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Between self-help – and institutional housing: A bird's eye view of Mexico's housing production for low and (lower) middle–income groups

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A B S T R A C T

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Set in the framework of self-help- and institutional housing, this paper focuses on main changes in low- and middle-income housing markets in Mexico since the 1960s. Since then, self-help housing occurred at a massive scale, as a consequence of population growth and simultaneous urban growth. In the 1960s and 1970s the combined self-help housing and self-urbanization emerged as a demand making movement. Although self-help housing is no longer dominant in the metropolitan housing markets, it still is an important characteristic, especially for the poorest. Today, many households in the low- and (lower-) middle income-brackets are also offered mass-produced dwelling options, in different shapes and sizes and at different cost-levels. This paper focuses on the two pillars of Mexico's social housing provision and the need to attend the lowest-income groups better, through a reevaluation of (assisted) self-help housing and giving more clearness on modest housing products, its costs and affordability.

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Introduction

Between the beginning of the 1960s and the early 2000s, the Mexican population grew from some 35 million inhabitants to over 100 million. In the same period, the nation went through an impressive urban growth process, as a consequence of which ever more people were living in metropolitan areas, while the level of urbanization firmly surpassed 75% (CIDOC/SHF, 2008)¹. The urban growth went hand in hand with a huge demand for affordable housing, whereby the urban poor –in absence of suitable building programmes- massively resorted to self-help housing solutions. It was only in the 1970s that the Mexican state started with large-scale subsidized housing delivery programmes, which were executed by public–private funds, such as INFONAVIT² and FOVISSSTE.³ They executed a policy that would gradually turn into a success, even though the self-help housing activities of low-income groups simply went on. Nevertheless, in due course, the mass-produced, subsidized housing rose to astonishing

proportions. As a result, the (urban) housing market of the 1970s and 1980s already showed a clear-cut tenure-transition (see Gilbert & Varley, 1991). While rental housing had been the dominant tenure type for the urban low-income families, home-ownership became evermore important (from the 1970s) as a consequence of massive self-help housing activities, with its associated *de facto* or *de jure* home-ownership, and the institutional housing programmes, which created large numbers of home-owners with subsidized mortgages.

This paper offers a bird's eye view of Mexico's self-help housing processes and its subsidized housing delivery programmes. To that end, the first two sections focus on Mexico's self-help housing activities, and on Nezahualcōyotl, a large consolidated self-help suburb in Greater Mexico City, respectively. *Nezahualcōyotl, a consolidated self-help city* overviews the country's subsidized housing programmes, while the (concluding) *Public subsidized housing in Mexico* puts the findings in perspective, while stressing the need to clearly recognize the role of self-help housing.

Self-help housing in Mexico

Mexico's urban growth in the past century went hand in hand with a tremendous increase of the housing demand. Of course, the more prosperous population groups could manage very well, by leaning on private building contractors, savings and mortgages. For the poorer urbanites however, many of whom had recently in-migrated, it was a challenge to get affordable housing. In the beginning of the urbanization process, rental housing was

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¹ CIDOC/SHF produces annually a document entitled 'Current Housing Situation in Mexico'. It is being prepared by Centro de Investigación y Documentación de la Casa (CIDOC) and Sociedad Hipotecaria Federal (SHF), and e.g. supported by the government, and housing – and research institutions.

² INFONAVIT; National Housing Fund for Private Sector Workers.

³ FOVISSSTE; Housing Fund for Public Sector Workers.

important. At first, older buildings in the central city (such as the former dwellings of the elite) became available for rental purposes, generally through subdivision. In due course, the so-called *vecindades*, which were especially constructed for rental purposes, also became important. *Vecindades* were created near the edges of central cities, generally as one- or two-storey 'apartment blocks', offering simple dwellings, with one or two small rooms per unit and often communal sanitary facilities. As a consequence, the central areas of Mexico's large cities developed into important rental housing areas, offering cheap (underserved) accommodation to the lower-income groups. Although a plethora of newer developments changed the face of the central cities, many of these inner-city rental zones are still highly characteristic parts of the residential structure (see e.g. Connolly, 2006; Kranenburg & Verkoren, 1994; Ward, 1998).

By the 1960s it became clear, that the growth of low-income groups was outpacing the absorptive capacities of the urban rental sector. Looking for affordable alternatives, many people resorted to self-help housing, creating their own dwelling-solutions outside the regulated housing market. Self-help dwellings came up in areas which the users deemed fit, filling in available spaces in the city, as well as on the expanding peripheries. Frequently, sizeable self-help housing areas appeared by massive, illegal occupation of land through well-orchestrated group actions, with thousands of ramshackle shacks, by and large devoid of public services. In due course, faced by the shortcomings of formal (market) housing production, many municipal authorities developed policies of tolerance with respect to the self-help housing settlements. Gradually, many were regularized and serviced, e.g. with electricity, piped water, tarred roads and public transportation, schools, etc. In order to achieve the much-desired security of tenure and acceptable service-levels, populations of self-help housing areas also showed their decisiveness and organizational capacities, by uniting into *urban demand making movements*, which pressured the municipal political systems (see e.g. Bähr, 1987; Lindert, 1991; Ward, 1998).

