the self-building manual offers a complete model of the process of building a house. Second, the self-builder, the non-expert who will be building the house, is addressed in these manuals. Finally, the voice of the expert emerges in relation to the self-builder.

Land ownership

Neither of these three manuals tells its reader how to procure land. The *Peasant's Manual*, the one most closely tied to land ownership, assumes that the reader already has secure property rights in the form of the collectively managed *ejido*. The book starts addressing the reader directly: "After long sacrifices, [the leaders of the agrarian reform movement] have put a plot of land in your hands, and now that you have it, they send you this book so that you learn how to make it flourish and teach yourself to live better. It is time to build: the fatherland and your children call you to duty."²⁸ On the other hand, the *Housing Handbook* completely ignores the subject, and the *Manual for Housing Self-Building and Improvement* only provides a warning to watch out for land that has legal problems or is in a hazardous area.

28. Galaviz and Moya, *Manual Del Campesino*, 7.

Left: "Peasant: Generals Lázaro Cárdenas and Saturnino Cedillo put, after long sacrifices, a plot in your hands, and now that you have it, they send you this book to make it flourish and teach you to live better." *Peasant's Manual* (1936). Right: "Make sure that the land is not located in a place where it is forbidden to build by the delegation or municipality, that it has no legal problems and that is not located in a hazardous zone that would put your family at risk." *Manual for Housing Self-Building and Improvement* (1984) Galaviz and Moya, 211; Torres Herrera et al., *Manual de Autoconstrucción y Mejoramiento de La Vivienda*, 6.

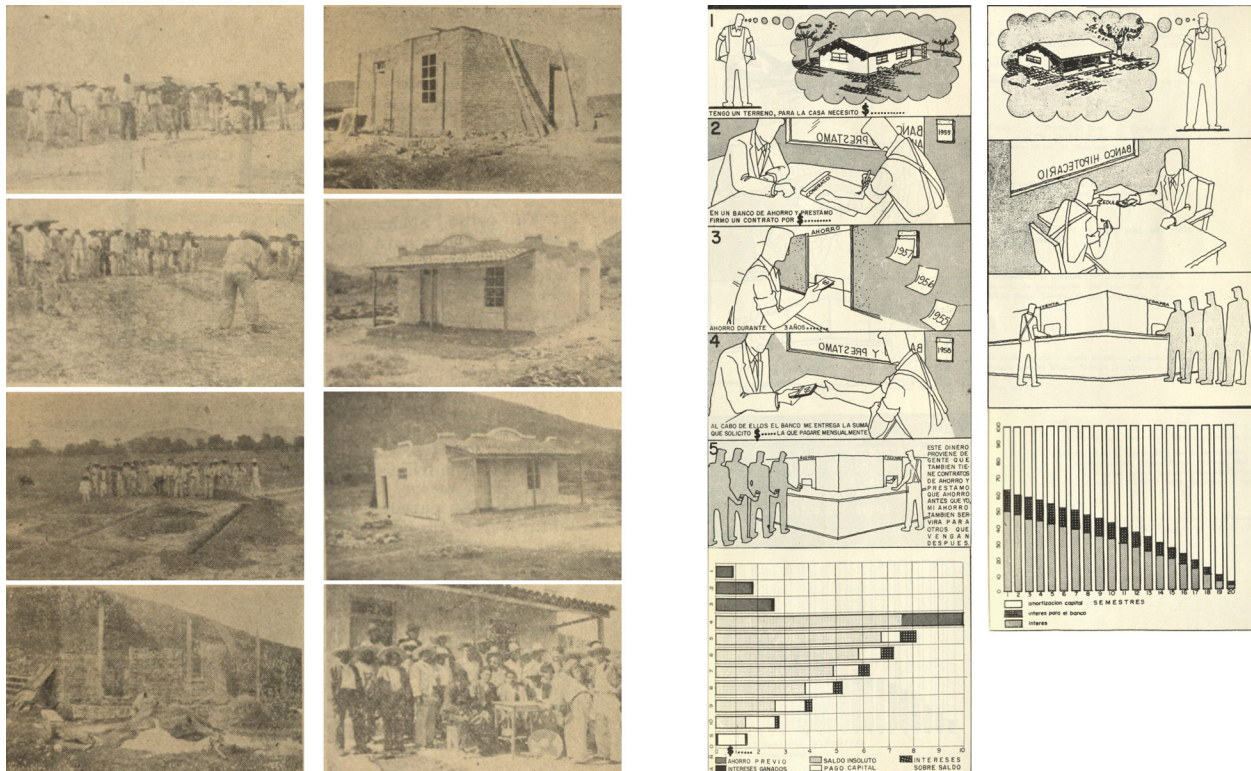


Financing and saving

In contrast to the procurement of land, all three manuals describe two systems for financing the construction of the house: a 'progressive house' that expands as the family grows, on one hand, and loans and mortgages on the other.

The *Peasant's Manual* and the *Housing Handbook* describe systems for saving and borrowing money. In the *Peasant's Manual*, there is a section that describes how to produce housing under the *tanda* system, a type of loan where everyone in a group contributes a periodic amount to a common "pot", which is handed out entirely to a member every period. Applied to housing, this means that the entire community collectively builds everyone's house, and each house is raffled when it is finished. The *Housing Handbook* presents its readers with a comic book explanation of banking.

Left: A model house was built with the *tanda* system is shown in *Peasant's Manual* (1936). Right: Saving and mortgages explained in *Housing Handbook* (1954). Galaviz and Moya, *Manual Del Campesino*, 92-94; Sánchez Baylón and Mireles E., *La Cartilla de La Vivienda*, sec. P12.



The progressive house, which appears in all three manuals, allows the self-builder to build slowly as more resources become available, and so the house itself becomes a way of saving, 'brick by brick' so to speak. This idea, which can be traced back at least as early as Martin Wagner's 1931 Growing House, has become one of the most persistently proposed solutions for the housing problem: among many other examples, it was introduced by the United Nations housing missions of the 1950s and 1960s,²⁹ and it is behind the iconic PREVI project in Lima and Alejandro Aravena's social housing projects. In the self-building manuals, although this system suggests the flexibility of adapting to the conditions that may arise later—an additional room can be added if a new family member arrives—the progressive houses proposed in these three books prescribe specific values. The expansive progressive house in the *Peasant's Manual*, which includes five bedrooms, a storage room, a granary, proposes a large heterosexual family: it begins with a single room for the children, which then becomes a room for the boys an additional room for the girls is added. The *Housing Handbook* offers a design that begins with a core and can be infinitely expanded in any direction (depending on factors like climate or topography) along a generic, modernist, square grid, with rooms that can accommodate any program. Finally, the significantly more compact house in *The Manual for Housing Self-Building and Improvement* is simply a house with a backyard onto which two rooms are eventually added.

29. Abrams, *Man's Struggle for Shelter in an Urbanizing World*.

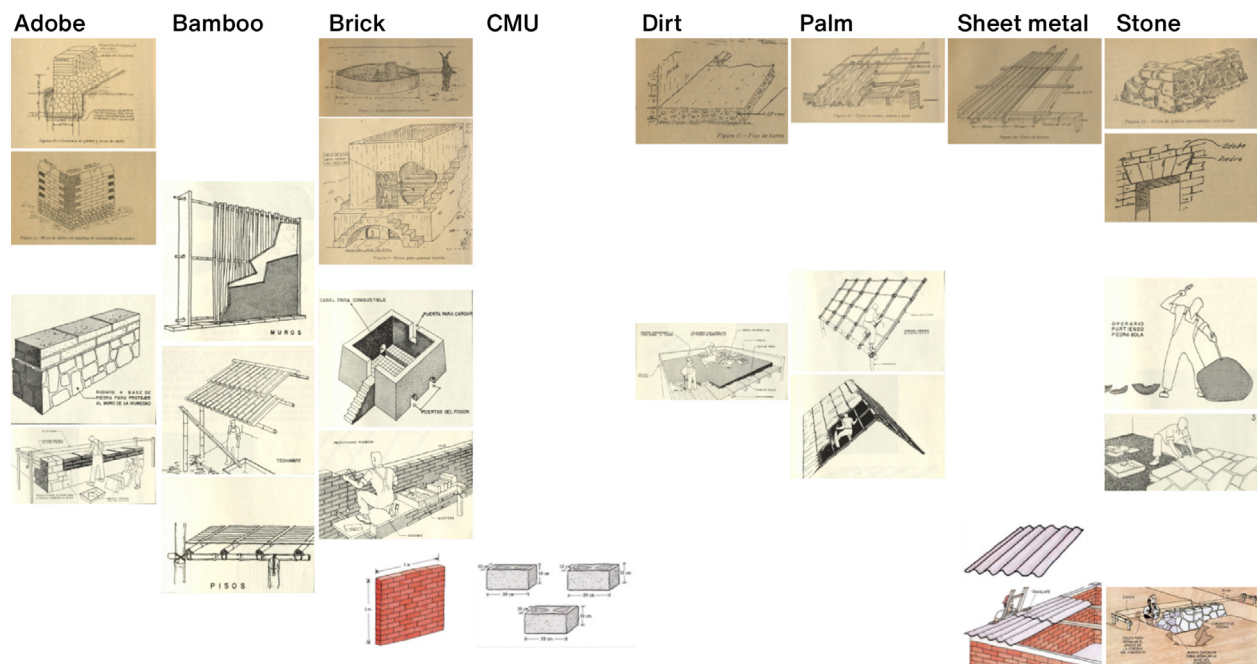
The "progressive house" in (from top to bottom): *Peasant's Manual* (1936), *Housing Handbook* (1964), and *The Manual for Housing Self-Building and Improvement* (1984). Galaviz and Moya, *Manual Del Campesino*, 66–76; Sánchez Baylón and Mireles E., *La Cartilla de La Vivienda*, secs. V3, V4, V5, V6; Torres Herrera et al., *Manual de Autoconstrucción y Mejoramiento de La Vivienda*, 263–65.



Construction materials and techniques

The manuals also contain prescriptions about materials. While the *Peasant's Manual* describes the broadest range of materials, including adobe for walls as well as bamboo and palm leaves for roofs, the *Manual for Housing Self-Building and Improvement* only contains industrial materials such as concrete and CMU. Additionally, the earlier *Peasant's Manual* and *Housing Handbook* both include instructions on how to extract and produce building materials: there is a section on finding and breaking down stone and another one for building a brick oven in either manual. On the other hand, the *Manual for Housing Self-Building and Improvement* expects its users to buy all their materials. This is part of a dynamic where the housing problem was moving to the cities and industrial materials were becoming more widely available. However, there was also an obvious incentive for cement companies to promote their own products in the self-building manuals that they themselves published.

Building materials in (top to bottom) *Peasant's Manual* (1936), *Housing Handbook* (1954), and *Manual for Housing Self-Building and Improvement* (1984). Galaviz and Moya, *Manual Del Campesino*; Sánchez Baylón and Mireles E., *La Cartilla de La Vivienda*; Torres Herrera et al., *Manual de Autoconstrucción y Mejoramiento de La Vivienda*.



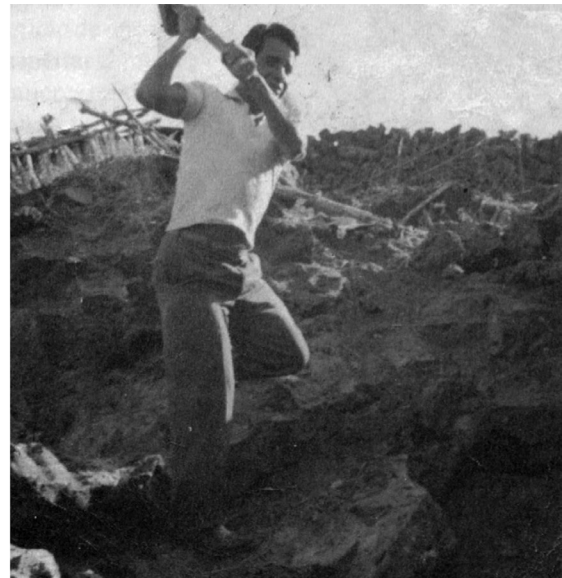
The Self-Builder

Because their reader is also the builder and the eventual inhabitant of the space, the manual turns the proverbial scale figure, who is usually abstract and low resolution, into a full-blown human, forcing the author to lay out in detail their assumptions about them. Through this process, the self-building manual bring into existence an imaginary character: the Mexican self-builder.

The self-building manuals all describe the modern building techniques that experts found more efficient and cost-effective. However, by also including some traditional building techniques—and only the ones deemed appropriate—the *Peasant's Manual* and the *Housing Handbook* present the self-builder as a blank slate: a person without neither traditional knowledge nor “scientific” or “modern” knowledge.

Left: How to split stone. *Housing Handbook* (1954). Right: Don Manzano splitting stone, ca. 1970 in *Las Mil y un Historias del Pedregal* by Fernando Díaz Enciso and the founding settlers (2001).

Sánchez Baylón and Mireles E., *La Cartilla de La Vivienda*, sec. C1; Fernando Díaz Enciso, *Las mil y una historias del Pedregal de Santo Domingo* (Mexico, D.F.: Consejo Nacional para la Cultura y las Artes, Dirección General de Culturas Populares e Indígenas Secretaría de Cultura de la Ciudad de México Unión de Colonos del Pedregal de Santo Domingo Centro de Artes y Oficios “Escuelita Emiliano Zapata,” 2002), 142.



In all three manuals, the self-builder is portrayed as an ever non-professional who builds their own house (individually or collectively) without engaging with the labor market. This characterization follows John F.C. Turner’s hopeful, anarchist logic of dwellers collectively shaping their own environments through mutual aid and self-determination. However, it fails to

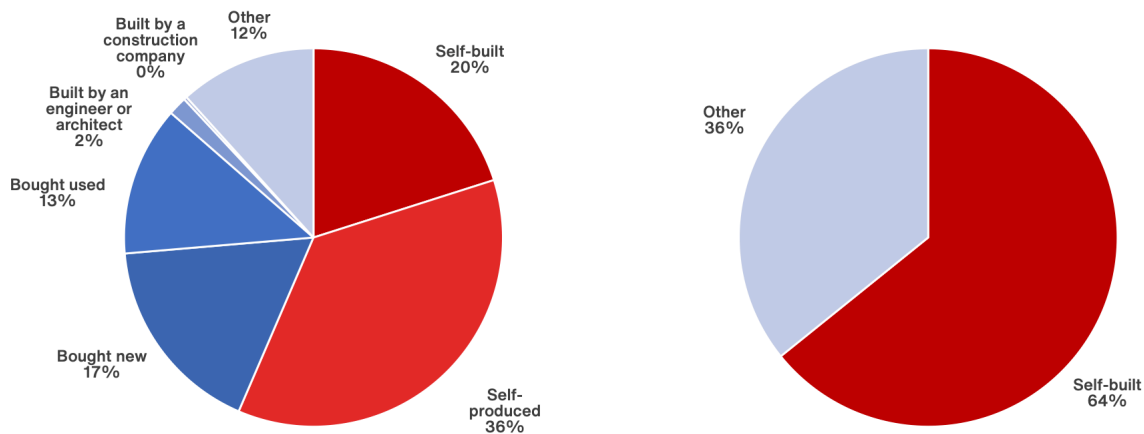
recognize reality: most of what looks self-built is produced by an organized labor market, which is sometimes more efficient than self-building.

