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Pro-poor housing policies: Rethinking the potential of assisted self-help housing

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A B S T R A C T

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In developing countries, the prime actors in the shelter delivery processes are the households themselves. Massive numbers of people practice incremental self-help housing because other options are out of their reach. Official strategies to support the self-help efforts of the poor have developed since the 1970s through small-scale sites-and-services schemes combined with some form of assistance for self-builders. In many developing countries, the main housing practice has been through self-help, strongly propelled by massive rural to urban migration. Since the 1980s, international research and policy agendas focused more and more on a broadened habitat approach and attention for self-managed house construction gradually declined. Yet, self-help housing is still a widespread phenomenon, although mostly unattended or even ignored by governments. This paper stresses the importance of self-help housing and makes a plea for a revaluation of 'assisted self-help' as part of national and local housing policies. In view of the urgency of the urban housing question, new pro-poor housing policies are to be developed that actively support self-build initiatives. Assisted self-help housing has to be put central on the urban development agenda.

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Introduction

This paper focuses on the challenge of how to devise and implement self-help housing strategies that are suitable for the majority of low-income households in developing countries and will lead towards improved access to shelter for everyone. While most families have low to very low-incomes, their governments tend to focus on solving the housing problems of the middle classes. The gap between the supply of and the demand for affordable housing in developing countries is huge. In view of the immediate future housing demand, governments must pay much more attention to the powerful factor that self-help housing can be, or in the words of UN-Habitat (2005b: 166):

"Assisted self-help housing is the most affordable and intelligent way of providing sustainable shelter. It is cheap because it is based on minimum standards and incorporates a substantive amount of sweat equity. It is useful because individuals and communities engaged in it acquire precious skills. It is practical because it responds to people's actual need and levels of affordability. It is flexible because dwelling units are often designed to be able to expand over time. But all construction, and particularly incremental

upgrading, requires a suitable supply of building materials, components and fittings".

This vision can be seen as a resurrection of 'assisted self-help housing', which means that households will receive outside support in building their homes. Such outside support may take various forms, ranging from the provision of land or plots with basic services or core houses on plots within a sites-and-services scheme, to technical assistance with self-help and housing micro-finance schemes. This paper elaborates on various vital elements of (assisted) self-help housing and housing policies in general, such as the significance of incremental self-help housing, housing qualities, urban land uses and the need for urban densification. This will lead to the plea for a differentiated approach of assisted self-help and other housing policies. Indeed, the actual question is how to overcome the great housing deadlock, knowing that national and local governments, with their financial and managerial limitations, must find new ways for making housing policies and urban planning appropriate and executable for the various social target groups.

The urgency of the urban housing question

Governments in the developing world face with immense challenges in the field of housing provision for the urban poor. The majority of the countries in Africa, Asia and Latin America cope with massive quantitative and qualitative housing deficits. As numbers of urban population in the developing world will continue

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to increase dramatically, national governments, metropolitan authorities and city administrations are confronted with a major task of accommodating their citizens. In 1950, approximately 730 million people lived in cities (29% worldwide). Today, there are 3.3 billion urban residents worldwide, a little over 50% of the total world population. UN estimates indicate for the year 2030 that almost 5 billion people will live in cities, around 60% of the world's population (UNFPA, 2007). According to recent data, urban population of the developing world alone will be 5.3 billion by 2050 (UN-Habitat, 2008). Although such population projections may well be open to debate, it is obvious that millions of new houses will have to be provided, in order to accommodate the increasing urban population. An estimated number of over 2.8 billion people without adequate shelter will be in need of decent housing and urban services by the year 2030 (Table 1). The estimated demand for housing – merely to accommodate the increase in the number of households over the next 20 years – is around 877 million housing units (UN-Habitat, 2006). This implies the need for vast housing production each year, at least for the decades to come. Indeed, such massive housing production and the provision of the necessary building materials is a major challenge for the next generations of policy makers, practitioners and academics.

Governments in the rapidly urbanizing (developing) world are faced with the twofold responsibility of improving the quality of housing in the existing slum and squatter settlements and of providing land and housing to those without shelter. So far, however, only some states – in particular those that in the past decades have shown relatively strong economic growth – have opted for large-scale public housing programmes. Singapore and Hong Kong are prime examples of mass public programmes with apartment complexes with high urban densities. Now large-scale housing solutions are being realized in China; offering a vast production of high-rise apartment buildings, but this is exceptional. Mexico is exemplary for its successful large-scale (semi-) public housing programmes implemented by institutions like INFONAVIT and FOVISSSTE, but even with such approaches, informal self-help housing has never been absent (Bredenoord & Verkoren, 2010).

Even in countries with massive public housing programmes for the poorest citizens it is very difficult to gain access to any form of formal shelter. Indeed, in general terms, the housing supply conditions for the urban poor in most developing countries have not significantly improved over the past few decades. They are the ones who have to rely on their own ingenuity, energy, skills and resources in order to meet their vital shelter needs. Faced with the lack of so-called conventional or formal housing solutions, the urban poor have virtually no other option than to resort to unconventional or informal modes of housing provision (Keivani & Werna, 2001).