Once regularization was arranged and land-titles were secured, self-help housing activities of dwellers moved towards a gradual upgrading of dwellings, following a step-by-step approach. Depending on the household's financial situation (and/or its propensity to save), dwellings were improved and expanded, using better building-materials, creating additional rooms, second floors, etc. Indeed, large numbers of houses in the settlements were improved and expanded over time, a process which might take some 5–15 years (CIDOC/SHF, 2006). In the course of time, many of the professional building activities were generally contracted out to hired professionals. So, self-help housing processes were normally developed within a framework of self-organization, self-management and self-financing. In due course, the uncontrolled character of self-help housing proved quite troublesome, e.g. with respect to duped (private) landowners, lingering regularization procedures, seemingly endless battles of local governments and demand making movements, etc. It is small wonder that local governments began to look for alternative approaches, by which self-help housing could be managed more properly. Eventually, *assisted self-help housing* projects came into being. In the beginning, it were the local governments which provided land and land-titles, basic services, or even building-support; later, a few state governments stepped in this process, as well as a series of NGOs. In due course, some municipalities even went a step further, in developing a range of sites-and-services based approaches, with different plot-sizes and amenity-levels, thus offering future dwellers a choice (be it for different price-levels). And to finance these alternatives, loan-opportunities came into being, with pay-off arrangements (see e.g. Connolly, 2006; Landaeta, 1994).

As such, the role and importance of self-help housing within Mexico's housing markets should not be underestimated. Between the 1970s and 1980s self-help housing activities were *the* major form of dwelling-production in Mexico's larger cities and essential for the provision of adequate, affordable housing to urban low-income populations. Since then, self-help housing may have lost ground, but for the urban poor it remained important as dwelling solution. The authoritative CIDOC/SHF report (2006) states e.g. that two-thirds of Mexico's housing market and about half of the nation's current new-dwelling construction essentially are related to self-help housing activities.

Nezahualcōyotl, a consolidated self-help city

In Mexico's impressive urbanization process, the federal capital and its adjacent areas played a major role. The population of the metropolitan area increased from 3.1 million inhabitants in 1950 to over 18.5 million, by and large driven by in-migration and natural increase (Ward, 1998, p. 48). Soon it became clear, that the federal capital's spatial expansion process would not be confined to the Federal District. In due course more and more municipalities of the adjacent State of Mexico (situated East, North and West of Mexico City) would become incorporated in the Metropolitan Zone of Mexico City. Today, this metropolitan area not only comprises the 16 *Delegaciones* of the Federal District, but also 41 municipalities of the State of Mexico, and one of the State of Hidalgo.

The physical expansion of metropolitan Mexico City was realized into all directions, but encountered its specific limitations: the hills at the West, a preservation zone at the South, and the Texcoco Lake at the East. The latter shallow lake was reclaimed in the course of the 20th century, offering a flat area, which was not perceived suitable for human settlement. The areas North of central Mexico City were the most appropriate for all kind of urban development; the current *development axe* is to be found here too (see Fig. 1). Especially the South –a preservation zone within the federal

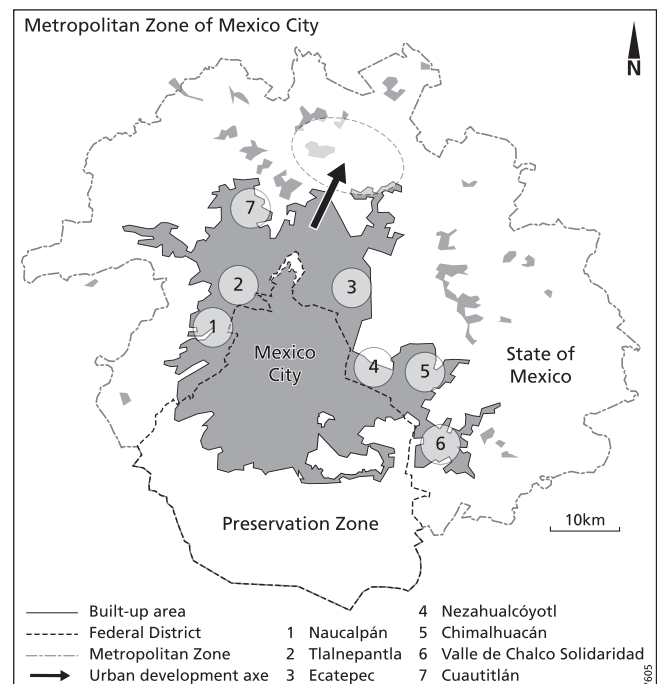


Fig. 1. Metropolitan zone limits taken from Aguilar and Ward (2003).