The overrepresentation of self-building is not only present in the self-building manuals, and this problem is perhaps best exemplified in the *2018 Diagnostic Study on the Right to Dignified and Decorous Housing (Estudio Diagnóstico del Derecho a la Vivienda Digna y Decorosa 2018)*, the authoritative housing report produced by the National Council for the Evaluation of Social Policy (*Consejo Nacional de Evaluación de la Política de Desarrollo Social*, CONEVAL). The 2014 National Housing Survey (ENVI), carried out by the National Institute of Statistics and Geography (Instituto Nacional de Estadística y Geografía, INEGI), is the first large-scale survey to document in detail how houses were built or bought. This study distinguishes between self-built and self-produced housing. While self-building refers to houses that are produced “directly by their users, individually or collectively” self-production also includes “hiring third parties and self-building.” According to the results of this survey, 20.1% of all houses in the country are self-built, and 36.4% are self-produced.³⁰ This crucial distinction is lost in the study by CONEVAL, which misleadingly lumps these two categories together into “self-production,” stating that 64.2% of housing is produced this way.³¹

30. INEGI, “Encuesta Nacional de Vivienda (ENVI),” 2014, <https://www.inegi.org.mx/programas/envi/2014/default.html#Microdatos>.

31. Consejo Nacional de Evaluación de la Política de Desarrollo Social, *Estudio Diagnóstico Del Derecho a La Vivienda Digna y Decorosa 2018*.

Percentage of homes by their form of production. Left: graph prepared by the author with data from ENVI 2014 (INEGI). Right: graph from *Study on the Right to Dignified and Decorous Housing 2018* by CONEVAL using data from the same survey, ENVI 2014 (INEGI) INEGI, “Encuesta Nacional de Vivienda (ENVI);” Consejo Nacional de Evaluación de la Política de Desarrollo Social, *Estudio Diagnóstico Del Derecho a La Vivienda Digna y Decorosa 2018*.



The Expert

The manual does not only bring to life the self-builder. In relation to them, the expert behind the manual emerges. All three manuals are written in the second person, with the expert addressing the self-builder directly. In the *Manual for Housing Self-Building and Improvement* the expert even makes an appearance in the comic book-style drawings, wearing a white shirt and a black vest, balding, and giving instructions to the darker-skinned self-builder. In the other two manuals, the expert is not portrayed, perhaps speaking from a disembodied position of objectivity.

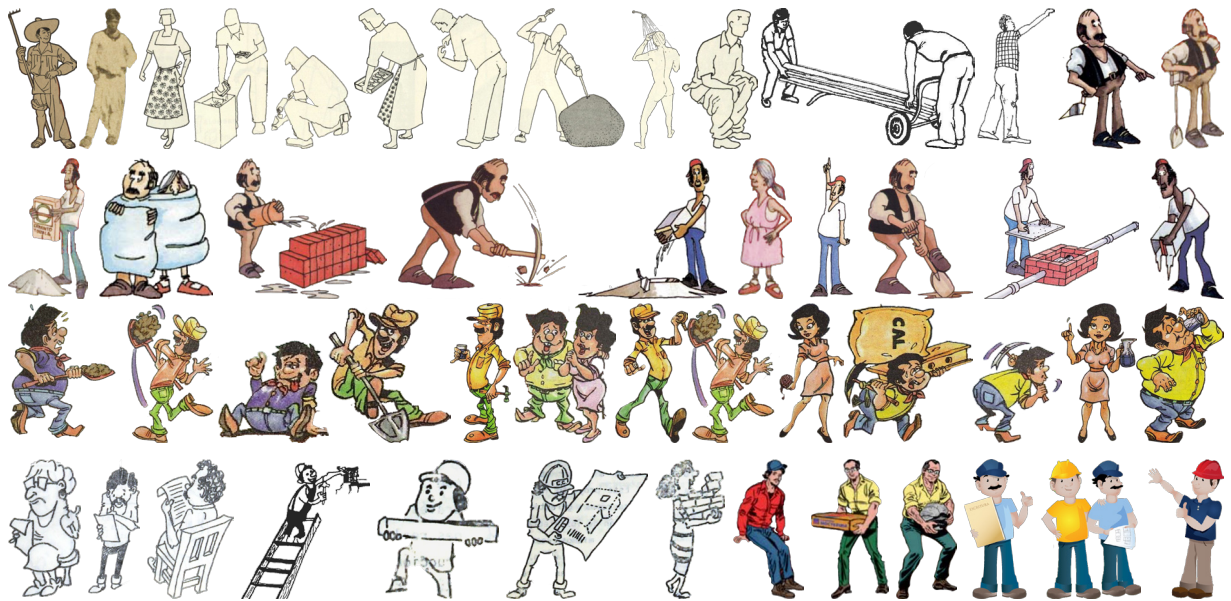
In these manuals, there is a distinct tension between the fantasy and fear of professional self-obliteration: if the manual worked, there would be no need for professionally trained architects anymore. In the *Housing Handbook*, the author addresses this contradiction: “We know that when this material is disseminated, there will be some people in the professional sector who criticize us for disclosing ‘professional secrets’, but this really should not matter to us, since the goal of the manual is a different one. More than 60% of our population lives in the countryside, in regions where the service of the construction professional does not arrive. It is that sector where our effort is directed.” That is, since the housing produced by the people who will use the manual exist in a different, non-professional realm, there is no competition and no threat.

Left: “One has to know where the lot ends so that we don’t invade someone else’s.” *Manual for Housing Self-Building and Improvement* (1984). Right: Surveyors measuring the neighborhood, streets, and lots, ca. 1970. *Las Mil y un Historias del Pedregal* by Fernando Díaz Enciso and the founding settlers (2001). Torres Herrera et al., *Manual de Autoconstrucción y Mejora-miento de La Vivienda*, 14; Díaz Enciso, *Las mil y una historias del Pedregal de Santo Domingo*, 114.



While these books were meant to disseminate information, bridge knowledge gaps, and ultimately empower people, they end up reinforcing differences in class and social position. By representing a self-builder as a perpetual non-expert, these manuals prevent their audience from entering the realm of professional construction. Additionally, they fail to acknowledge the reality of the condition in which allegedly self-built housing is produced, namely, that most of these houses are made not by the owner and a group of solidary neighbors, but by hired construction workers.

Self-builders and experts from self-building manuals, organized chronologically.



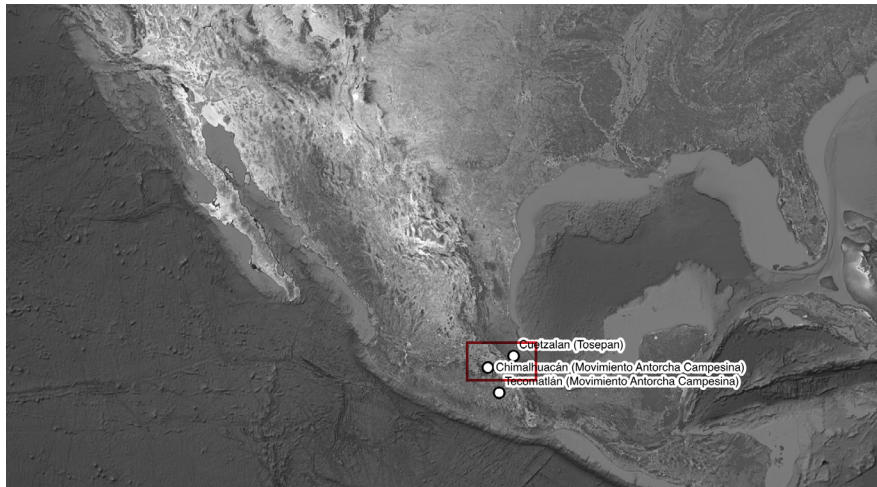
Part 2

Building from the Self-Building Manual

The new federal administration, under the presidency of Andrés Manuel López Obrador, who was inaugurated in 2018 as arguably the first left wing president in the history of the country, plans to move away from the policies of subsidized mortgages and market-based solutions of the last few decades. Instead, the new housing policy will be concerned with regional materials and techniques, as well as the needs of indigenous populations, among whom the percentage of unfit homes is 79.1%.³² Additionally, it will address diverse forms of production, including social housing, and most relevant for this work, assisted self-building.³³

Neither this problem—half of the Mexican population living in unfit homes—nor its solution—assisted self-building—are new. But with the latter making a comeback, I argue that it is essential that we reconsider self-building as a form of housing production by questioning and reimagining the potential of its essential elements: the self-building manual.

Taking the preliminary findings from Part 1 of this work as a point of departure, I visited two communities that are producing housing that is neither social housing (produced by the state) nor formal, commercial housing (built by developers), Tosepan and Movimiento Antorcha Campesina, to learn more about how they produce housing.



32. Consejo Nacional de Evaluación de la Política de Desarrollo Social, *Estudio Diagnóstico Del Derecho a La Vivienda Digna y Decorosa 2018*, 22.

33. Astrid Rivera et al., “Presentan decálogo para implementar nueva política de vivienda,” *El Universal*, April 30, 2019, <https://www.eluniversal.com.mx/nacion/sociedad/presentan-decalogo-para-implementar-nueva-politica-de-vivienda>.

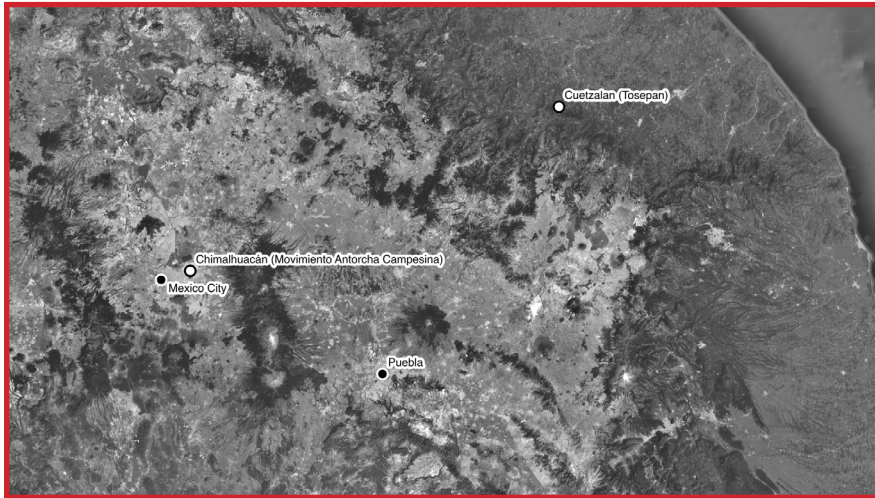


President Andrés Manuel López Obrador and Director of INFONAVIT Carlos Martínez Velázquez announcing the new housing policy (2019).



An affordable housing development in Tijuana.

Both Tosepan and Movimiento Antorcha Campesina have presence in the Puebla, a state in the central region of Mexico



While Antorcha Campesina operates in the outskirts of large cities, such as Chimalhuacán county, Tosepan has its headquarters in Cuetzalan, which is a five hour drive away from the closest city, Puebla.

Tosepan is a network of cooperatives founded in the Sierra Madre Oriental between Puebla and Veracruz with its headquarters in the town of Cuetzalan. It started in 1977 as a group of peasants getting together to buy sugar at wholesale prices and collectively negotiating prices for the products they sold: coffee, pepper, and honey. Since 1980, it has become formalized and grown as a network of cooperatives with activities such as tourism, banking, and housing production, and it has remained independent from political parties. It has affiliates from around 34,000 families across the states of Puebla and Veracruz, and around 85 percent of its affiliates are indigenous: Nahua, on the Puebla side, or Totonaca, on the Veracruz side.

I met with Viviana Vázquez Cabrera, who coordinates the architecture team in their housing program. This team has completed around 10,000 home construction and 10,000 home renovation projects in the last 20 years. There are similar organizations elsewhere in the country, but this is one of the largest and most well-known ones.



Architect Viviana Vázquez Cabrera explaining Tosepan's housing program.
Tosepantomin Un Año Después o Cómo Se Gastó El Dinero Del Premio Europeo de Las Microfinanzas 2017, accessed May 1, 2020, <https://www.youtube.com/watch?v=s62dEqd67YA>.



Headquarters of Tosepan in Cuetzalan, Puebla.
Photo: Rodrigo Escandón Cesarman

Movimiento Antorcha Campesina is a political organization founded in Tecamatlán, south of Puebla. The organization has representation in every state in the country and an important presence in Chimalhuacán, in the outskirts of Mexico City, where I visited them. It was founded in 1974, in the aftermath of the student movements of '68 and '71, when a group of students from the National School of Agriculture (*Escuela Nacional de Agricultura*) demanded that the state turn it into a proper university. These events resulted in the creation of the Chapingo Autonomous University (*Universidad Autónoma de Chapingo*). In 1988, it became affiliated with the PRI, the party that ruled the country for most of the last century. Antorcha Campesina has 300,000 in the State of Mexico alone, and while has its origins in the Mixteca region of Puebla, most of its members do not identify as indigenous. It is hard to know how many houses the organization has produced, but there are at least 85,000 houses in Chimalhuacán county alone.

I met with architect Saúl Torres, who has the official position of secretary of the Chimalhuacán mayorship. He is the right hand of Jesús Tolentino Román, the mayor of Chimalhuacán and representative for the State of Mexico in Antorcha Campesina.



Architect Saúl Torres comments on the recent improvements in Chimalhuacán on a newscast.