Such informal housing solutions have been propagated by many practitioners and academics of the 1970s and 1980s, following the path-breaking work of self-help housing pioneers like Charles Abrams (1966), William Mangin (1967) and John Turner (1967, 1983). These scholars rejected the expensive standard solution of turn-key housing projects and made a convincing plea for an

approach in which direct governmental involvement would be drastically reduced. According to their view, the urban poor had proven to be capable of building their own dwellings if they were not being hindered by oppressive regulatory systems. Such self-managed construction had the great advantage that the households could decide for themselves when to expand or improve their dwelling, in accordance with their needs and priorities. Obviously, the housing priorities of households vary according to their changing needs, dependent on, for example, their phase in the family cycle, the stability and location of their sources of income, and the saving-capacity of the households. It follows that a standard solution for the urban poor does not really exist. The self-help school considered housing security as the prime requirement for such self-build processes to succeed (Harris, 1998). It must be mentioned that the self-help school was criticized by other scholars, e.g. Burgess (1982), Ward (1982) and Mathéy (1992). The academic attention for self-help housing since 1992 is minimal, while Bromley (2003) and Harris (1999, 2003) gave later historical reflections on the theme.

Based upon these insights, the World Bank started in the early 1970s to promote the self-help school's approach to self-managed incremental housing construction, albeit with its own emphasis on financial viability and cost-recovery. This meant that the self-help projects should be affordable for the poor and that the beneficiaries themselves were to be held responsible for the repayment of the loans. Ideally, these repayments should lead to revolving or rotating funds. Such funds were deemed important because they formed a type of guarantee for the replicability of the projects.

Very soon the World Bank financed sites-and-services and settlement upgrading projects mushroomed in many of the largest cities in Africa, Asia, and Latin America. In sites-and-services projects, low-income groups were given plots of land including basic infrastructure, such as electricity, drinking water and sewerage. In general, these projects were small-scale and were often situated on the urban peripheries. The main reason for this was the relatively low land value in urban fringe zones, which enabled governments to reduce costs in land acquisition. Due to this peripheral position, however, provision of infrastructure in many cases became disproportionately expensive. Often, kilometres of piping had to be laid out to connect the location with the main urban service networks. In spite of the relatively low land prices, in many cases the total acquisition costs simply proved to be too high for the urban poor. This even worsened when the peripheral location made it necessary to include a core-housing unit on the plots from which new residents would be able to start their self-managed building without having to travel to the project area daily. Other families started building on a plot while living there in a temporary shelter during the initial phase.

The settlement upgrading schemes had a larger impact. Before these schemes, the consolidation of the self-built dwellings often stagnated in the urban slums and squatter settlements as a direct consequence of the lack of security of tenure. Without solid proof that such informal settlements were accepted by the authorities and that they were no longer threatened with removal, inhabitants considered additional investments in time and money as too risky: "Community residents must feel secure in their residential circumstances if they are to invest the effort, money and time to make upgrading improvements in either housing or infrastructure" (Choguill, 1999: 299). Settlement upgrading projects acknowledged this all-important element of housing security, and for that reason the regularization of land tenure was the first priority of such schemes. In this way, a critical barrier for housing consolidation was eliminated.

The second vital element in such settlement upgrading schemes was the provision of basic services and a social and physical

Table 1
Estimated number of people requiring housing and urban services in the year 2030.

Urban population worldwide	Year	Number of people
Urban population	In 2003	3043 million
Estimated urban population	In 2030	4944 million
Additional urban population	2003/2030	1900 million
Population living in slums	2001	924 million
People requiring housing and urban services	2030	2824 million

Source: UN 2005 (Statistical Annex).

infrastructure. Both types of interventions nearly always resulted in an immediate self-help construction boom in the informal settlements (Keare & Paris, 1982; Mathéy & Sampat, 1987; Strassmann, 1984). The major role of government in such schemes was to create a favourable environment for development of the self-built initiatives of the urban poor. This role is characteristic of projects in the 1970s and much of the 1980s. This represented a major turning point from the earlier period, when state intervention with spontaneous settlements had basically meant the eviction of the inhabitants and the clearing of their provisional shacks. In that sense the gradual transition towards a more permissive environment for the poor was a substantial change for the better although evictions still threaten many low-quality illegal settlements.

Yet, there were also many sceptics with respect to the new housing strategies. The doubts especially refer to the fact that there is little evidence that these interventions did actually reach the intended target groups. Although it was widely acknowledged that the physical improvements of the dwellings and neighbourhoods were often nothing short of spectacular, critics claimed that it was certainly not self-evident that the beneficiaries were the same households as the ones who had initiated the settlement process in the spontaneous neighbourhoods in the first place. Thus, individual projects would righteously deserve prestigious 'best practice' awards, but an objective assessment of the results on the ground would often lead to rather gloomy conclusions (Verma, 2000). Moreover, the new approach still focused very much on small-scale pilot projects. Allowing for some exceptions, such as the Kampung Improvement Programme in Indonesia and perhaps some positive experiences in Jordan and Tunisia, neighbourhood upgrading projects hardly had a knock-on effect that stretched into the adjacent districts.

For these reasons, many of these self-help schemes never went beyond the rank of 'symbolic schemes' (Rothenberg, 1981). Due to the lack of financial resources, such interventions were too incidental and too small to be effective in coping with the urban challenge. Also, there was not always a positive relation between these housing policies and the overall urban socio-economic conditions. It was claimed that the sheer size of the exploding cities and the alarming growth of poverty called for other solutions beyond the small-scale self-help pilot projects.

The shift from housing policies towards a comprehensive habitat approach

By the mid 1980s, when it had become clear that individual sites-and-services and settlement upgrading projects would not be able to meet the increasing housing need, the general view on self-help changed gradually. The hitherto almost exclusively housing sector approach made way for a much broader method of working that focused on city-wide and integrated habitat and governance approaches.