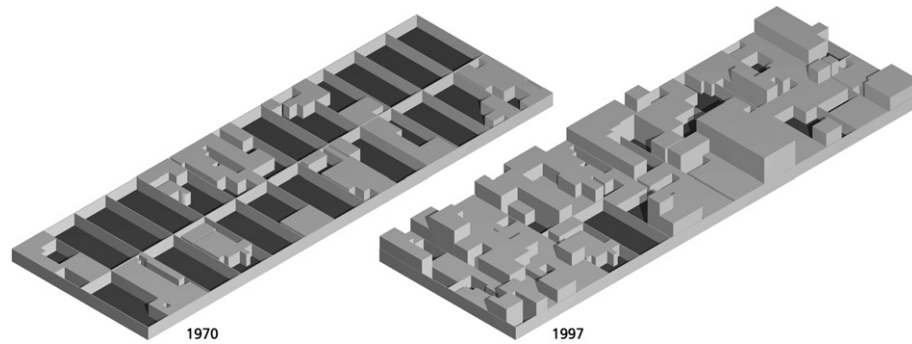


Fig. 2. Building block in Nezahualcóyotl; situations 1970 and 1997. Information taken from Ribbeck (2002) (The huge densification as presented in the second scheme 1997 is not representative for all building blocks in Nezahualcóyotl as a whole, but it expresses the densification and concentration of investments in some parts of the City. The latter is not always self-help housing; but stronger private partners are investing (in businesses and or apartment buildings). 'Building Density and Height', 301.

district- is threatened by an ongoing gradual urbanization with negative consequences for the natural environment (see Aguilar & Ward, 2003). Large-scale urban expansion plans were developed e.g. in the Northwest, in municipalities such as Naucalpán, Tlalnepantla and Cuautitlán, and in the Northeast e.g. in Ecatepec. Many poor settlers were interested in the area East of central Mexico City, where urban development was initiated by private land developers, land merchants and groups of poor households. Here, Nezahualcóyotl became the first nucleus East of the central City, while Chimalhuacán and Valle de Chalco Solidaridad, followed later. By and large, the new urban areas in the East developed as irregular settlements, mainly through self-help housing, with Nezahualcóyotl as prime example.

Invading families from the central city and migrants from other regions came to Nezahualcóyotl since the late 1950s. In 1954 approximately 40,000 people lived in the area, also called shortly 'Neza'. During the 1970s and 1980s the area grew very rapidly; eventually the number of inhabitants stabilized after 2000 at around 1.2 million (INEGI, 2005⁴). In 1983 Nezahualcóyotl was described as the greatest low-income urban area near Mexico City; at that time there were many constraints relating to urban services and infrastructure and the area was really a huge shanty town with the worst thinkable living conditions (Buchhofer & Aguilar, 1983). But this situation changed, since Nezahualcóyotl became gradually incorporated in the expanding metropolitan area of Mexico City, and since local government committed itself through investments in infrastructure which allowed massive land-development. In the meantime living and housing conditions in Nezahualcóyotl's self-help housing areas improved, backed by municipal regularization and municipal service deliveries.

Nezahualcóyotl obtained the municipal status in 1963 and is now a highly urbanized sub-centre in the eastern part of the metropolis, around 9 km east of the City's centre. The municipality has a territory of 63.44 km². Population density is 19,324 inhabitants/km², equivalent to 43 dwellings per hectare. Total Nezahualcóyotl consists of 85 neighbourhoods. The work-force of the municipality is to a large extent oriented to Mexico City, but 'Neza' is not a dormitory area alone. Urban services such as a hospital, cathedral, sports- and cultural facilities, a university, etc. are spread out over the urban area (Municipality of Nezahualcóyotl, 2009). In 1983 around 90% of the houses consisted of 1 layer; however, in 2009 this is clearly 2 layers (some houses have only one layer, the majority has two layers and some houses have 3 or 4 layers). Most plots measure 150 m². The number of houses is 239,000 and the average number of residents

per dwelling was 5.2 in 1990.⁵ Housing typology is dominated by progressive single-family homes, mainly products of self-help housing. Of all dwellings around 75% are one-family houses. Other housing types are to be found in apartment complexes and collective housing; here one can find also rental homes. Many family houses have mixed use: housing and workplace or shop (see: Buchhofer & Aguilar, 1983; Connolly, 2003; State of Mexico, 2005).

Today, Nezahualcóyotl may be considered a good example of the 'power of self-help housing', whereby massive consolidation processes gradually led to large-scale densification and improvement of dwelling-environments. Fig. 2, adapted from Ribbeck, 2002, nicely depicts the impressive changes in the dwelling environment of one of Nezahualcóyotl's *manzanas* that started as a self-help housing areas. Still, the impressive transformation of Nezahualcóyotl's built environment is not necessarily representative for the development processes of other (former) squatter settlements in Metro Mexico City. On the contrary, the differences in local decision-making among the metropolitan municipalities are large, as a consequence of legalization, service provision and dwelling-consolidation processes; frequently resulting in different outcomes, from municipality to municipality, from neighbourhood to neighbourhood and even from building block to building block.