Movimiento Antorcha Campesina holding a political meeting in Chimalhuacán.
Photo: Arturo Ortiz Struck

There are other similar political organizations such as La Loba and Los Panchos Villa, who compete with Antorcha for territory and political power.

During these visits I discovered that beyond the categories of formal and informal, urban and rural, and social and commercial housing, there is a vast heterogeneity of institutions and communities that are producing housing, and each group has its own unique, specific protocols. However, these procedures are mostly not codified anywhere: people are not following the manuals that I studied, and neither are they documenting their own procedures.

From the findings of the historical research of self-building manuals, along with the fieldwork with these two groups, I propose a new kind of manual, *The Atlas of Housing Production*. By relying on fieldwork with specific actors, *The Atlas* captures the processes through which homes are actually produced, instead of reproducing an abstract, idealized process: It recognizes that even if no professional architects intervene, houses are produced by a network of workers and institutions with a variety of forms of expertise, not only in building, but also in financing, organizing labor, managing projects, and indeed designing houses. Additionally, by flattening the hierarchy between the more formal institutions and the more informal ones and by building a space for professionals and non-professionals to think about housing, the project seeks to undo some of the power relations in which an expert speaks to a perpetual non-expert.

The Atlas of Housing Production









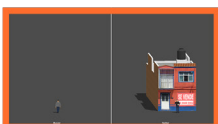
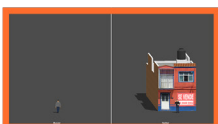
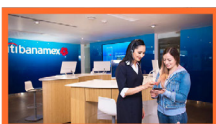






The Atlas of Housing Production is an inventory of existing protocols for producing housing in Mexico. It consists of a set of videos, accessible through a website, describing the processes of financing, sourcing materials, designing, and organizing labor to build a house, as they are carried out by Tosepan, Antorcha Campesina, commercial banks, and real estate developers.

Like a self-building manual, *The Atlas of Housing Production* acknowledges that a house is shaped not only by its construction techniques and materials, but also by how it is financed, designed and built. However, in contrast to these documents, which offer a single prescription from an expert to a non-expert, *The Atlas* describes a multiplicity of strategies that have been developed by diverse groups and institutions across the country. Additionally, by relying on fieldwork with specific actors, *The Atlas* captures the ways in which homes are actually made, instead of reproducing an abstract, ideal process.

I started cataloguing the processes from Antorcha Campesina and Tosepan, but there are many more institutions involved in these processes, and *The Atlas* can be expanded to incorporate them: commercial banks like Banamex provide mortgages and loans, real estate developers like Casas Geo build hundreds of thousands of houses every year, and INFONAVIT is a federal institute that gives housing credits to workers.³⁴

The Atlas is structured as a grid, where each group is represented by a set of short videos, one for each of their protocols: financing, sourcing materials, designing, and organizing labor. In contrast to a book, which cannot be modified or expanded, the digital, online medium allows the project to grow forever, and its content can be easily disseminated, shared, commented, and contested.

34. I have focused on the set of videos on the topic of how to finance your house with Tosepan, Movimiento Antorcha Campesina, and a commercial bank. These videos have been adapted to print and are available in the next section of this work, Videos From The Atlas of Housing Production. Additionally, a set of scripts on the topics of securing legal ownership, sourcing construction materials, and designing and managing construction, as carried out by Tosepan and Movimiento Antorchsa Campesina, can be found in Appendix A: Video Scripts for The Atlas of Housing Production.

Context	Financing	Building materials and techniques	Designing and managing construction	Securing land ownership
Tosepan				
Antorcha Campesina				
Banamex				
Casas GEO				
INFONAVIT				

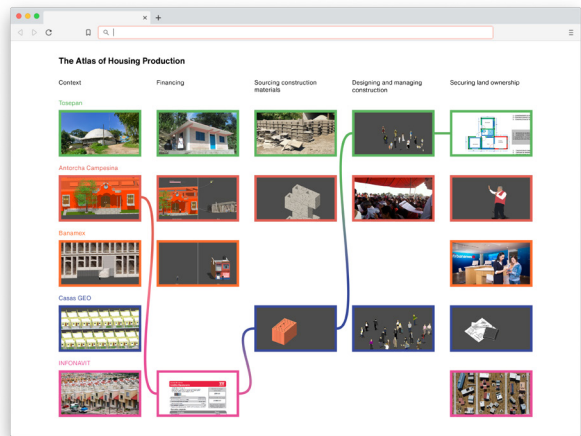
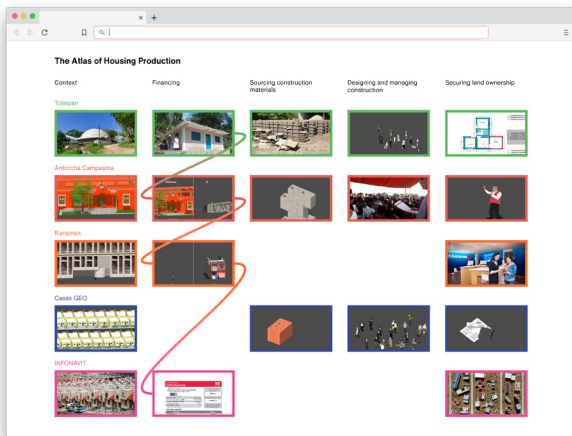
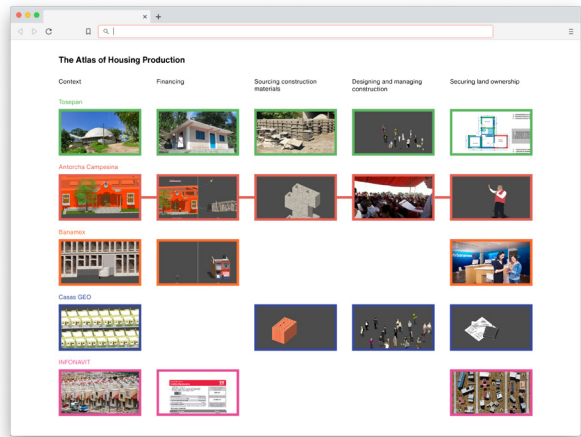
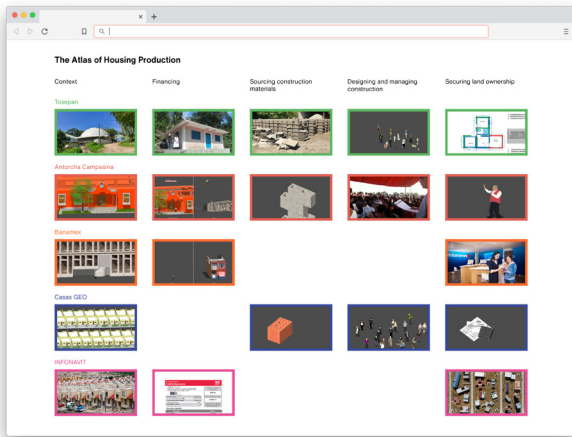
Rather than prescribing a single, ideal solution, *The Atlas* presents a set of equally valid possibilities, flattening the hierarchy between allegedly expert and non-expert knowledge and revealing the arbitrary nature of these categories. Self-building has often been represented as uncoordinated, amateur, and inefficient. However, upon closer inspection, apparently self-built structures are made not by unorganized individuals, but by institutions that operate in a way that is not too different from more formal ones, such as real estate developers, construction companies, banks, and state agencies. Not only design and construction, but also financing and sourcing materials are done by workers who, like the bankers, architects, and bureaucrats of more formal institutions, earn a wage under an institutional structure.

The matrix of protocols in *The Atlas of Housing Production*. Each box corresponds to a video.

The structure of the catalog allows its readers to navigate this information in multiple ways. Anyone who is about to begin the process of becoming a homeowner or is in the middle of navigating this complicated undertaking can see all the videos related to a single group and know what to expect. By laying bare the virtues and shortcomings of each of these processes, *The Atlas* gives agency to its users, allowing them to make informed decisions on how they wish to obtain a house.

For experts such as architects, urbanists, and policymakers, *The Atlas* is a valuable tool for understanding how housing is produced. We can look at a cross-section of how each group solves a particular problem. For example, a thing that is essential for producing housing, debt, means something different for each group. Being indebted to a bank means having to pay back the money they lent you for buying your house, plus interest. On the other hand, being indebted to Antorcha Campesina quickly turns into the much more ambiguous notion of paying back for their help in squatting land. And while the money that is being lent to you by a bank comes from a complicated network of anonymous investors, when a member of Tosepan gets a loan, they know that the money came exclusively from other members of the cooperative.

By splitting the process into its component parts, *The Atlas* allows its readers to recombine them for imagining new forms of housing production. These mashups of unlikely combinations open a shared space for experts and non-experts to think together of alternatives to the current modes of production. For example, if one somehow produced housing in Mexican cities for people outside the formal economy, like Antorcha Campesina does, using the subsidized loans from INFONAVIT, with the density that the construction materials and techniques from a commercial developer allow, but with design and labor coordinated by members of the community who understand each other's needs, in the style of Tosepan, what would that look like?



Instead of offering a single, ideal prescription for getting a house, which is impossible to follow for most people, *The Atlas of Housing Production* relies on the vast, heterogeneous solutions that are already available (with their potentials and shortcomings) and presents them as an array of comparable possibilities, ultimately opening a space to think together about how we want to produce our built environment.

One can learn from the entire process of getting a house as carried out by a single group; one can study a cross section of how each group solves a particular problem; or one can combine groups and processes.

Videos From The Atlas of Housing Production

To present *The Atlas* in print format, this section contains a set of comic strips based on the videos on how to finance your house with Tosepan, Movimiento Antorcha Campesina and a commercial bank.

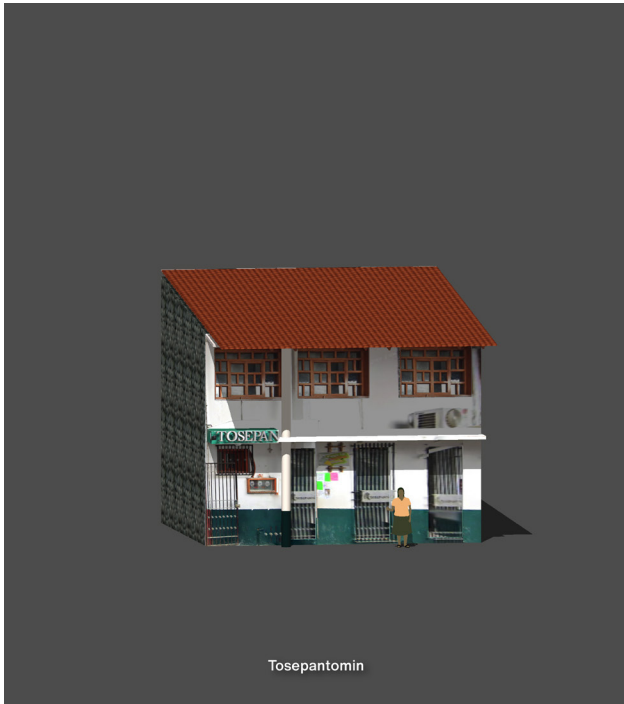
Financing Your House With Tosepan



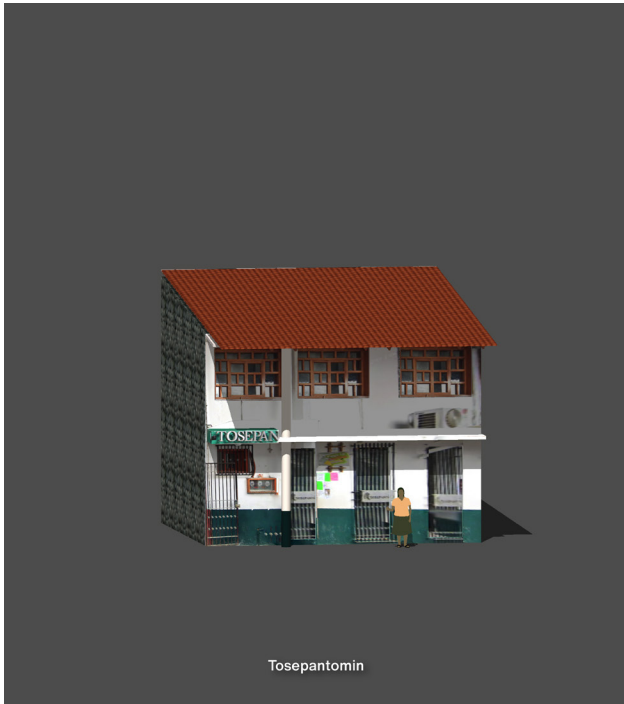
Financing Your House
With Tosepan
Scene 1



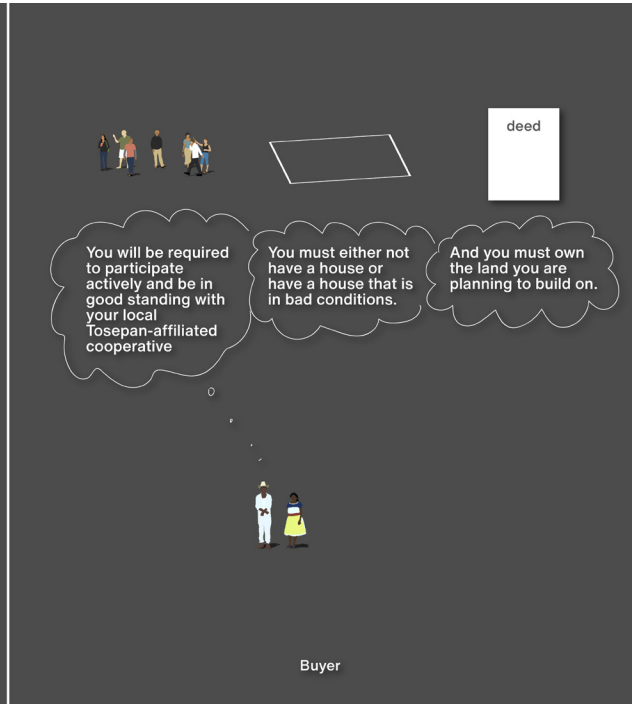
Financing Your House
With Tosepan
Scene 2