Such new directions were heavily influenced by the outcomes of some important international UN conferences. Whereas the Habitat-I conference in Vancouver in 1976 strongly emphasized the role of shelter as a basic need that should be fulfilled, later conferences had a distinctly broader scope. As such, the 1992 Earth Summit (UNCED) in Rio de Janeiro put sustainable development on the centre stage. The 1990s witnessed the gradual paradigm shift towards sustainable development and local governance. There was general agreement that, in order to secure sustainable urban futures, the social, economic, and environmental components of urban development were to be incorporated into holistic planning frameworks. In some nations, such as South Africa, Integrated Development Plans for cities became mandatory by law. The making and maintaining of municipal development plans and using

strategic planning and participatory budgeting is quite usual in Latin America. The Earth Summit was at the same time a reflection of, and the catalyst for, initiatives in this field. The resulting Local Agenda 21 symbolises the importance of local action for sustainable development. A few years later, on the occasion of the City Summit in 1996, the Habitat Agenda was proclaimed with a clear focus on devising enabling strategies. By employing such new vision of an enabling state, the public sector (both national and local governments) would be better equipped to create improved conditions for the inhabitants and businesses to develop their local living and production environments (Jenkins, Smith, & Wang, 2007).

The drive for sustainable local development, under the primary responsibility of local governments but constrained by their small budgets and often poorly developed administrative capacities, led to an increased demand for training support, knowledge exchange, capacity development and institutional strengthening. The Urban Management Programme (a joint initiative by UNCHS Habitat, UNDP and World Bank: 1986–2006) and subsequent international donor programmes were adapted to meet these demands. One such programme is the Cities Alliance multi-donor partnership, including a broad range of multilateral, bilateral, and non-government partners. The Alliance is regarded as a first move towards implementation of the World Bank's Urban and Local Government Strategy, in particular with respect to the framing of city development strategies and service provision to the urban poor. The first task ahead is to give broad support to local processes of community participation, in order to assess the direct needs and priorities and to provide viable solutions through strategic urban and/or metropolitan development plans (World Bank & UNCHS, 1999: 9; Bredenoord, 2005a).

The shift from the formerly rather reductionist housing approach towards a broader perspective that aims to integrate urban management, local governance and poverty reduction approaches certainly has encouraged policy makers and scholars alike in reassessing the urban question. However, since the beginning of the 1990s, the relevance of appropriate self-help housing strategies, including the development of good practices of self-help building methods of individual families and collective communities, seems to have totally disappeared from international, national and municipal policies. In this respect, the history of Sri Lanka's 'Million Houses Programme' and its aftermath is exemplary for many – albeit less spectacular – experiences in other nations (Joshi & Sohail, 2010). Our contention is that this gradual paradigm shift puts the assisted self-help strategies for the urban poor in jeopardy and, as such, there is a real danger that the baby will be thrown out with the bath water. The shift towards a comprehensive habitat approach should offer effective new housing solutions for residents. However, the comprehensive approach distracted attention from the housing question, as integrated urban development and the stakeholder approach turned out to be very complicated. It did not offer quick solutions for the need for urban investments, for instance sufficient land for housing programmes and integrated slum improvement. The comprehensive approach provided a model for integrated urban development, but its implementation was not secured simultaneously. In practice, housing policies depend very much on visions and financial possibilities of governments; this is why housing policies differ from country to country and from municipality to municipality. The emergence of big cities, city regions and mega cities demands a vision on metropolitan governance.

The significance of incremental self-help housing for the urban poor

In the philosophy of the self-help proponents, the government's role is to create the conditions (e.g. availability of land with

infrastructure) that enable the urban poor to build their own houses incrementally. Critics have pointed out that not every household is able to construct its own house, that the quality of self-help housing is often very poor and that governments are not able to purchase and develop sufficient land to satisfy the massive demand for low-cost housing. More often than not, private land developers buy and develop land and subsequently subdivide it for sale to prospective owners, be it within or outside a legal setting. As a rule, the private sector does not offer housing products to poor families, since its main driver is profit. That is why the commercial sector mainly focuses on the middle and higher income groups. In sum, it is not surprising that the informal mode of housing provision in many developing countries proves to be much more significant for housing the poor than the conventional – commercial and public sector – modes of supply (Box 1).

Besides the huge quantitative weight of informal housing, for the poor themselves the self-help process also has many vital qualitative aspects. The most important quality aspect relates without any doubt to the use value of the house for its residents, especially because of the relative safety, security and privacy the home provides to them. Most of the new self-builders are relatively young adults who are in their child launching years and thus in need of independent living

Box 1. The quantitative importance of informal housing supply.

'the evident failure of both exclusively state and exclusively market provision approaches, leaves no alternative to self-help solutions () at least as a complementary measure to other programmes' (Mathéy, 1992: 1).

The quantitative importance of informal housing supply may be shown for a wide variety of national contexts, e.g.:

- 70% of all investments in housing in the majority of developing countries were done by households, realizing 'progressive housing' or 'incremental shelter' (UN-Habitat, 2005b: xli).
- In Latin America, less than 30% of dwellings are produced by the formal mode of housing production (UN-Habitat, 2005b: xxxviii).
- In Mexico City an estimated 9.5 million people – or 60% of the total population – lived in 1990/91 in houses constructed by self-help. At about the same time 1.7 million or 61% of the residents of Caracas were to be found in such shelter (Potter & Lloyd-Evans, 1998: 137).
- According to De Soto (2000) 53% of urban residents and 81% of rural residents in Peru lived in houses being built by the informal mode of production.
- In Nicaragua, 85% of the actual housing production is being built by self-finance and self-help housing (Nicaragua Government, 2005 (The National Housing Plan of Nicaragua was published in 2005 by the former Bolaños government; the present government of Ortega did not continue with this plan and the house production with incentives from the State dropped dramatically since 2006.).
- In Indonesia, more than 90% of all housing units constructed each year are built without support from Perum-Perumnas, BIN, or from private banks (Perum-Perumnas is the National Urban Housing Development organization and BIN is the State Savings Bank, both in Indonesia. The vast majority of low- and lowest-income group households receive very little assistance from formal-sector housing institutions.). (UNCHS-Habitat, 1993).

space which may be expanded over the years. Before moving to the new settlement, they may have stayed previously with their parents or in overcrowded rental housing conditions. The start up of a home of one's own means a vital step in their housing career as well as in their family cycle (Moser, 1982; van Lindert, 1991).