Public subsidized housing in Mexico

The foundations of public housing in Mexico were laid in the 1930s, while organized construction activities started in the late 1940s. Still, it was only in the 1960s, that public housing attained a larger scale, when international loans, e.g. from the Inter-American Development Bank, became available to finance housing programmes in the country. Between 1947 and 1970, some 250,000 public housing units were produced, an average of about 9500 units per year (Landaeta, 1994). It was only a drop in the ocean of Mexico's (low-cost) housing demand. The combined efforts of state institutions and private market made up for only 35% of total housing production, while the other 65% was realized through self-help housing (Landaeta, 1994). By the 1970s it became clear that another approach was necessary and the Federal government responded to that need. Building on earlier experiences, a tripartite cooperation between state, private sector (i.e. the employers) and labour unions, was forged (with accompanying Federal legislation) to improve the production of public housing. In the early 1970s semi-public housing agencies were created

⁴ INEGI; National Institution of Statistics and Geography.

⁵ Municipal Development Plan of Nezahualcóyotl (by the State of Mexico).

(INFONAVIT, FOVISSSTE and FOVIMI⁶), which became responsible for planning, development and financing, taking care of the housing needs of the medium- and low-income groups. (Gilbert & Varley, 1991; Ward, 1998; Zanetta, 2004). Construction activities were generally contracted out to private building companies, which gradually became acquainted with large-scale development of (public) housing projects.

From a production perspective, the new public housing policy crafted by the *Institutional Revolutionary Party* (PRI) government in the heydays of its corporatist power, was quite successful. Firstly, the number of realized dwelling-units rapidly went upwards. In the first three years of its existence, INFONAVIT e.g. already delivered “.. as many dwellings as the entire state sector had achieved during the previous four decades” (Ward, 1998, p. 62). Next, the housing agencies were at first strongly oriented to the metropolitan areas, more especially to Mexico City. In due course, the housing institutions paid more attention to the non-metropolitan sphere; among others to the medium-sized smaller cities even in Mexico's poorer regions. Thirdly, the spectacular growth of subsidized public housing production boosted the emergence of a private building sector, knowledgeable and capable to produce on a large-scale.

However, from a socio-economic perspective, the new policy had its restrictions. Access to public housing was initially limited to heads of households, who had jobs in the formal sector *and* an income of 2–4⁷ times the legal minimum wage. Consequently large numbers of households were excluded, simply because their earnings were too low and/or because they had informal jobs. In due course it was tried to remedy this problem. The access rules were gradually eased, while the construction of different dwelling-types (with different price- and mortgage-levels) offered choices.⁸ Furthermore, the state created FONHAPO⁹ in 1981 as a Federal Trust Fund that aimed to support low-income populations who did not have access to the existing housing loan schemes, by the offering of affordable dwelling-solutions, mainly in sphere of assisted self-help housing projects. Roughly in the same period, many Mexican states and municipalities also stepped up their efforts to address the housing needs of the poor.

In the 1980s and 1990s, Mexico went through an intensive process of economic and social restructuring, with clear-cut liberalization and privatization tendencies. The effects for the public housing process, which had grown into a very important issue for the consecutive PRI-administrations, were however limited. On the contrary, in the 1980s and 1990s massive funding was made available, by large spent through regular channels, which resulted in a truly impressive housing production, inclusive the initial *housing-solutions*¹⁰ or *starter's homes*. In the period 1971–1982, the combined production efforts of the Mexican housing agencies amounted to more than 700,000 units, an average of some 65,000 per year. In the following decades the public housing production increased substantially; the Fox administration (2000–2006) housing policy has: “...boosted real estate construction throughout

the country, the generation of new instruments, and the private sector's participation, achieving historical figures in housing finance with 2.3 million loans placed over a five year period” (CIDOC/SHF, 2006, p. 81).

These impressive numbers went hand in hand with growing attention for less expensive dwelling-solutions, to cater for income-groups with less spending-power. However, the housing needs of the households at the bottom of Mexico's income-pyramid (who earned 2 times the minimum wage or less) were still insufficiently addressed. Moreover, it became clear that housing agencies themselves were in need of restructuring. On the one hand, they had become fairly bureaucratic and politicized organizations, which unfortunately also began to show sizeable deficits. On the other hand, the private building- and banking sectors gradually were willing to play a larger role in the low-income housing market. For the PRI it proved very difficult to restructure intensively ‘their’ housing agencies. In fact, it would have to wait until, in 2000, the *National Action Party* (PAN) took over presidency: the national government as well as many state governments. Since the installation of the Fox administration, the housing policy of the state changed significantly around 2000. This was underlined by the lay down of the Housing Law (*Federal Government of Mexico*) in 2006, focusing on *social production of habitat*, defined as “housing built under the control of self-producers and self-builders who operate without intending to make a profit, and is mainly designed to meet the housing needs of the low-income population, including dwellings built through self-help and community organized procedures which prioritize the value of use of the home above its market value, combining resources, construction procedures and technologies, based on their own needs and managerial and decision making abilities” (Art. 4 VIII).