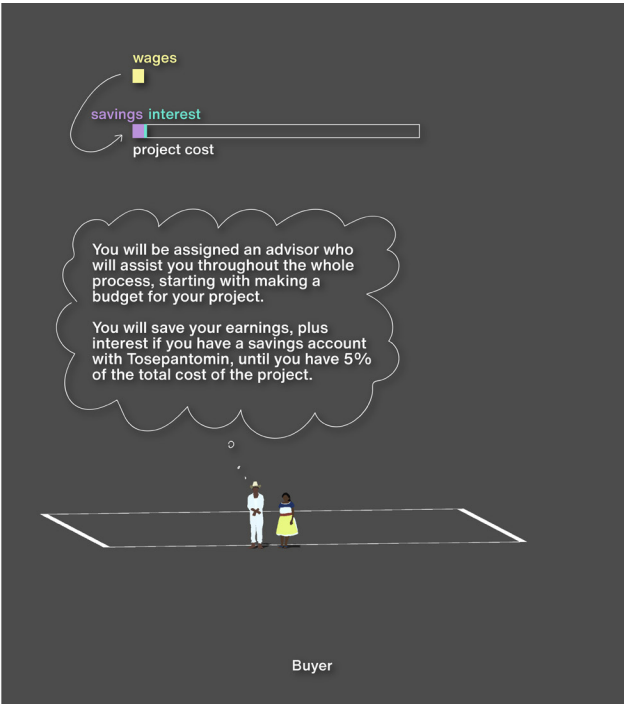
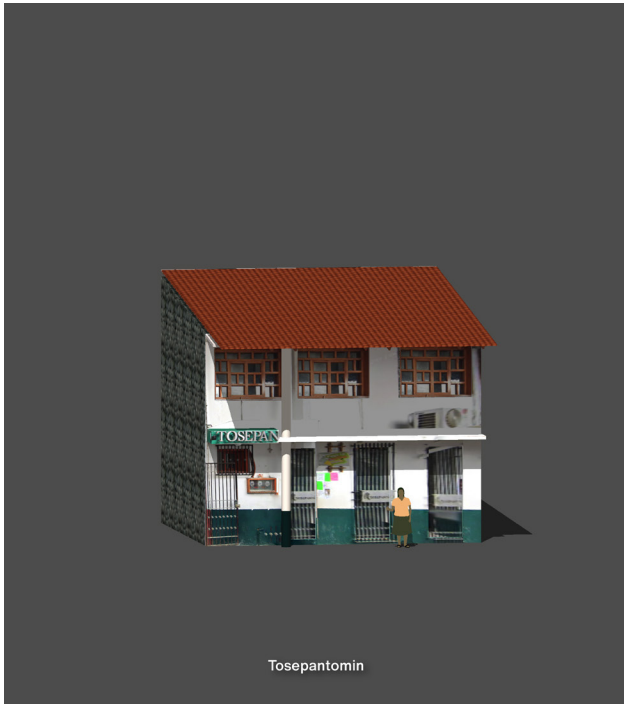
Financing Your House
With Tosepan
Scene 3



Financing Your House
With Tosepan
Scene 4



Financing Your House
With Tosepan
Scene 5



Financing Your House
With Tosepan
Scene 6



Financing Your House
With Tosepan
Scene 7



Financing Your House
With Tosepan
Scene 8



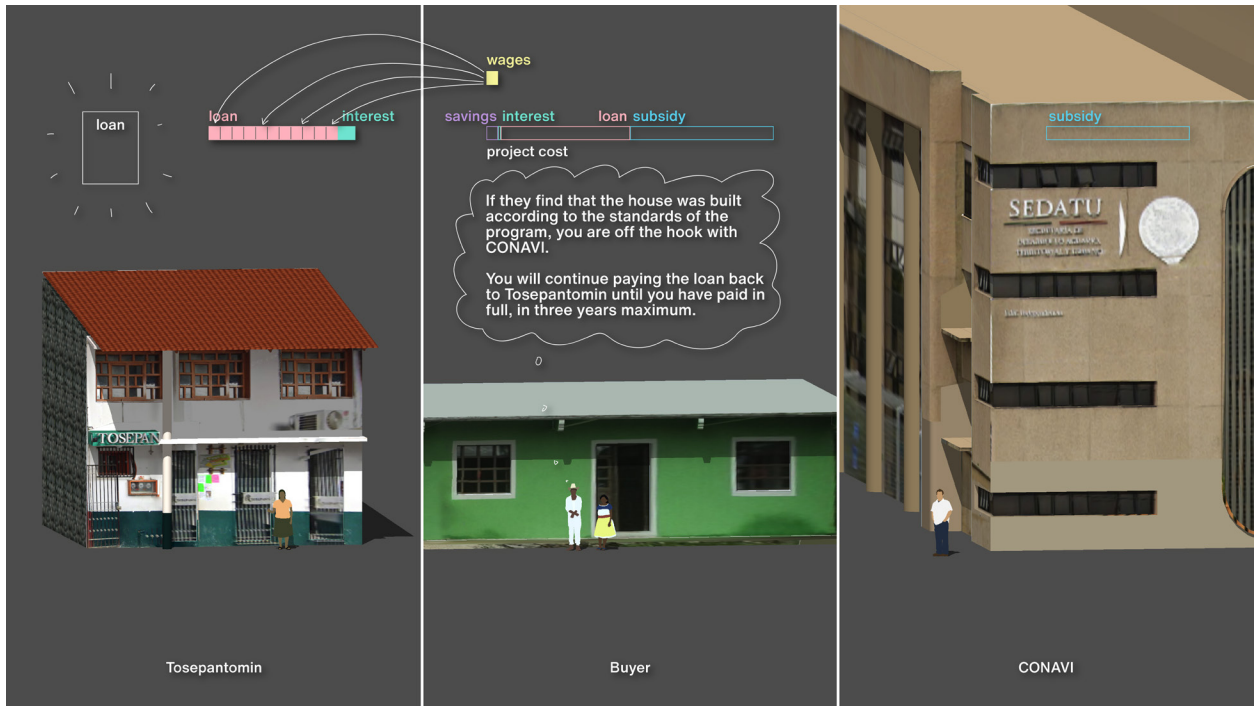
Financing Your House
With Tosepan
Scene 9



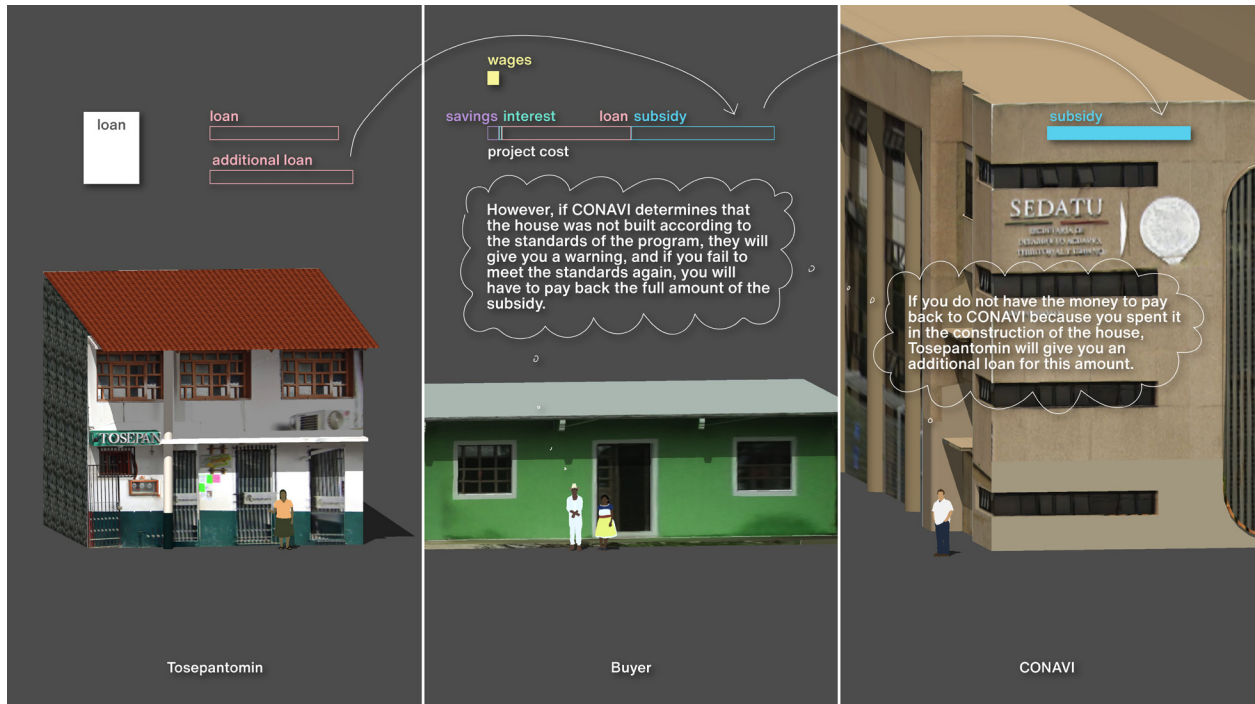
Financing Your House
With Tosepan
Scene 10



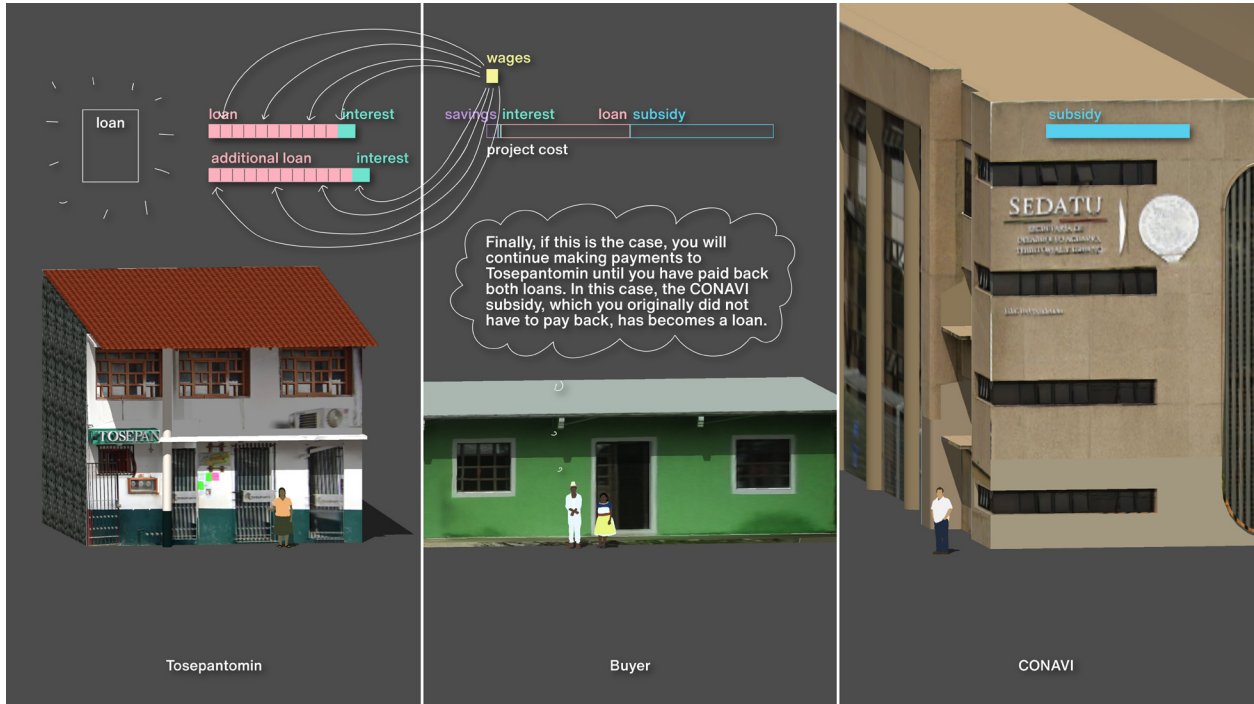
Financing Your House
With Tosepan
Scene 11