In addition to the use value that the self-built house has for the residents, the commercial value of the property is no less important and it will also tend to increase. With time, the house can become the family's moneybox, especially if the family has a high degree of tenure security and if the house is built in a durable way. Recent research in Bogotá, Mexico City and Monterrey shows that the commercial value of the self-built houses in the formerly informal – and now consolidated and mostly regularized – neighbourhoods is significant.¹ No less importantly, the house may evolve into a key asset as it provides the household new opportunities for income generation. Once the settlement is being serviced with electricity, water, sewerage and garbage collection, the house will more easily become a place of work, ranging from small shops or window sales to workshops with all kinds of repair and service activities and 'invisible' subcontracting activities (Coen, Ross, & Turner, 2008; Strassmann, 1987; Tipple, 1993; Wiggle, 2008). "In many cities, slums and squatter settlements are also the principal location of informal-sector enterprises, including micro- and small-enterprises (MSEs) and home-based enterprises (HBEs). "They consequently make a significant contribution to employment creation, local economic development (LED), the urban economy and national growth" (Majale, 2008: 271).

In addition to such productive activities, the newly expanded houses offer more space for letting and sub-letting, which also is a substantial source of income generation to the small-scale landlords in the informal settlements, especially in the more consolidated ones. In principle, self-help housing offers the residents a relatively high degree of independence. If the house is being built incrementally, according to the availability of savings and without excessive use of credits, the obligation to pay-off past debts every month is limited or zero, which is of vital importance for standard consumption and productive investments of poor households.

Qualitative aspects of self-build housing

When self-help housing processes are in the initial stage, the quality of the houses is often low and in many cases one cannot even speak of it as a 'house'. Many families build their shelter with flimsy materials such as cardboard, pieces of plastic or rush mats, on land obtained by illegal land occupation. When illegal land occupation is at stake, one cannot expect that the occupants will invest in a durable house, but if the household possesses a plot with a formal land title, the situation is different. Although an initial shelter may give a quite primitive impression – which leads many architects and politicians alike to morally condemn such 'indecent' or 'undignified' housing – what finally counts is the ability of the family to improve their housing and living conditions throughout the years. Unquestionably, in the early stages of self-building, liveability in the new settlements is still far from acceptable. These settlements usually do not offer adequate public services, healthy environments and public security. The social environment in the neighbourhoods can be a breeding ground for all kind of problems: many youngsters often do not attend school, the residents do not

¹ In Mexico City, the average market value of self-built dwellings in consolidated settlements is the equivalent of US \$95,000. The value of dwellings in consolidated self-built neighbourhoods of Monterrey and Bogotá average US \$30,000 and US \$35,000 respectively (information provided by Peter Ward at the LASA Conference in Rio de Janeiro, June 13, 2009. For information on the methodology and further results of the research project, see: www.lahn.utexas.org).

have paid work and some of them may even be involved in criminal activities. The State of the World's Cities Report 2006/7 reveals how inequity in access to services, housing, land, education, health care and employment, may lead to rising violence, environmental degradation and underemployment (UN-Habitat, 2006). For practical monitoring purposes, UN-Habitat developed 5 'shelter

deprivation' indicators: lack of durable housing; lack of sufficient living space; lack of access to improved drinking water; lack of access to improved sanitation; and lack of secure tenure (Box 2).

Self-help housing comes in many shapes and sizes. The way self-build homes are designed and built depend primarily on environmental, cultural, technical and socio-economic factors. The

Box 2. The 5 shelter deprivation indicators used by the UN.

1. Lack of durable housing

The lack of durable housing is the deprivation factor that directly relates to the substandard quality of the housing stock. It is estimated that 133 million people in developing countries do not possess durable houses (This number seems to be very low, in view of the enormous housing demand worldwide. The reason is that the definition is inadequate and only related with permanent floor materials.). The amount of durable housing tends to be underestimated, because durability is primarily based on the presence of individual constructions; not on location and not on its compliance with building codes. Concerning housing quality, mainly the qualities of floor materials are taken into consideration, because information on the materials of roofs and walls is often lacking. More than 90% of the houses in the world have permanent floors, but when this indicator is combined with the qualities of floor, walls and roof constructions, the percentage of durable housing drops dramatically in some countries. For example, if in Bolivia only the floor materials of the houses were taken into consideration, 83% of the population would live in a durable dwelling. However, if the durability indicator would also include the materials of the walls and the roofs, the percentage would drop to a mere 28%. In addition to the quality of the structure of the building above the ground, the quality of the building's foundation is an essential characteristic for the durability of the house. If the foundation is inadequate or lacking at all, future construction of additional floors will be out of the question.

2. Lack of sufficient living space

Overcrowding is a manifestation of inequity and it may also imply a hidden form of homelessness. In 2003, about 20% of the world's urban population (401 million people) lived in dwellings with a huge shortage of living space (with approximately 3–4 persons sharing a bedroom) (This aspect of housing quality does not reveal the most crucial elements of overcrowding, i.e. the number of residents per dwelling and the floor space of an average dwelling.). The lack of adequate living space is most acute in Africa and South- and Southeast Asia. Together with the lack of access to water and sanitation, overcrowding is very much related to negative health indicators (high incidence of diseases, child mortality, etc.).