The federal government is implementing a large-scale poverty reduction programme (*Hábitat*) implicating a significant transfer of financial means to local levels. Financial resources at that level are being managed by local branches of the central government or by local structures being enforced by the government in ‘local development agencies’ (UN-Habitat, 2006–2007). Present Calderón administration is continuing giving special attention to housing, as can be found in the National Housing Programme 2007–2012¹¹ (*Federal Government of Mexico*, 2007b). Contemporary housing policy of the state is broadened severely: it is focusing more and more on the lowest segments of the housing market, while the number of credit for low-income housing is increasing too.

However, this newly formulated progressive National Programme, neither pays much attention to the exploring new forms of ‘save and build constructions’, to motivating small housing cooperatives or making technical backing available/reachable for self-builders, measures that have been successful in other countries.

Through FONHAPO (2009), a federally mandated trust coordinated by SEDESOL (Ministry of social development), subsidies can be obtained for the construction of a new house, the purchase of an existing one, for home improvements and/or home enlargements (by the programmes *Tu Casa (Your Home)* and *Vivienda Rural (Rural housing)*). In this sense it is now possible to obtain subsidies for e.g.:

- acquisition or construction of a Basic Housing Unit in urban areas, up to US\$ 4000.

¹¹ The National Housing Programme 2007–2012 is one of the programmes for the execution of the National Development Plan 2007–2012 (both *Federal Government of Mexico*, 2007a, 2007b).

⁶ FOVIMI; Housing Fund for the Military.

⁷ Initially INFONAVIT focused on families with 2 minimum wages or less; in the 1990s, since the change of the Law of Infonavit in 1992 the focus was on 4 minimum wages or less, but also higher (Schteingart & García, 2006).

⁸ Schteingart & García, 2006, p. 47, give some examples of houses built by Infonavit for people with more than 4 minimum wages.

⁹ FONHAPO; National fund of Popular Houses.

¹⁰ We use the concept of ‘housing solutions’ in this article in order to clarify that housing solutions to be found in sites-and-services and aided self-help housing projects can produce acceptable dwellings, to be enlarged by the families in the course of time; this is incremental house construction, and starter's home can be part of that.

- home expansion or improvement in urban or suburban areas, up to US\$ 1500.¹²

The FONHAPO programmes are focused on the hundred municipalities with low human development index, on the combating against urban poverty and the attending to disasters; and under conditions of additional housing finance by a municipality or a state and contributions of the recipients (savings and/or own building activities).

Since 2007 there is another federal programme of finance schemes and subsidy for housing called *Está es tu Casa (This is your house)*. This programme is executed by the National Housing Commission (CONAVI), and focused on households earning less than 4 minimum wages to purchase, build or remodel a house. This A-B-C finance system (savings, subsidy and credit) is offering subsidies and loans, while demanding a contribution of the recipient's savings. Self-help housing is possible. The subsidy runs from US \$1000 (home improvement), to 3000 (the construction of a house) and to US \$ 4500 (the purchase of a new or existent dwelling), all this depending on the price of the house. Execution is through authorized institutions, which can be a municipality, a bank, a SOFOL or a housing institution (e.g. by INFONAVIT). Maximum value of the house is limited at US \$20,000 (CONAVI, 2009). Housing finance has further been improved since the late 1990s by the creation of the 'SOFOLs',¹³ special purpose financial companies, also known as 'non-bank banks', focusing on special housing segments with the support of the state, through the SHF.¹⁴ Some SOFOLs are becoming less independent from the state, because they obtain part of finance from the market.

Apart from the SOFOLs quite a few private banks are also operating in the low-income housing segment (and hence competing with the SOFOLs). Moreover, recently other private actors appeared in the low-income housing market. CEMEX, Mexico's largest cement producer, e.g. developed a social aid programme, offering building-materials, technical assistance and credit, all for self-builders, with their programme *Patrimonio Hoy* that benefitted more than 200,000 households in 22 Mexican states (CEMEX, 2009).

Fig. 3 shows the development of dwelling-solutions of the main suppliers, since the 1990s. INFONAVIT and FOVISSSTE are still very important players, although they concentrate merely on housing finance, no longer being 'building institutions'. FONHAPO's role of provider of relatively cheap, financed dwelling-solutions has picked up again after a slump since the mid-1990s; but it increased its production-activities (only for poorer households and in certain municipalities) substantially. The growing importance of 'other suppliers' such as SOFOLs and private banks also clearly advanced under the present government.