Financing Your House
With Tosepan
Scene 12



Financing Your House
With Tosepan
Scene 13

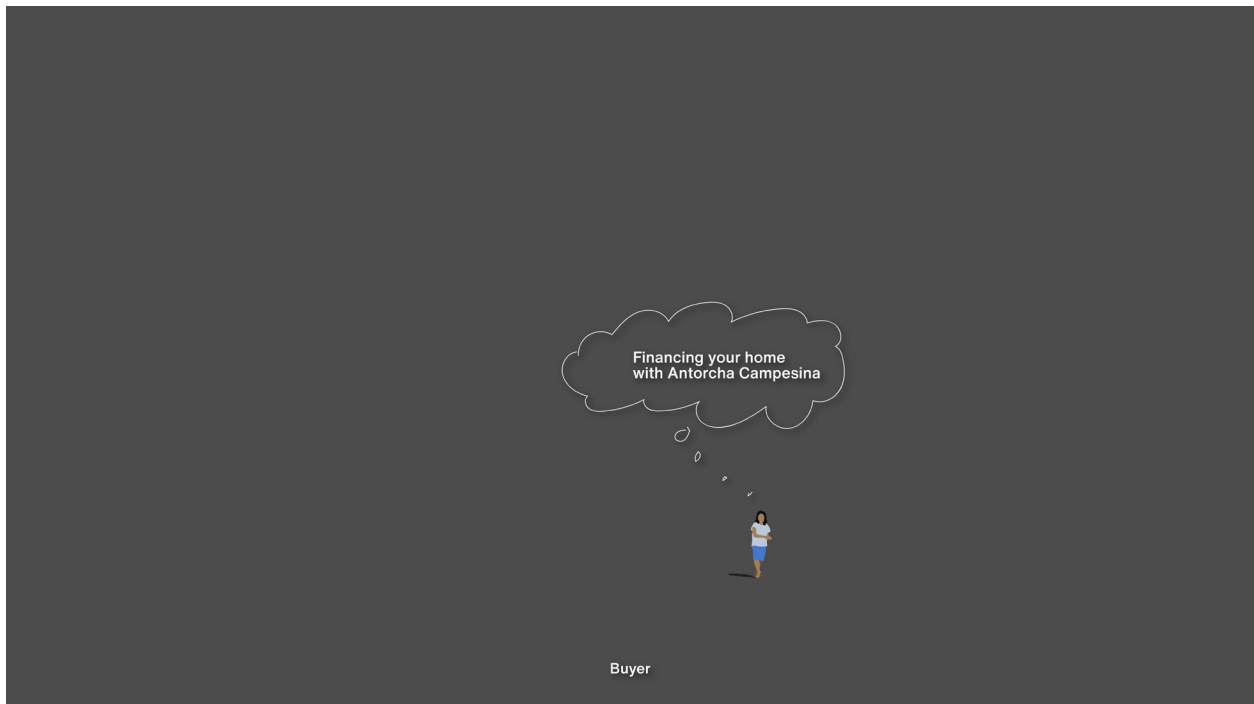


Financing Your House
With Tosepan
Scene 14

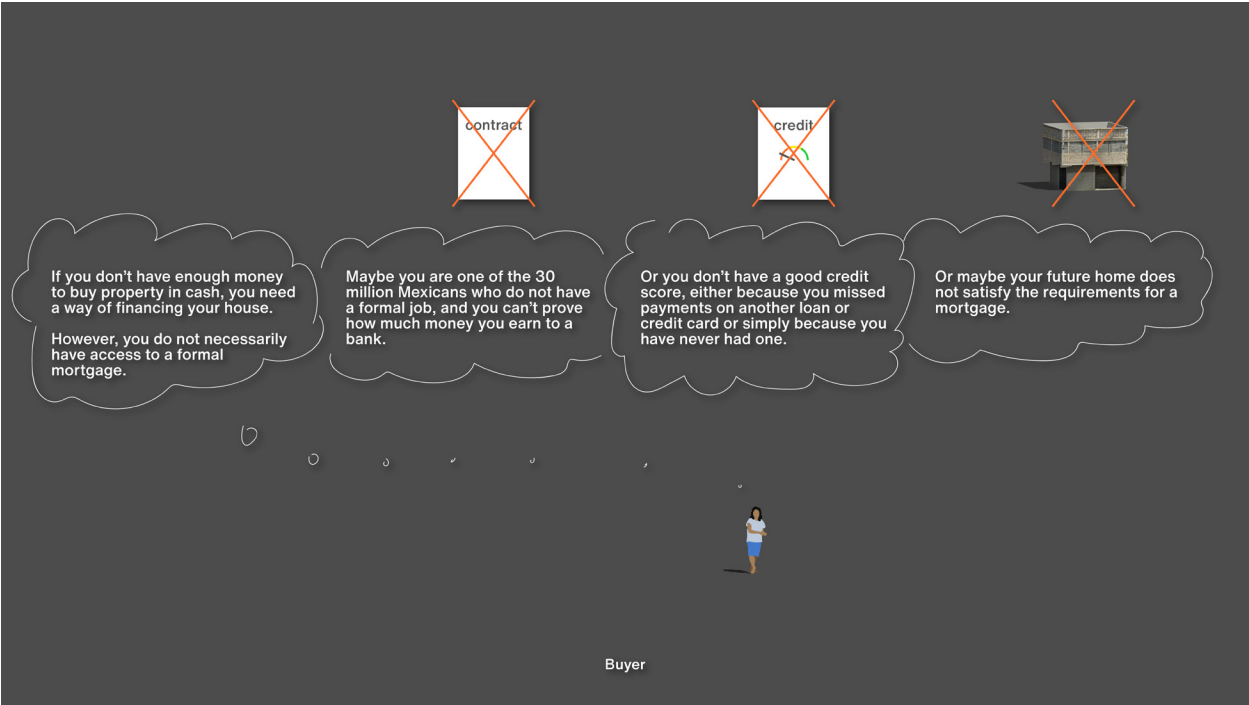


Financing Your House
With Tosepan
Scene 15

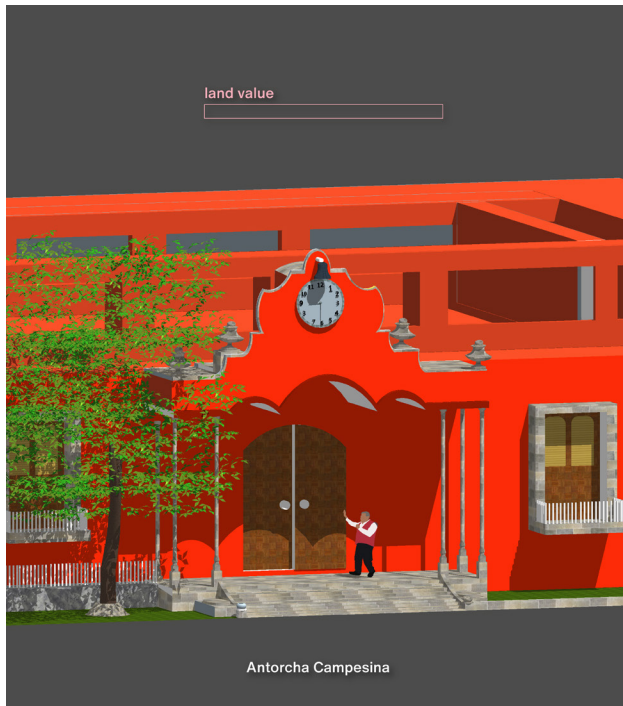
Financing Your House With Movimiento Antorcha Campesina



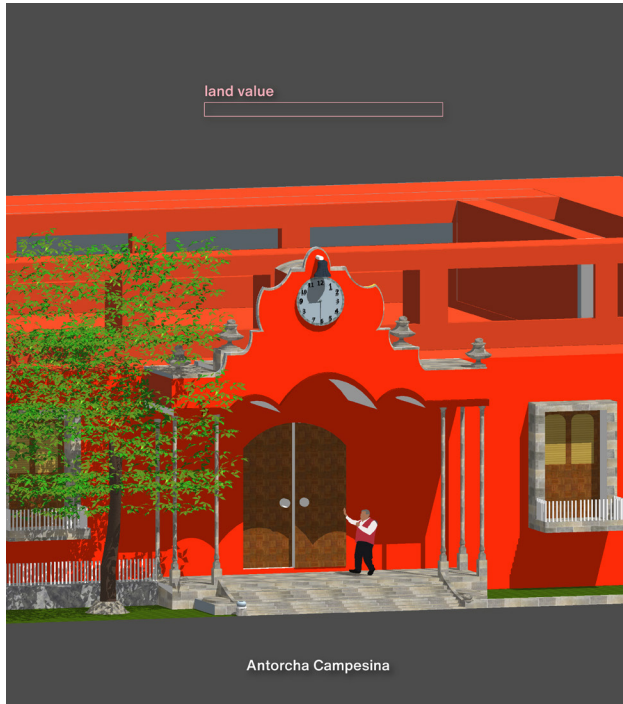
Financing Your House
With Movimiento Antorcha
Campesina
Scene 1



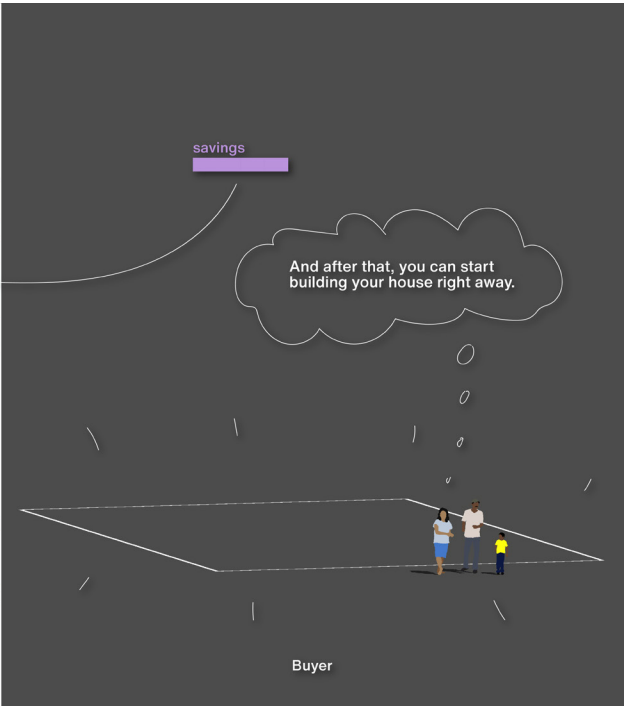
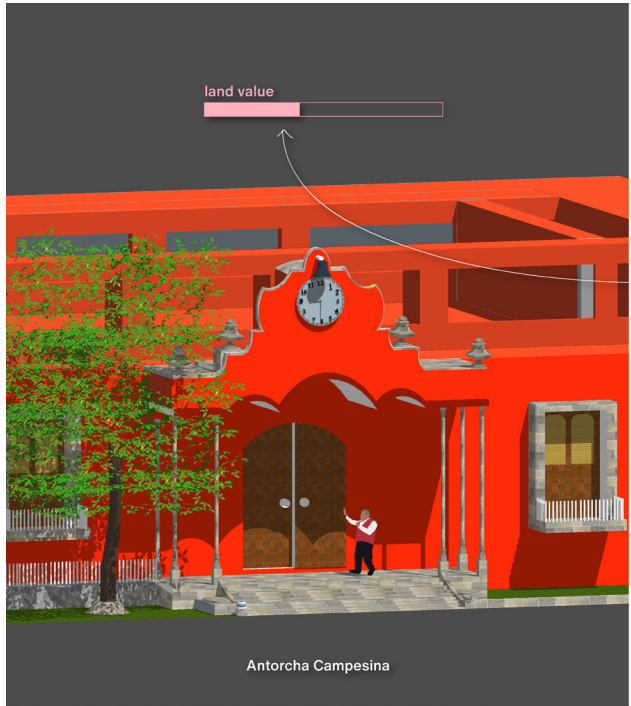
Financing Your House
With Movimiento Antorcha
Campesina
Scene 2



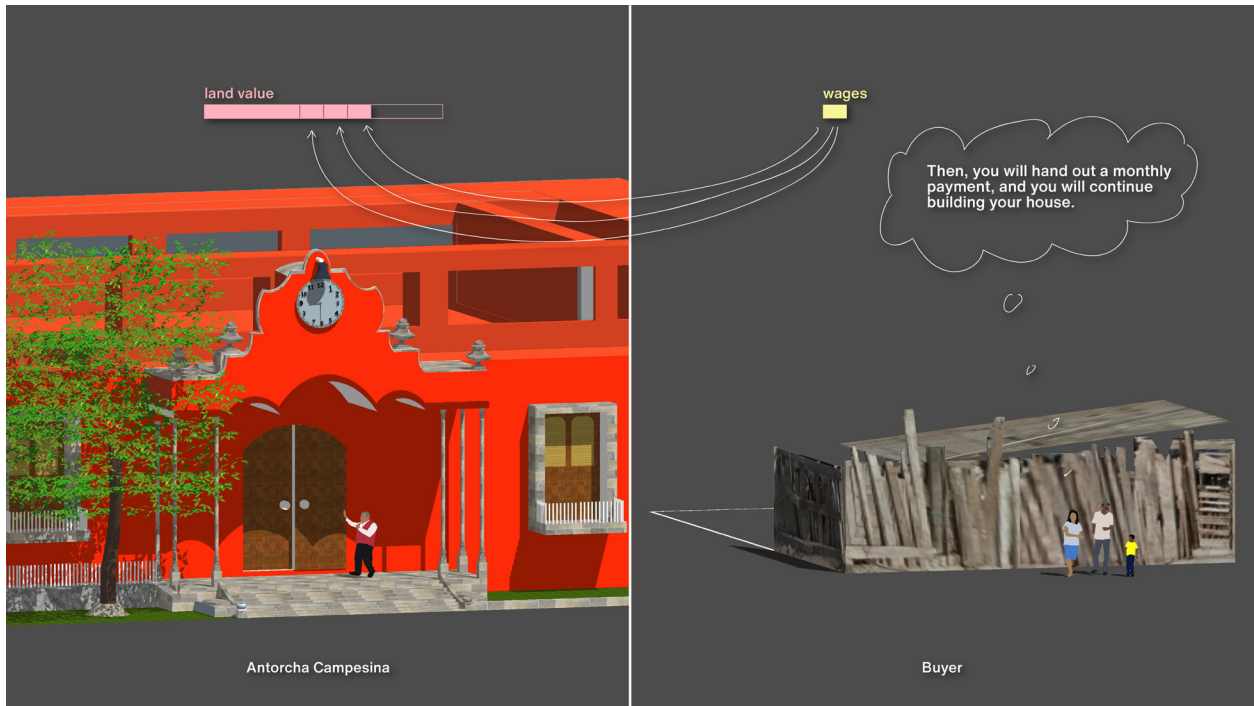
Financing Your House
With Movimiento Antorcha
Campesina
Scene 3



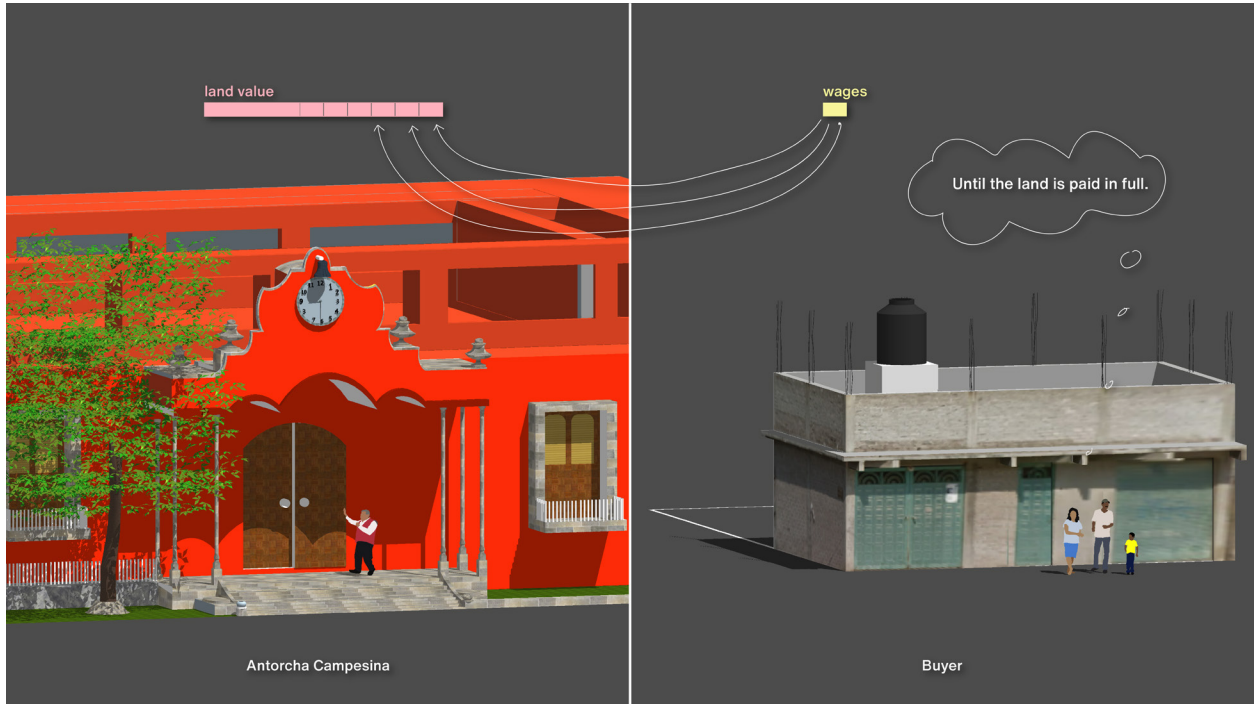
Financing Your House
With Movimiento Antorcha
Campesina
Scene 4