3. Lack of access to improved drinking water

Access to safe drinking water is unevenly distributed around the globe; e.g. in general there are differences between rural and urban areas, and between the world regions. Getting water from a tap is a luxury enjoyed by two-third of the world's urban population. "In 2003, 62% of all city dwellers had access to piped water, 46% of whom had water piped into the dwelling and 16% of whom had a water tap in the yard or plot. Public taps serviced 10.4% of the urban residents, and 8% had access to pumped water or protected wells" (UN-Habitat, 2006). Differences per region show that Sub-Sahara Africa has the lowest percentage (38.3) of the urban households with water pipes, while Asia and the Caribbean have the highest percentage namely: 89.3 (in 2003). Millions of people living in developing countries suffer from water-borne and water-related diseases, indicating that they do not have access to safe drinking water. So, besides the presence of water taps the quality of drinking water is crucial.

4. Lack of access to improved sanitation

More than 25% of the urban population in developing countries, 560 million people, is confronted with a lack of adequate sanitation. UN-Habitat analyses show that in cities in Southeast-Asia and South-Asia a significant progress was achieved concerning the improvement of coverage of urban areas, while the Regions Sub-Sahara Africa and Eastern Asia fall short of expectations, because 45%, respectively 31% of the urban population still does not have access to improved sanitation systems. The lack of decent sanitation does not only threaten the dignity of the urban poor but has negative consequences for the health situation.

5. Lack of secure tenure

In some countries massive evictions of illegal slum and squatter settlements were executed by the government, for example in cities in Asia, and these were executed in order to create space for large-scale infrastructure or urban renovations. Improving the legal status of the property right of land and dwellings could prevent evictions, but making this operational security of tenure is quite a challenge. Although legal home ownership may be considered as a most safe form of property, it is far from being the norm in developing countries. Yet, it is pertinent to note here that housing security is not entirely dependent on the legalization of property. Gilbert (2002) convincingly argues that the key to self-help construction and dwelling improvement is the perception of security, not the formal titling for itself. Such perceptions will undoubtedly positively be influenced once the settlements are serviced by the local governments.

Source: UN-Habitat, 2006.

availability of building materials from local resources, indigenous architectural traditions and climatic conditions all influence the collectivity of self-build styles in each specific context. Socio-economic factors, especially earning capacity and purchasing power, are to a large degree responsible for the individual differences between self-help housing products in the same neighbourhoods. The national and local policy environments are vital for yet another differentiating force between self-help settlements, in particular because of the key role which government policies play with respect to the provision of public services and infrastructure.

The size of self-built houses (floor spaces in cubic meters) also varies according to individual possibilities. In this respect, it is of particular relevance whether the initial plot size and technical conditions of the core house allow self-builders to incrementally expand their homes, horizontally or vertically. Plot sizes vary in different contexts. Whereas plots in Villa El Salvador and Ventanilla (both municipalities in Lima's metropolitan area, see Fernandez-Maldonado & Bredenoord, 2010) are no bigger than 90 and 120 m², respectively, original plot sizes in Mexico City's consolidated settlement of Nezhualcōyotl averaged around 150 m². Some of these plots have been subdivided and contain two or more independent houses for individual families. Current urban expansion plans in Mexico follow this trend of allocating considerably smaller plots, their average size being no more than around 60 m² (Bredenoord & Verkoren, 2010).

In most urban contexts, the optimal – that is, most efficient or economical – plot size is somewhere between 80 and 120 m². In cases where the plot sizes are substantially larger, say 200 m² or more, such an allocation is considered to be excessive, and there are many examples which show that, with time, subdivision will occur and lead to densification and more efficient land use (see Box 3). In Brazil, the pro-poor 2002 Civil Code states that “the one that possesses an urban area of up to 250 m², for 5 years uninterrupted

and without opposition, utilizing it for her or her family's dwelling, acquires it at command, if she is not an owner of another urban or rural property” (Handzic, 2010: 12). If plots are too small, however, further densification will only be possible by way of vertical expansion. In terms of construction techniques, this is more difficult to realize than horizontal extension and, consequently, the norm then becomes self-managed or mixed forms of self-help building. This implies complete or partial contracting out of the construction process to specialists, while parts of the finishing and decoration of the house may still be done by the house owners and their families. Jenkins, Abiko, Frediani, and Moraes (2010: 114) found a “rapid verticalisation and densification process” in the Novos Alagados settlements of São Salvador in Brazil. Table 2 presents estimations of housing densities in self-built neighbourhoods – which may vary between different cities and even within cities – according to a variation of plot sizes. The table also shows the variation in potential ground floor expansion living spaces, assuming that such ground floor space size will be maximal 70% of the plot space.

As the example of El Alto (La Paz) shows, when original plot sizes are rather large, the gradual consolidation of self-built neighbourhoods in general goes hand in hand with subdivision and the construction of more floors, thus leading to densification of housing and population in the neighbourhood (Fig. 1; Box 3). Especially under conditions of increasing land scarcity in and around cities, reflected by rising prices of (peri-) urban land, high urban densities will become increasingly necessary for low-cost and cost-efficient housing. In principle, sites-and-services schemes which anticipate future densification based on aided self-help policies can also be prepared for that. When planning future construction of additional floors, sites-and-services and core-housing schemes should include plans for solid foundations, which however may increase construction costs significantly. Such

Box 3. Self-help construction by the urban poor in Bolivia.