Developing sufficient urban land for housing is one of the most urgent challenges of the government. In the period 2006–2012, housing needs in Mexico will total around 5.5 million additional dwellings, causing demand for 137,000 ha of urbanized land with necessary infrastructure and equipping (CIDOC/SHF, 2006). In 2008 the target for new land is less specifically formulated: there should be enough land for the construction of 633,000 housing units each year (CIDOC/SHF, 2008). Finding sufficient public means, e.g. subsidies for the purchase of land for the poorer population will be not easy. This brings along pressing problems at the local level. Above all the poor have a weak position in the local land market as

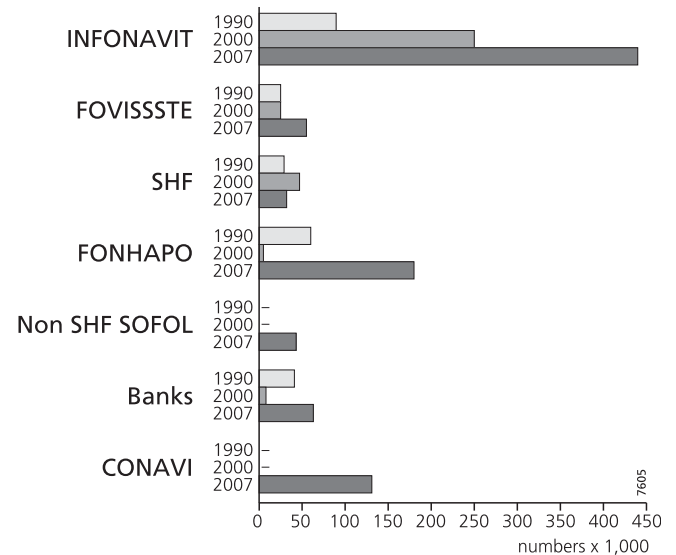


Fig. 3. Production of the housing solution of the main suppliers, comparing the 1990s to the mid-2000s. Prepared after Softec (2007–2008) and CONAVI (2009).

they cannot buy land (by themselves) for the construction of their houses. A municipality is always confronted directly with illegal land capture, with conflicts in its community as a result; therefore they tend to solve the land problem of the poor with municipal measures. In some respect, the land for housing programme in Nuevo Laredo offers an attractive answer. Most probably many other Mexican municipalities and some states are coping with the land issue of the poor, trying to find other (or comparable) solutions. In due course, there is an urgent need to increase knowledge and insight in current (municipal) strategies and – solutions on land for housing issues.

The example comes from the municipality of Nuevo Laredo, in the North of Mexico, where in 1999 a special Trust Fund ('municipal institution') installed a so-called *Land Reserve*, to benefit low-income families with plots or house/plots (Municipality of Nuevo Laredo, 2009). The main goal is to avoid irregular settlements through provision of land, adequate planning and urban development. The Trust Fund acquired 343 ha of land near the city; the land is made accessible for housing, infrastructure and services are realized and the Trust Fund sold the plots of 126 m² to households. A part of the plots were sold to families for self-construction and the other plots with completed houses. The latter was realized with support from housing programmes of the Federal government.

Looking back and looking forward

For a long time since, self-help housing was (and to a large extent still is) a major form of dwelling-production in Mexico's rural areas. During the second half of the 20th century, intimately related to massive urbanization, self-help housing 'went urban' and became evermore important in Mexico's rapidly growing (large) cities. It was the urban poor who 'constructed their own dwellings' following the principles of self-organization, self-help housing and self-financing, frequently by the creation of 'irregular settlements'. In the early 1970s, the newly established housing institutions began their (rapidly growing) delivery of subsidized owner-occupied dwellings, for the medium- and low-income families with steady jobs and a set income-level. Mexico's poorer households (generally those without steady jobs and minimum wages) did, unfortunately, not benefit from the new housing policies. It is small wonder that

¹² Amounts in US\$, calculated as follows: 100 Mexican Pesos is around US\$ 7.58 (November 2009).

¹³ SOFOLs; Limited Objective Financial Societies.

¹⁴ SHF; Federal Mortgage Society.

Table 1
Major (standardized) housing types, price – and income ranges and actors.

Housing segment	Living space m ²	Price range of houses in US\$	Annual income in minimum wages	Housing type	Self-help housing possible?	Institutional actors for housing finance
E (Minimum)	20–30	<8000	<2	Core house or basic unit	Yes	FONHAPO with other public partners
D (Social)	30–50	8000–20,000	2–5.5	Small (row-) house, or apartment	Yes	CONAVI with other public and private partners
D+ (Economic)	50–75	20,000–38,000	5.5–11	(Row-) house, or apartment	Possible but not usual	All main housing institutions
C (Middle)	75–100	38,000–100,000	11–26	(Row-) house, semi detached	Possible but not usual	Private banks, partly public support
A/B (Residential)	More than 100	More than 100,000	High-incomes	Expensive dwellings	Possible but not usual	Private banks

Information derived from CIDOC/SHF (2006–2009) and Softec (2008).

they continued to rely on the dwelling-solutions accessible to them, i.e. self-help housing. In due course, many poor household were, in the realization of their dwellings, supported by 'assisted self-help housing mechanisms', through which quite a few Mexican states and/or municipalities involved themselves in self-help housing.