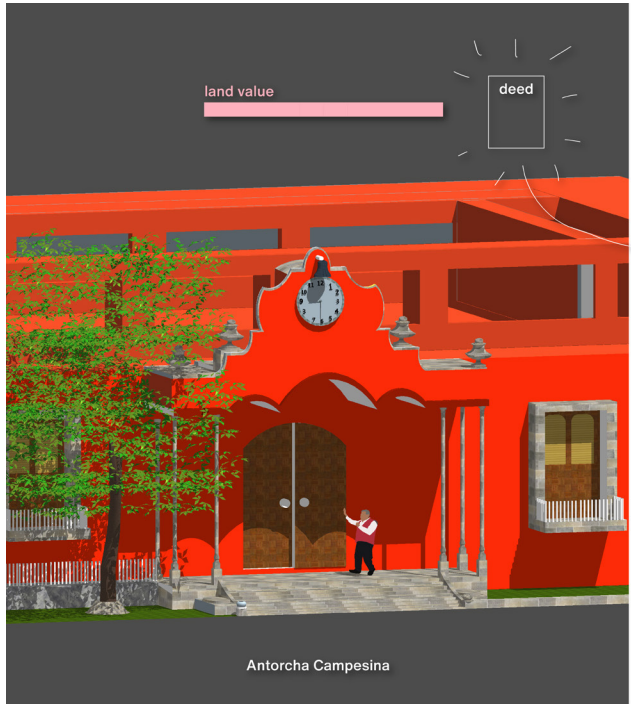
Financing Your House
With Movimiento Antorcha
Campesina
Scene 5



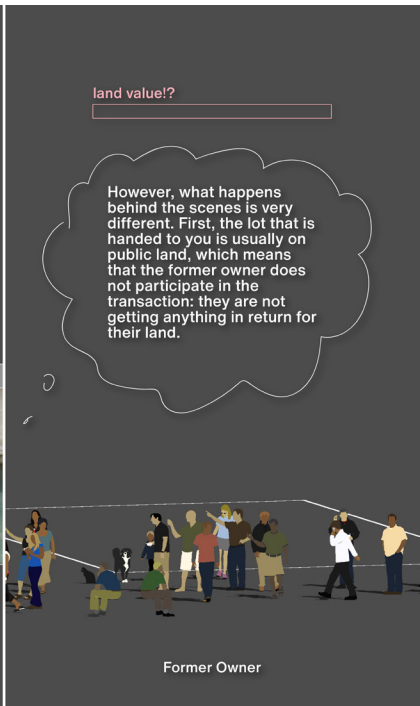
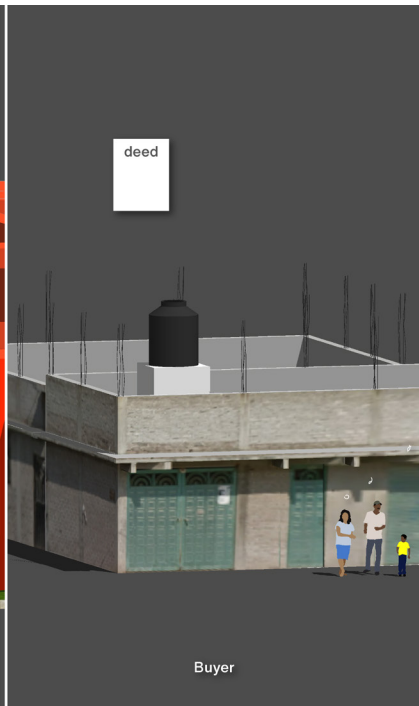
Financing Your House
With Movimiento Antorcha
Campesina
Scene 6



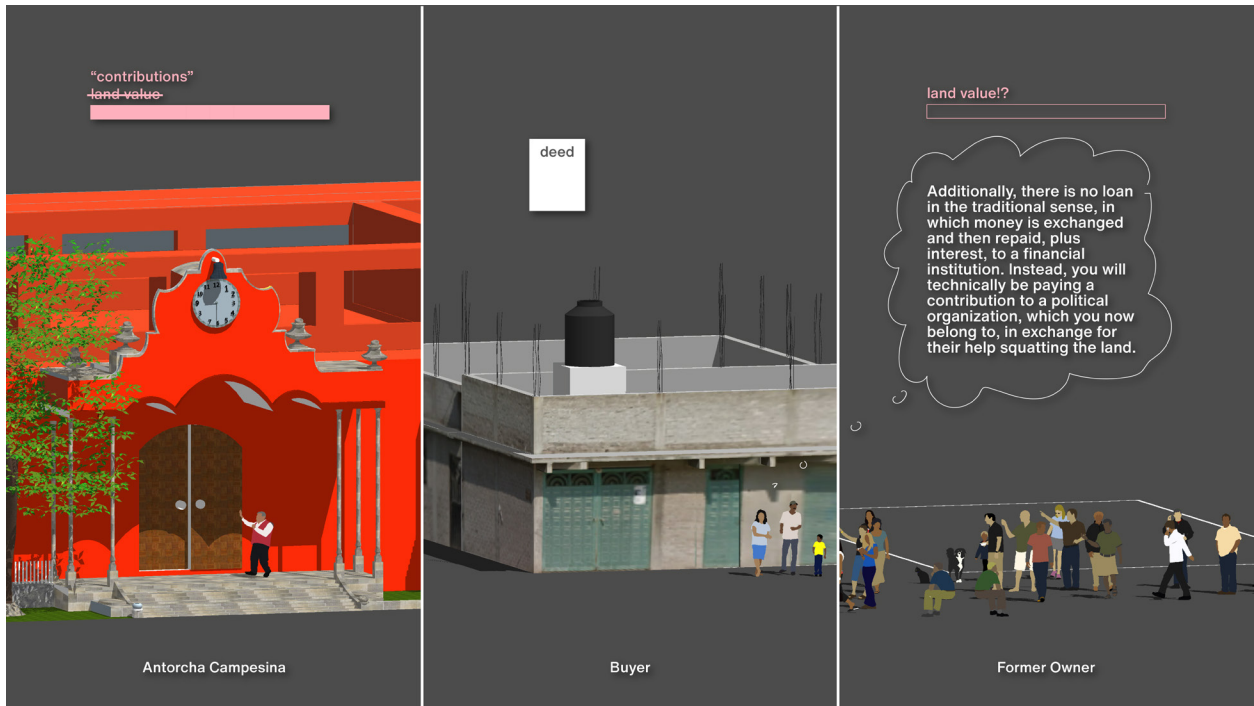
Financing Your House
With Movimiento Antorcha
Campesina
Scene 7



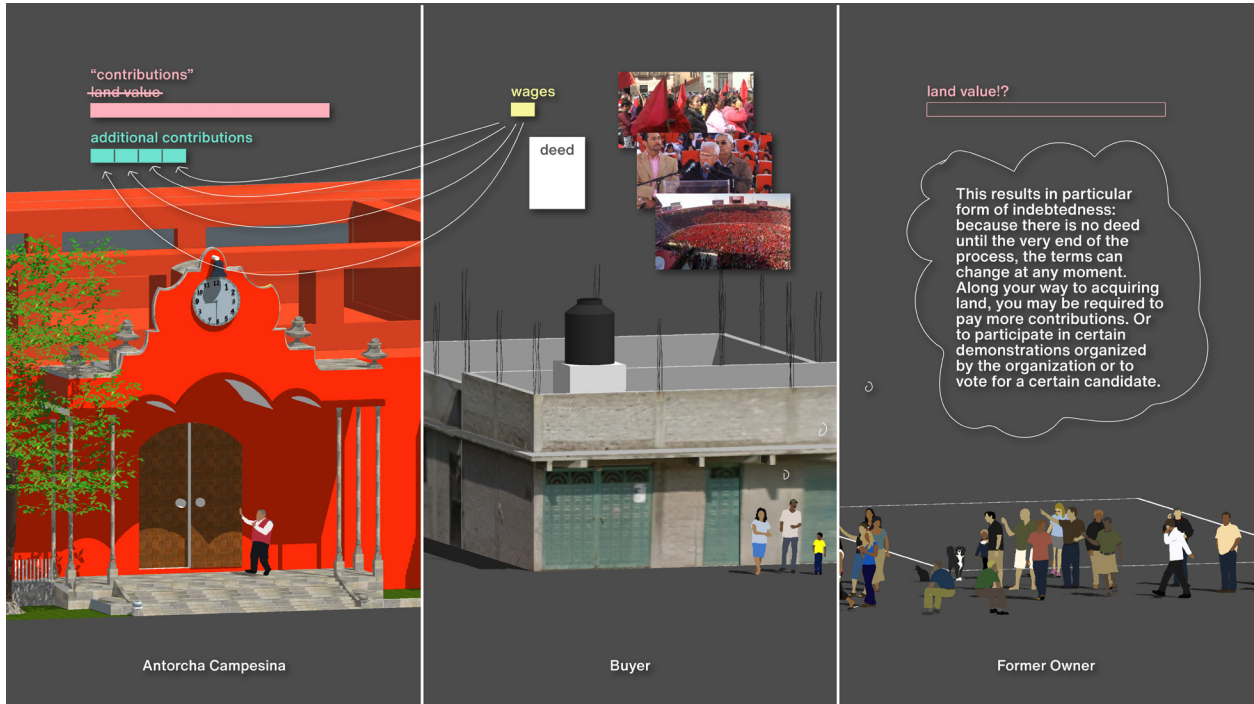
Financing Your House
With Movimiento Antorcha
Campesina
Scene 8



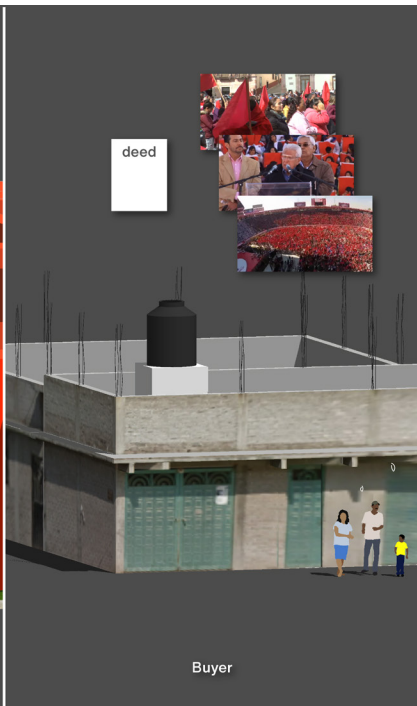
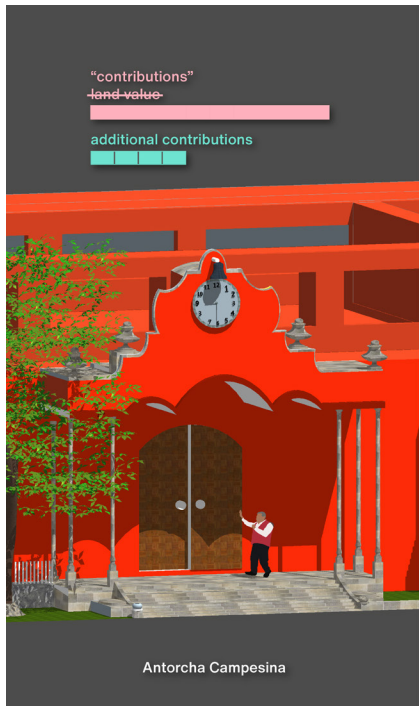
Financing Your House
With Movimiento Antorcha
Campesina
Scene 9



Financing Your House
With Movimiento Antorcha
Campesina
Scene 10



Financing Your House
With Movimiento Antorcha
Campesina
Scene 11



Financing Your House
With Movimiento Antorcha
Campesina
Scene 12

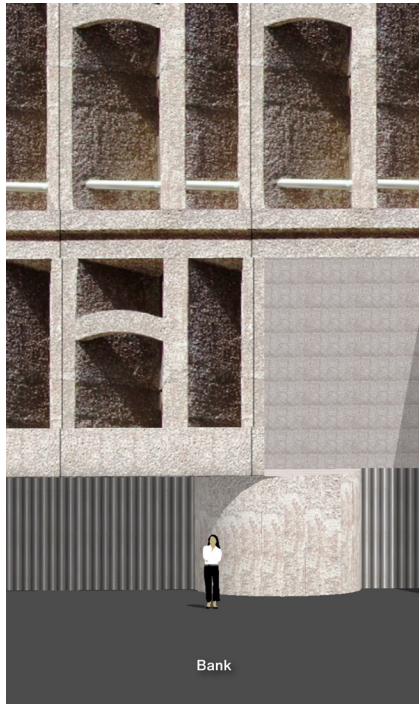
Financing Your House With a Commercial Bank



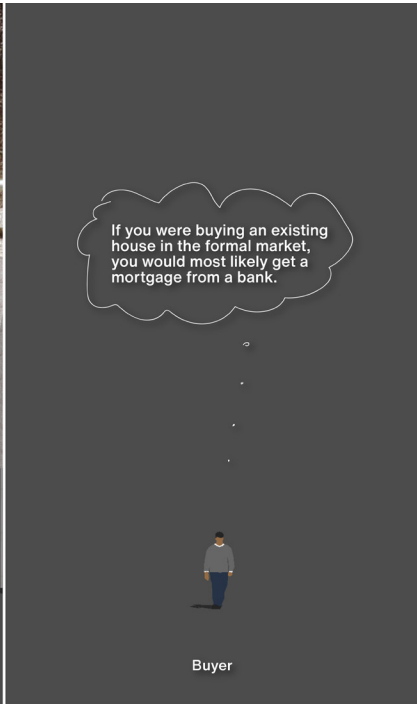
Financing Your House
With a Commercial Bank
Scene 1



Financing Your House
With a Commercial Bank
Scene 2



Bank



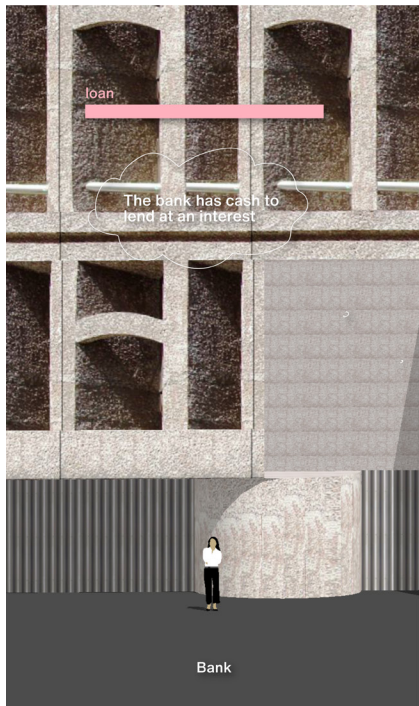
If you were buying an existing house in the formal market, you would most likely get a mortgage from a bank.