In Bolivia, the past few decades witnessed massive rural–urban migration and a proliferation of self-help settlements on the cities' peripheries. Bolivian state housing policies have been utterly ineffective in reaching the poor. Fig. 1 shows how self-builders in Andean Highland cities typically build and expand their homes and subsequently subdivide their plots and sell (or let) parts of them to new residents. The example is taken from the new city of El Alto, once a peri-urban area 400 m above the city centre of La Paz, and now a bustling satellite city with over half a million inhabitants, most of them with strong indigenous Aymara roots and economically active in informal-sector jobs.

The first subdivisions in El Alto date from the 1950s and the original plot sizes varied from 500 to 1000 m². After acquiring the plot, the new owners almost always immediately demarcate their property with a wall made from locally available sun-dried clay blocks (adobes). The typical – and cheapest – building materials of the houses are adobe for the walls and corrugated iron for the roofs. Earthen floors are a regular feature of a starter's home. The classic Andean rural architectural tradition is to build the house at the backside of the plot, and that is exactly what is being reproduced when rural migrants start building their home in a (peri-) urban setting. By building the structure in the corner of the plot, only two more walls for the house have to be built. With time, the residents use whatever savings to gradually expand the house, adding more rooms to the original unit, in such a way that the plot wall is used and, importantly, that a free courtyard is maintained. Eventually, this horizontal expansion also includes the front part of the plot – a definitive sign of an urban building style (Fig. 1: 1–4).

From the 1980s onward, La Paz' population growth increasingly concentrated in the new settlements of El Alto, which gained administrative independence as a separate municipality in the year 1985. El Alto became the scene for a few isolated sites-and-services and settlement upgrading projects with funding from the World Bank, but as before, the basic mode of land and housing provision was through (semi-legal) subdivision of new land and subsequent self-help construction in the periphery of El Alto.

In the built-up areas of El Alto, land values steadily rose as more and more people moved into the consolidating settlements. Self-help construction activities increased spectacularly in the 1990s, when water and sewerage systems were installed. In the 2000s, many neighbourhoods were further serviced with gas piping. New construction activities are booming, not in the least because the huge plot sizes made it possible that the owners split their property and sell part of it to new residents. The households that settle on these new plots may be related to the original owner or not. Self-help construction in this stage of dwelling improvement usually implies the building of one or more additional floors. Such upper floor levels may be built from bricks instead of adobe. Alternatively, the residents may only build the façade with bricks, as an expression of their urban(e) status. The terracing of the roof brings the self-help activities to a close (Fig. 1: 5–8).

Sources: Kranenburg, 2002; van Lindert, 1991.

Table 2
Estimated urban housing densities by plot size.

Plot size m ²	Optimal (efficient) land use possible?	Ground floor living space with 30% not built on m ²	Gross density per neighbourhood (exclusive neighbourhood services) plots per hectare 20–40
>200	No		
200	No	140	40
160	Yes, in small cities	112	50
120	Yes, in large and small cities	84	60
100	Yes	70	70
80	Yes	56	80
60	Yes	42	90 (maximum)

expansion to second or third floors is well possible on plots of 90 m². On smaller plots of around 60 m², however, one extra floor will still be technically feasible but further possibilities for future expansion are severely limited.

Towards a differentiated assisted self-help approach for the urban poor

The supply of affordable housing packages for a variety of social target groups will have to include a wide range of housing types, from simple land allocation to complex forms of public housing. Understanding national and local housing markets is essential and the key question is how to develop a realistic supply, based on the recognition that households have different financial possibilities. The nature of self-help housing is essentially individual and private, but supporting it implies public involvement. While it is recommended to always include self-help housing strategies as a vital element in general housing policies for the poor, it should also be recognized that many other modalities of housing provision can be targeted at different population groups. Elsewhere in this special issue, Landman & Napier (2010) compellingly demonstrate the huge variation and complexity of private, public and (assisted) self-help housing provision in the cities of South Africa. Such differentiation in housing provision (including, for example, the construction of subsidized rental housing, fully serviced apartments and detached houses for middle-income groups) may be the key to the success of future housing policies everywhere.

The bottom line of such approach is the recognition that every household has its own economic potential and limitations and that it is essential for policy makers to get a sound idea about the real demand for housing in each of the manifold categories. A preliminary 'model' for determining different housing packages for the urban poor (with different qualities and prices) may contain the following elements:

Table 3
Assisted self-help housing products: estimated costs for different packages.

'Site' Plot size (m ²)	Built-up living space (m ²)	'Services'					Estimated price (US \$)
		Electricity	Piped water	Septic tank	Paved road	Sewerage	
80	0						1000
80	0	x	x				1500
80	20	x	x				2000
100	20	x	x	x			3000
100	40	x	x	x			5000
120	60	x	x	x	x		7000
120	80	x	x		x	x	10,000–15,000

- Plot sizes preferably varying between 80 and 120 m²
- Individual (dwelling-) and collective (neighbourhood) services (e.g. electricity, drinking water, sanitation, roads)
- A (small- to modest-size) core house, varying from 20 to 60 m²
- The price of the housing product, varying from US \$1000 to US \$15,000

Determining the housing qualities for all social target groups matching with the households' incomes, self-finance and self-help options, subsidies and donations, will provide a better understanding of the costs and possibilities of aided self-help housing and land use in new urban expansion plans. Table 3 presents a tentative differentiation of assisted self-help package options for municipalities which consider new urban land development for the poor. The range of housing products – varying from purely sites-and-services to combinations of different core-housing units with several types of public services – presents different cost prices. It is obvious that estimated prices are indicative only and they may strongly vary according to contextual specificities. The acknowledgement of the necessity of such differentiated system of housing provision can help making policies to serve all household categories according to their income generating capacities, although admittedly some housing specialists and politicians will define some products as 'imperfect'.