Over time, Mexico's public housing programmes underwent important changes. Eventually, the public housing institutions withdrew from developing and delivering housing projects, to become facilitators and providers of 'housing finance' for the lower-income groups. In addition, private housing finance was introduced, e.g. through SOFOLS and banks, and gradually quite a few housing finance products came into being, which offered the low-income households a range of housing options. In this respect, the private construction business also became involved in the production of modest 'dwelling-solutions', varying from the delivery of (small) full-developed houses, to (smaller) core-housing variants. Since the 1990s, the production of dwellings and other housing solutions reached staggering numbers, as did mortgages and other forms of housing credit, while Mexico's housing delivery system becoming more flexible *and* reaching out to a rapidly growing number of low-income families. Still, about half of Mexico's population earns less than 3 minimum wages.¹⁵ For them, customary housing is hardly accessible, also as a consequence of job-insecurities, and associated income-variations. Together they form a huge group, with limited purchasing-power and limited capacities for mortgage-rent and pay-off terms. Yet, there are possibilities to support this group, to get access to the subsidy – and credit system, as the examples of FONHAPO, CONAVI, CEMEX show.

Table 1 interprets the housing products of Mexico, as they emerge from current policies, with respect to housing types, socio-economic segmentation (A/B–E), estimated ranges for housing prices and a few other variables.

At a first glance the table shows a fair diversity in the supply of dwellings/dwelling-solutions, especially if the early beginnings of INFONAVIT's housing programme are taken into account, while the building activities of the original housing agencies became more and more oriented to the delivery of houses for the upper–lower and lower-middle income groups. Current policies seem to pay more attention to the delivery of dwelling-solutions for the lower-income groups (with the well-off being provided by other actors). We have to bear in mind that the public housing institutions have become housing finance institutions, which act as co-financers, in which generally deliver their credit at higher rates of housing finance.

¹⁵ The minimum salary in 2009 in Mexico is 54.80 pesos in the A zone, 53.26 in the B zone and 51.95 in the C zone; one minimum salary is around US\$ 4 per day (2009).

At the same time the table suggests, that an important problem, viz. the housing needs of the poorest populations, remain unsolved. Indeed, despite the impressive growth of Mexico's subsidized housing delivery system over time, the poorest socio-economic groups have been virtually excluded, during the heydays of the public housing agencies, as well as in the 21st century, when the 'privatization process of the low-income housing market' was unfolding. Incorporating these poor (and a very large share of Mexico's households earns less than three minimum wages) will be a tall order indeed, since customary delivery processes do not seem to be suited for them.

As Connolly (2006) already pointed out, it is of utmost importance to recognize, for this sizeable socio-economic group, the very role of self-help housing and to incorporate it into the housing policies. Indeed, self-help housing processes may also result in the creation of 'decent houses', be it by a building (and associated consolidation) process that takes more time. In this respect one might think of approaches, which are embedded in the principles of assisted self-help housing (in the framework of which a building permit is granted which allows a 'status of growth' for e.g. 5–10 years), together with well-tailored, small, housing-improvement loans/micro-credit. In this context, the current FONHAPO and CONAVI approaches as mentioned above, may be perceived as an important first step.

Another unsolved problem relates to the demand for low-income rental facilities. The rental segment of the housing stock amounts 14.6% of 25.9 million houses. Looking for possibilities to stimulate the rental housing market, especially for those who cannot find ways for the (subsidized) purchase of a house, certainly is a topic, which promotes adequate forms of public/private rental facilities with a guarantee for reasonable profit.

A major problem, intimately tied to the future growth of Mexico's urban housing market, is related to the land problem, i.e. the necessity to create and develop sufficient urban land for housing purposes. CIDOC/SHF (2006) already estimated that the housing needs in the country for the period 2006–2012 might surpass 5.5 million new dwellings, with the needed acquisition of urban land as described in *Nezahualcōyotl, a consolidated self-help city* in this article, by and large in the peripheries of the present urban areas. Some 40% of this need for this land needs might be destined for the housing of the poorest families who depend to a large extent on low price-levels per square meter. The proper accommodation of the urban poor in new peripheral settlements will be especially important to prevent new spontaneous invasions, hence the emergence of new irregular settlements. Solving the land for housing question (e.g. by the creation of a public–private land bank, or by pre-investing in future urban expansions) will be of prime importance indeed. For the time being it seems that the land question is not centre stage in the housing approach of Mexico's government which

primarily stresses a further extension of housing credit to over one million per year.