Buyer

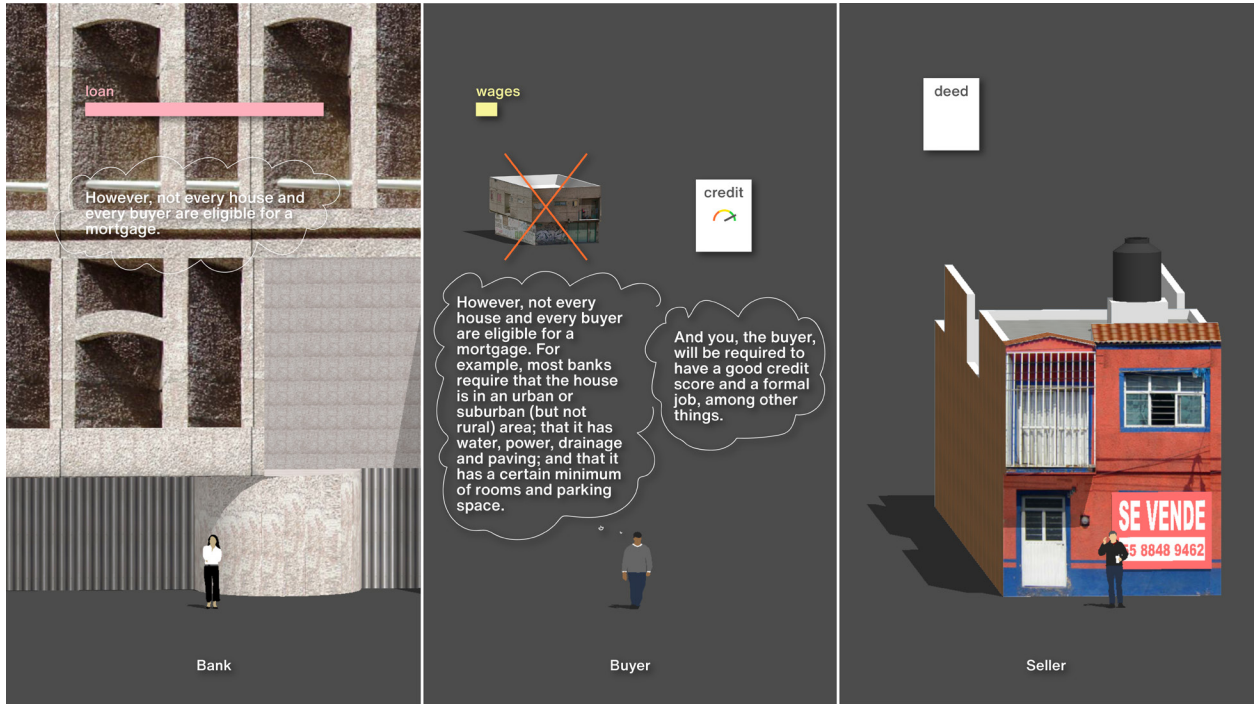


Seller

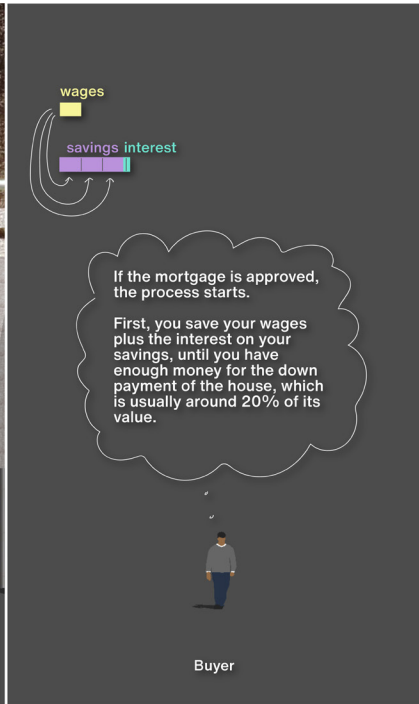
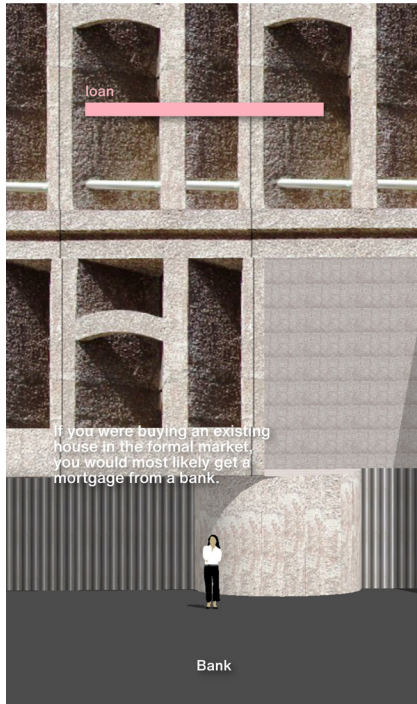
Financing Your House
With a Commercial Bank
Scene 3



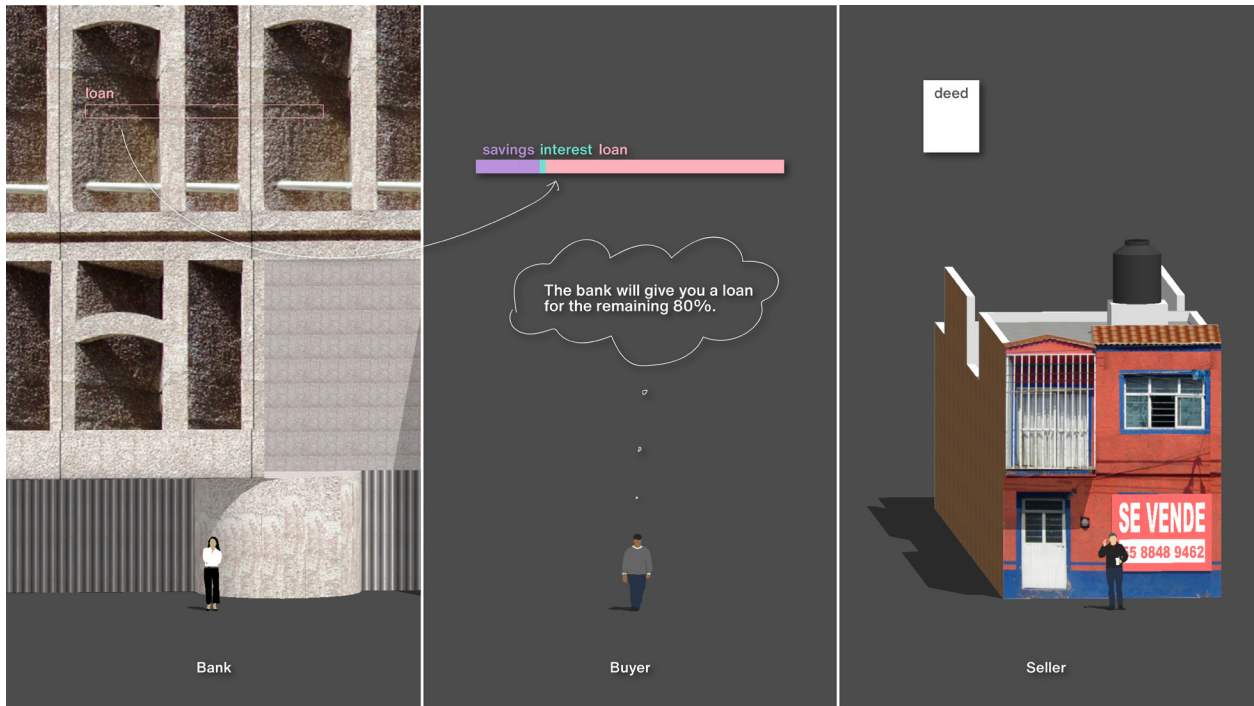
Financing Your House
With a Commercial Bank
Scene 4



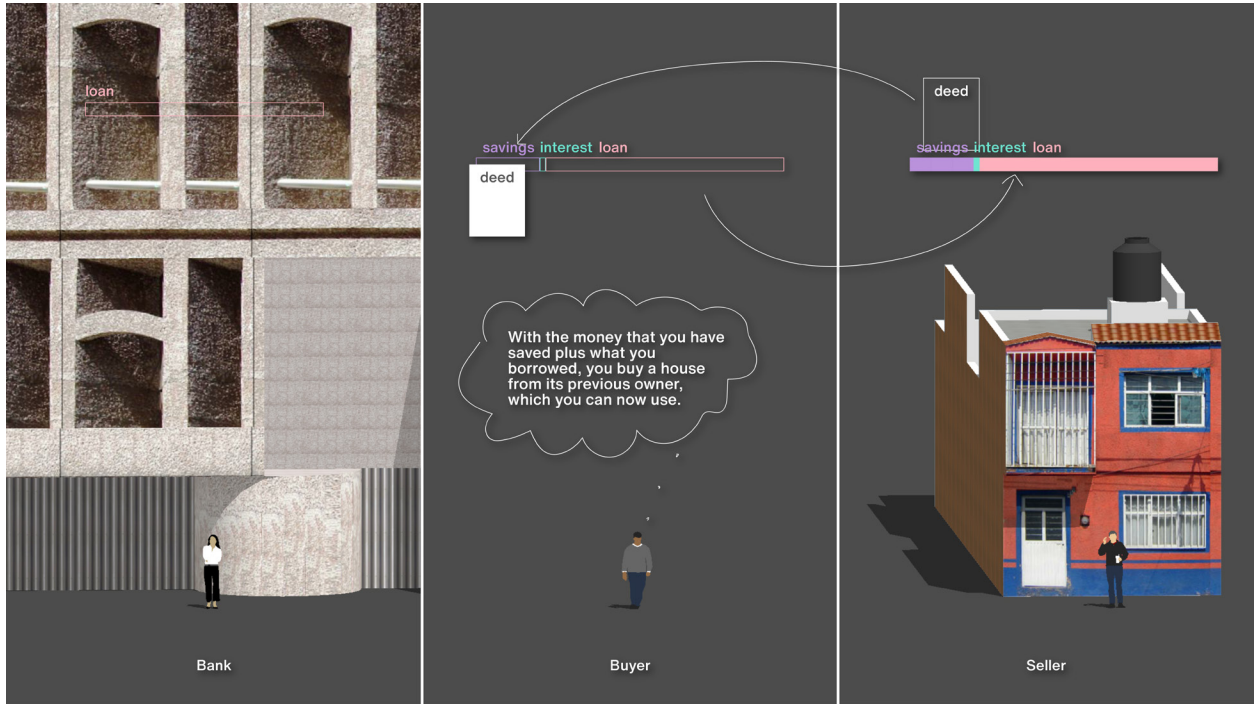
Financing Your House
With a Commercial Bank
Scene 5



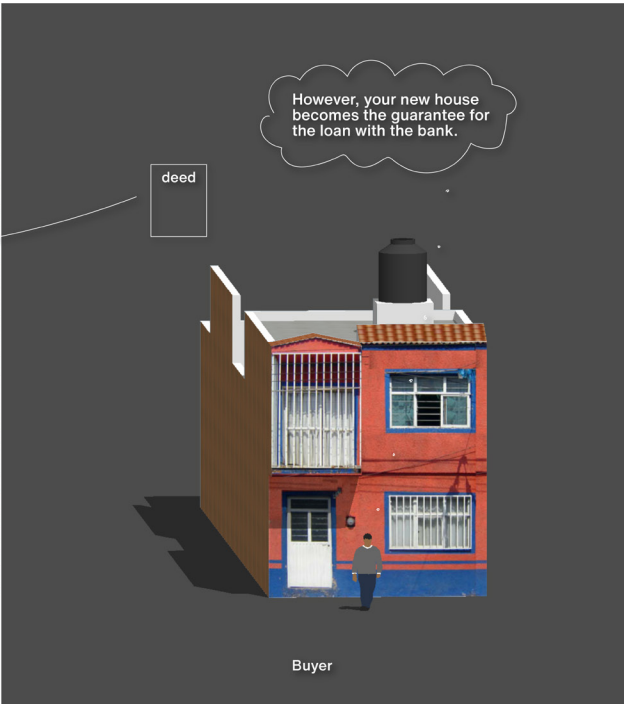
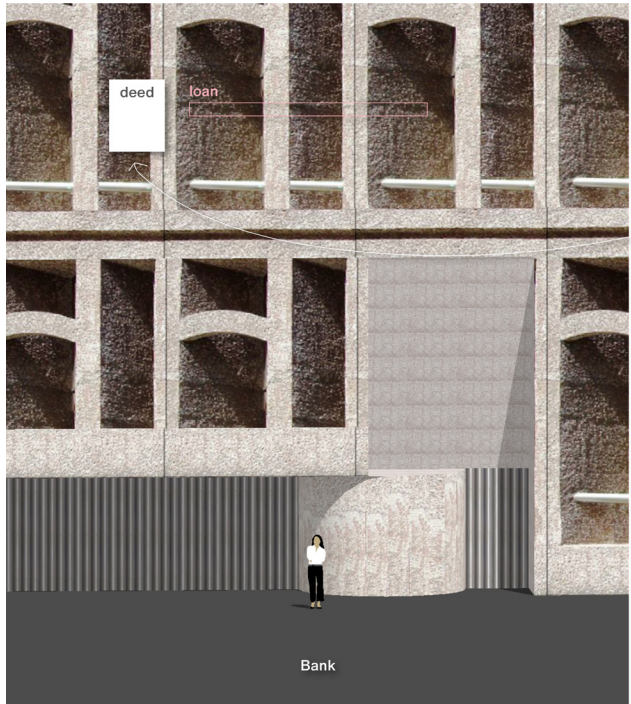
Financing Your House
With a Commercial Bank
Scene 6