Some components of the total costs are crucial for self-builders. Incremental construction means a gradual investment over the years and 'leaps' in construction costs can be problematical. Some 'leaps of costs' are inevitable, e.g. investments in solid foundations; investments in earthquake resistant and fireproof constructions; or investments for the construction of additional floors and stairs. Other costs are related to land development and the connection to public services. It cannot be taken for granted that the public utility companies will provide drinking water and electricity connections in informal settlements when families do not pay their bills. As such, it may be recommended to include the costs of water pipes and electricity connections in the housing packages.

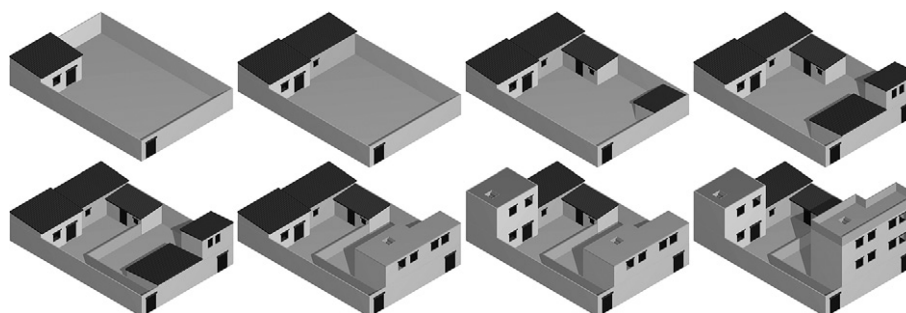


Fig. 1. El Alto, Bolivia: the processes of incremental self-help construction, subdivision and densification.

Forms of assistance to self-build housing

'Assistance' related to self-help housing has many forms. In general terms such assistance can be labeled as 'basic' or 'additional'.

Basic assistance, concerning the plot, the house and the neighbourhood:

- A plot in an adequate urban land development, at affordable price and pay-off conditions.
- A legal land title.
- An access road and main infrastructure, including drinking water, electricity and a sewage solution.

Additional assistance, concerning the construction of the house:

- Technical assistance such as advice and a building permit.
- The provision of good quality building materials.
- The promotion of micro-finance solutions.
- The support of housing cooperatives.

When discussing the technical aspects of durable construction, it is evident that the majority of self-builders are not skilled construction workers. With the exception of initial – temporary – building stage, the owners often hire skilled bricklayers, carpenters, electricians, plumbers and other specialists for the building of the permanent structure and consecutive expansions. In such self-managed housing construction processes, owners also buy the building materials and in many cases they even are responsible for the acquisition of tools and equipment necessary for construction. In addition to that, they are in touch with municipal officers for approval of their construction plans, settling all kinds of legal matters and the like. As such, the building process usually takes many years and demands much time, money and energy from the residents. It is beyond doubt that most self-builders would benefit enormously from technical and legal assistance provided by governmental bodies, NGOs or the private sector. Alternatively, they may organize in local cooperatives which stimulate joint building activities, mutual help between neighbours, and provide mutual housing finance.

One way by which local governments and NGOs alike can offer technical, legal and perhaps some financial assistance to the residents in self-build neighbourhoods is through neighbourhood based, low-threshold 'building advisory bureaus'. Such building advisory bureaus are more readily accessible to the poor than municipal offices and their technical staff is able to provide advice that is quick and to the point (including smart blue-print solutions for elementary construction questions) and can issue building permits. In partnership with local NGOs or micro-finance institutions, such bureaus may also be able to provide small loans for dwelling improvements. An additional advantage of such building advisory bureaus is that municipal tasks in the field of urban planning and environmental management will be executed in an ambience of deliberation and consultation rather than through confrontation and conflict. Such bureaus may even come to play a key role in heading participatory planning at settlement level. Municipal international cooperation by way of twinnings and networks is an innovative way of capacity development within the city administrations (Bontenbal & van Lindert, 2009). Under the current juncture of administrative and political decentralization, most of such municipal international cooperation focuses on the strengthening of local government and local governance. Ultimate aim of such joint action is to alleviate poverty through providing better services to the poor. Some local government associations in the Global North have strong support programmes for municipal

international cooperation, e.g. the Canadian FCM² and the Dutch VNG International.³ The latter organization focuses on South Africa and Nicaragua on support for housing provision to the poor. The Utrecht-León municipal partnership is a sound example of a long-standing cooperation with a distinctive focus on urban planning for land development and self-help housing (Bredenoord, 2005b; van Lindert, 2009; UN-Habitat, 2007). During the last decade, over 3000 plots have already been developed and sold to families for self-help housing. The project includes various innovative elements, such as municipal land banking for the support of families for the purchase of a plot; a closed land exploitation scheme within the municipal organization; and a building materials bank through which the new residents may get subsidized access to construction supplies.