References

- Aguilar, A. G., & Ward, P. M. (2003). Globalization, regional development, and mega-city expansion in Latin America: analyzing Mexico City's hinterland. *Cities*, 20 (1), 3–21.
- Bähr, J. (ed.) (1987). *Wohnen in lateinamerikanischen Städte. Kieler Geographische Schriften*, (Vol. 68). (Kiel).
- Buchhofer, E., & Aguilar, A. G. (1983). *Planeación Urbana y Ordenación Espacial en la Periferia de la Ciudad de México*. Mexico City: Depto de Geografía UNAM.
- CEMEX. (2009). Information on housing programme Patrimonio Hoy. Website: http://www.cemexmexico.com/se/se/-ph_de.html.
- CIDOC/SHF. (2006). *The current housing situation in Mexico 2006*. Mexico City: CIDOC/SHF.
- CIDOC/SHF. (2008). *Estado actual de la vivienda en México 2008*. Mexico City: CIDOC/SHF.
- CONAVI. (2009). Federal housing finance (subsidy) programme. Website: www.conavi.gob.mx.
- Connolly, P. (2003). The case of Mexico City. In UN-habitat understanding slums: Case studies for the global report 2003. Website: http://www.ucl.ac.uk/dpu-projects/Global_Report/pdfs/Mexico.pdf.
- Connolly, P. (2006). *¿Política de vivienda o política de construcción? La vivienda en México: Construyendo análisis y propuestas*. Mexico City: Centro de Estudios Sociales y de Opinión Pública. Cámara de Diputados/LIX Legislatura. Website: cesop@congreso.gob.mx.
- Federal Government of Mexico. (2006). *National housing law*. Mexico City: Government.
- Federal Government of Mexico. (2007a). *Plan nacional de desarrollo (national development plan) 2007–2012*. Mexico City: Government.
- Federal Government of Mexico. (2007b). *Programa nacional de vivienda (national housing programme) 2007–2012*. Mexico City: Government.
- FONHAPO. (2009). Federal housing finance (subsidy) programmes. Website: www.fonhapo.gob.mx.
- Gilbert, A., & Varley, A. (1991). *Landlord and tenant. Housing the poor in urban Mexico*. London: Routledge.
- INEGI. (2005). *Mexican Population and household Census 2005*. Mexico City: INEGI.
- Kranenburg, R., & Verkoren, O. (1994). Rental housing in the state of Chihuahua, Mexico: a view from the smaller towns. In A. Harts-Broekhuis, & O. Verkoren (Eds.), *No easy way out: Essays on third world development in honour of Jan Hinderink*, Vol. 186 (pp. 349–356). Utrecht/Amsterdam: KNAG/NGS.
- Landaeta, G. (1994). *Strategies for Low-income Housing, A comparative study on Nicaragua, Mexico, Guatemala, Cuba, Panama, Costa Rica and El Salvador*. Dept. of Architecture and Development Studies (thesis), Lund, Lund University.
- Lindert, P. van (1991). *Huisvestingsstrategieën van lage-inkomensgroepen in La Paz*. Utrecht/Amsterdam: KNAG/NGS.
- Municipality of Nezahualcóyotl. (2009). Historia del municipio. Website: www.nezahualcoyotl.gob.mx.
- Municipality of Nuevo Laredo. (2009). Information on fideicomisos; 'reservas territoriales'. Website: www.nuevolaredo.gob.mx.
- Ribbeck, E. (2002). *Die informelle moderne spontanen bauen in Mexiko-Stadt*. Stuttgart/Heidelberg: awf-verlag.
- Schteingart, M., & García, B. (2006). Nuevas políticas de vivienda en México. Nuevas relaciones entre sector público y privado y retos para el futuro. In *La vivienda en México: construyendo análisis y propuestas*. Mexico City: Centro de Estudios Sociales y de Opinión Pública. Cámara de Diputados/LIX Legislatura. Website: cesop@congreso.gob.mx.
- Softec, S. C. (2008). *Mexican housing overview 2007–2008*. Mexico City: Softec S.C.. Website: www.softec.com.mx.
- State of Mexico. (2005). Municipal urban development plan for Nezahualcóyotl. Estado de Mexico. Website: <http://www.edomex.gob.mx/sedur/planes-de-desarrollo/municipales>.
- UN-Habitat. (2006–2007). *State of the world's cities 2006–2007, the millennium development goals and urban sustainability, 30 years of shaping the habitat Agenda*. London: Earthscan.
- Ward, P. (1998). *Mexico City* (Revised 2nd ed.). Chichester: John Wiley.
- Zanetta, C. (2004). *The influence of the World Bank on national housing and urban policies: A comparison of Mexico and Argentina during the 1990's*. Farnham: Ashgate.