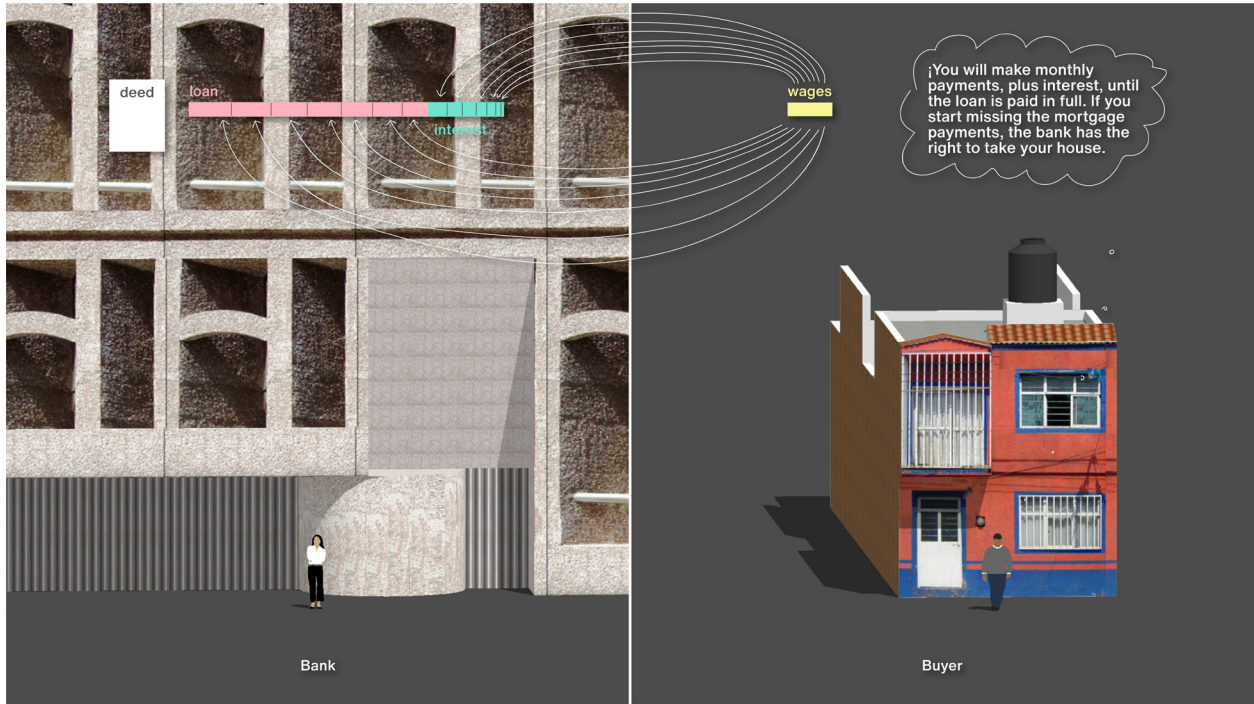
Financing Your House
With a Commercial Bank
Scene 7



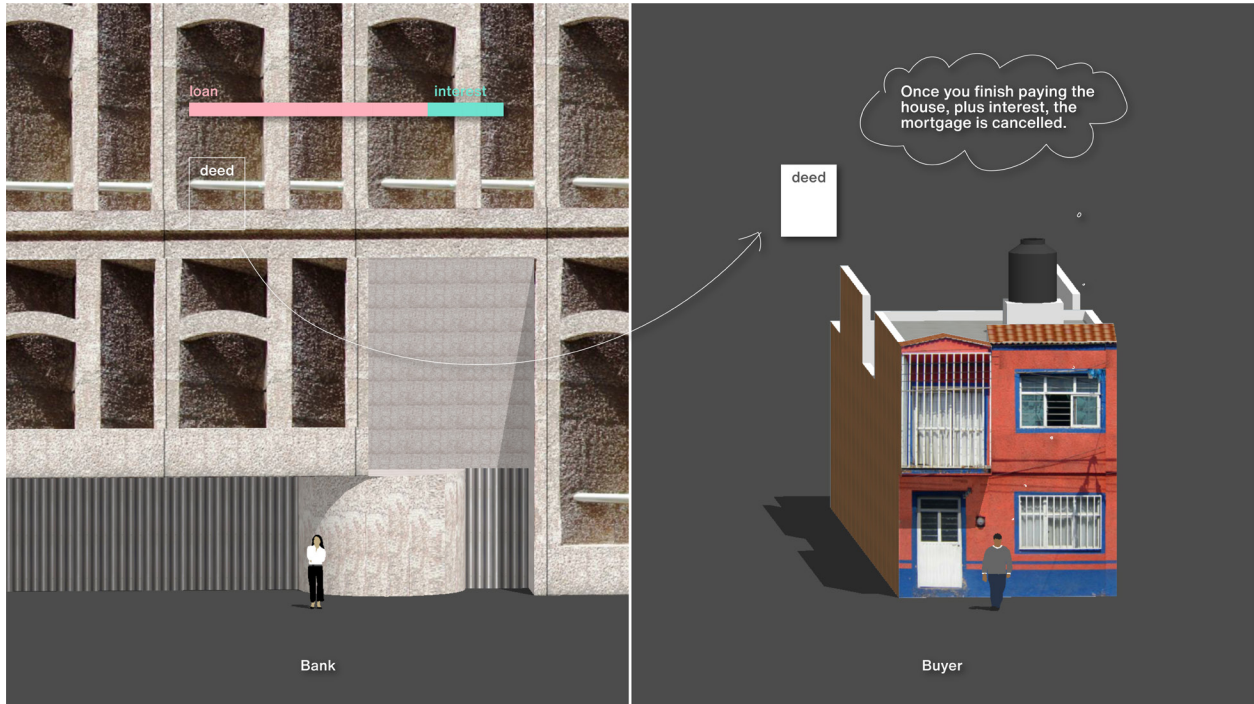
Financing Your House
With a Commercial Bank
Scene 8



Financing Your House
With a Commercial Bank
Scene 9



Financing Your House
With a Commercial Bank
Scene 10



Financing Your House
With a Commercial Bank
Scene 11



Financing Your House
With a Commercial Bank
Scene 12

Appendices

Appendix A: Video Scripts for The Atlas of Housing Production

This section contains a set of scripts on the topics of securing legal ownership, sourcing construction materials, and designing and managing construction, as carried out by Tosepan and Movimiento Antorcha Campesina.

Securing Land Ownership With Tosepan

To enter the Tosepan housing program, you are required to own land, and many families in the region have owned land for many generations. The remote region in the mountains of Puebla where Tosepan operates was a refuge from indigenous communities who were displaced by the Spanish Empire from more valuable and desirable lands, such as the nearby Tehuacán Valley. However, you may be part of the 70% of beneficiaries who do not have a deed, which is required by the program. If this is the case, Tosepan will assist you in getting a document to prove your ownership of the land.

Because acquiring a deed can be expensive and time consuming, you will instead get a certificate of ownership from the local authority. The local authority which grants this certificate depends on the jurisdiction under which your land is. If it is in an *ejido*, it will be granted by the commission (*comisariado*), if it is in an indigenous community, it will be granted by the local judge (*juez*), and if it is in private property in common jurisdiction, it will be granted by the mayor (*president municipal*).

Securing Land Ownership With Antorcha Campesina

If you are acquiring housing through Movimiento Antorcha Campesina, you probably do not own any land, so the focus of the organization is on helping their members obtain land and negotiate property rights and urban services. This happens through a process in which the family pays a fee to the organization to get help in squatting the land and negotiating property rights and services with local authorities, who are also members of Antorcha, in many cases.

Antorcha Campesina will be able to negotiate property rights with the local authorities because large swaths of land are being squatted at the same time. The first service you will get is

electricity. While the electricity company is a state sanctioned monopoly under the control of the executive power, it is a profitable private company, and they have a financial incentive to provide their service. As soon as you and your neighbors have electricity, you have a street address, which is key for negotiating property rights. Antorcha eventually negotiates with the local authorities, first for the zoning to be changed to housing, and only then, you will get a deed. The rest of the urban services will be bargained after acquiring a deed. You will get sewage and running water, and finally, paving and sidewalks will arrive.

Sourcing Construction Materials With Tosepan

If you build your house with Tosepan, most of the materials will come from two cooperatives in the Tosepan network: Tichanchiuaj and Ojtasentekitinij.

Because the towns in the mountains of Puebla are so remote, there are no financial incentives for a commercial construction materials store to operate in the region. Tosepan Tichanchiuaj solves this by bringing industrial building materials such as rebar, cement, sand, and gravel into the region, and by locally producing CMU and adobe blocks.

The cooperative also lowers the cost of these materials by buying in bulk from suppliers and passing the savings to you. Additionally, when you start a project, they will fix the prices for the duration of the construction, protecting you from changes in prices. Most of the construction workers in the region know how to build using these materials, which are also common in the more urban settings where they work.

Tosepan Ojtasentekitinij transforms bamboo that people grow on their land into construction materials or furniture. First, they will teach you how to grow bamboo in your land. When it is ready, they will collect it and process it in their shop. And they will give it back either as assembled furniture or as material for building your own structures. Because bamboo is not a native species, there are no traditional construction techniques for bamboo in the region. Instead, members of the cooperative have developed a system for making joints using threaded rods and nuts.

Tosepan has promoted the use of bamboo because it is a cheap, locally produced, non-industrial material, and the auditorium in their headquarters is a geodesic dome made of bamboo. However, it is much easier to comply with the standards set by the federal agencies that provide housing subsidies using industrial materials.

Sourcing Construction Materials With Antorcha Campesina

If you build your house with Antorcha Campesina, most of the construction materials will come from the local construction materials store.

As soon as Antorcha Campesina subdivides a large piece of land for people to squat, they open a construction materials store that sells industrial building materials such as rebar, cement, sand, and gravel into the region, and by locally producing CMU and adobe blocks. Antorcha Campesina prides itself from being an independent organization which, unlike political parties, does not receive money from the state and is instead funded by ventures such as this one. However, these stores are for profit, and the leaders of the movement benefit from them.

Because you need to occupy the land from the beginning, first you will build a temporary structure with cheap materials, such as corrugated metal, wood, or cardboard. Then, you will save until you can start building with more permanent materials. You will use this very quality—the fact that these materials are durable—to save by accumulating them instead of making deposits into a bank account that would additionally earn you an interest. This means that you end up paying twice: first for a temporary house and then for a more permanent one.

Designing and Managing Construction With Tosepan

Apart from getting technical assistance when they apply to the government subsidy, you will get assistance with design and construction. The cooperative has an architecture team led by Viviana Vázquez Cabrera, who studied architecture in the nearby city of Puebla. Along with another two or three other professionally trained architects and a team of 18 supervisors, they assist each family with design, budgeting, and construction, accompanying them during the entire process.

First, a promotor will meet with you to design the house. They will draw the existing site and whatever constructions are there. After an interview with the family, you will design your house with the promotor. Because the program requires that the entire design and construction process take four months, each supervisor will oversee around a hundred projects per year, in four-month batches.

Although you can build your house with your own labor, you will most likely hire local construction workers. Some of these construction workers have gone on to become supervisors, and although supervisors don't necessarily make more money, they employment is steady. The typical team consists of one manager (*responsable*), an additional master builder (*maestro*), two officials (*oficiales*), and two assistants (*chalanés*).

Designing and Managing Construction With Antorcha Campesina

While Antorcha Campesina will not help you design your house or manage its construction, they will design the neighborhood (*colonia*) where you will live. They will subdivide the land to be squatted into an orthogonal grid, an urban design that is easy to trace and manage. Then, they will set up three key infrastructures: a construction materials store, a supermarket, and a public school. The materials store and supermarket allow the organization to profit from the consumers in their newly created captive market of landowners, who need construction materials and food. However, the public school serves an additional political purpose, allowing the organization to get state funded teaching positions and seats in the powerful schoolteacher's union.

For the design and construction of your house, you will hire a team of local construction workers, usually consisting in one or two master builders (*maestro*), one or two officials (*oficiales*), and one or two assistants (*chalanés*). You will decide the design of your house with the team of construction workers. Although you will not be following a manual, your house will be very similar to your neighbors', as it will be modeled on other houses that the builders you hired have produced.

Appendix B: Photos of Cuetzalan

This section contains a selection of photos of Cuetzalan, the town where Tosepan has its headquarters, taken during my fieldwork in January of 2020.



The shop at Tosepan Ojtasentekitinij, the bamboo cooperative.



Left: The bamboo garden at Tosepan Ojtasentekitinij, the bamboo cooperative.
Right: Cemented adobe blocks at Tichanchiuaj, the construction materials cooperative.



CMU at Tichanchiuaj, the construction materials cooperative.



The auditoriom at Tosepan is a geodesic dome with a bamboo structure.



Left: The bamboo furniture catalog at Tosepan Ojtasentekitinij, the bamboo cooperative. Right: A roadside food vendor's booth in Tosepan, built with bamboo.



Left: Bamboo furniture at Tosepan headquarters. Right: Tosepan is building a public university next to their headquarters.

Appendix C: Photos of Chimalhuacán

This section contains a selection of photos of Chimalhuacán, where I visited Movimiento Antorcha Campesina. Unless otherwise noted, all photos are by architect Arturo Ortiz Struck, who introduced me to Saúl Torres and generously accompanied me to visit them in Chimalhuacán.



Houses under construction in Chimalhuacán.





Chimalhuacán over the past twenty years.



Unused land subdivided by Movimiento Antorcha Campesina.



Left: Antorcha Campesina built and runs a teacher's college in Chimalhuacán. Right: Food vendors in a political meeting organized by Antorcha Campesina.



Left: A wall with advertising for Movimiento Antorcha Campesina. Right: Families save by accumulating durable construction materials, sometimes storing them on the sidewalk.



Electricity is usually the first service to arrive.



A political meeting organized by Antorcha Campesina.



Houses under construction in Chimalhuacán.



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