As to the role of the private sector concerning self-help housing support, it is obvious that construction and the building materials companies, as well as the financial institutions, may become significant players. So far, the formal private sector is largely absent in self-help housing. Yet, some of the contributions in this special issue mention already some significant exceptions to this rule, e.g. the role of CEMEX in Mexico (Bredenoord & Verkoren, 2010) and (micro) finance institutions which aim at supporting self-help housing initiatives in various other countries. Other promising experiences come from El Salvador. In this country, around 200 construction companies are involved in land development and core housing; many of these developers offer a small loan of around US \$1000 to build an initial core unit (UN-Habitat, 2005a: 109). ARGOZ, a private development corporation in El Salvador, delivered so-called 'progressive social development subdivisions' to poor families at even a relatively large-scale.⁴

Mutual self-help housing provides good development opportunities, such as: knowledge transfer, more quality through specialization and especially: more (common) discipline. Moreover, mutual self-help housing can be used for better cooperation with the local government and other actors like NGOs with housing programmes, public utilities and financial organizations,⁵ but basic conditions must be attached. State support for self-managed housing cooperatives may exist, as it has in Brazil for more than a decade (Fruet, 2003). Mutual self-help housing has significant potential but the members of a housing cooperation must take time to get to know each other well and good leadership is crucial. The establishment of small housing cooperatives can be promoted by giving them (extra) incentives, such as better access to a building materials bank, combined with micro-finance and other forms of (technical) assistance. Successful local and regional experiences with housing cooperatives may be found in various countries, e.g. in the Central American states of Nicaragua and El Salvador, and in Uruguay and India. The housing project 'Juntando Manos' with only 35 dwellings (2008) in the municipality of León, Nicaragua, is a small-scale housing cooperative, using the Uruguay mutual self-help formula, introduced by the housing-NGO Ceprodel.⁶ The pilot project 'San Esteban' in the historic centre of San Salvador, El Salvador is a recent small-scale example of cooperative housing, using

² FCM: Federation of Canadian Municipalities: www.fcm.ca.

³ VNG International: International Co-operation Agency of the Association of Netherlands Municipalities: www.vng-international.nl.

⁴ ARGOZ production of plots: <http://web.mit.edu/urbanupgrading/upgrading/case-examples/ce-es-arg.html>.

⁵ The establishment of small housing cooperatives with low-income families is emergent in Brazil, e.g. in Porto Alegre; state/community partnerships were established. In the year 2000 there were 60 housing cooperatives in Porto Alegre.

⁶ Ceprodel took the initiative for the incorporation of Uruguayan expertise with mutual self-help housing projects in Nicaragua. The first project was in León, with the housing cooperative 'Juntando Manos', and the second was in Managua (2008). Several other new housing projects with the same formula are to be expected in Nicaragua. (www.ceprodel.org.ni/inicio).

the same mutual self-help model. The housing cooperative ACO-VICHSS⁷ with its 50 members built their homes in 2009, with assistance of the NGO Fundasal including training of co-workers, technical aid and finding external finance from international aid organizations. The search for possible replication of those likely experiences at a large scale and with the use of finance from the country itself would be of great importance.

The establishment of housing cooperatives in India dates from 1904 under the British Administration; it received a boost after Independence in 1947. Political context and public environment were supportive to it during decades. The National Cooperative Housing Federation of India is the covering organization. For the promoting and developing of housing activities, around 92,000 joined housing cooperatives are active, with a membership of 6.6 million people, and around 2.5 million housing units were produced. Housing cooperatives are officially stimulated and the State Bank of India is helping low-income self-help groups with micro-credit. However, the appearance of registered cooperative housing societies can result in a corrupt practice in the bureaucracy and potential hierarchy (Smets, 2004). Moreover, the potential of housing cooperatives for low-income households can differ significantly, because “the institutional framework could help or hinder in realizing the benefits in a given housing market by lowering or raising transaction costs of cooperatives as a means for low-income households” (Sukumar, 2001). Housing cooperatives have been more effective in Mumbai than in Chennai or New Delhi. This means that unequivocal solutions on housing cooperatives are not available. Future research could possibly clarify the cooperative's housing potential.

The scale of housing cooperatives may be large or small but what counts most is their focus, which may be purely on housing finance or on mutual housing construction. The crucial aspect of housing cooperatives is their independence, since successes can only be expected if risks, costs and benefits are shared among its members on an equitable basis (Smets, 2004). Distinguishing a ‘save and build’ concept from ‘borrow and build’ one is crucial. Habitat for Humanity operates save and build-concept for and with community savings groups. Twelve families, forming a group, can save small amounts of money each month until, after 6 months, the entire group will have saved enough money for the construction of one basic house. The group contributes doing so until eventually all members are being helped. The concept of ‘borrow and build’ can be executed with financial self-help groups (see Ferguson & Smets, 2010).

Conclusion

For the coming decades, the developing world will witness unprecedented urban growth rates which correspond with an on-going trend towards further urbanization of poverty. So far, the pressing housing needs of the urban poor have always primarily been satisfied by the poor themselves. The self-help builders with their varieties of housing solutions are the living proof of the power of self-help as a factor which can effectively be employed in pro-poor government housing strategies.

This paper provides some inspiration for matching housing demand and housing supply that is affordable to the entire range of low-income households, suggesting the use of a new ‘model’ to set up balanced housing packages for the diversity of urban poor, providing more equal access to shelter for all income groups. In sum, we claim that in view of the urgency of the urban housing

question, new pro-poor housing policies are to be developed that build upon the power of self-help efforts and that both promote and support self-built initiatives institutionally, financially, technically and politically. Assisted self-help housing should reappear on the development agendas.

Assisted self-help housing includes both a public (regarding ‘assistance’ on infrastructure and services) and a private (regarding the home ownership) element. This hybrid character of assisted self-help housing underlines the need to determine its role as part of formal public housing policies. Moreover, public housing also includes the supply of rental housing opportunities. The self-help housing efforts will continue to be of vital importance for the next decades. Most low-income households choose primarily for self-help housing because of economic motives and because other options are beyond range. So far, the implementation of housing policies at the local level does not profit adequately from the scarce available knowledge on cooperative self-help efforts. Self-help housing, including its mutual forms, should be better monitored and, in due course, better ‘assisted’ by governments and housing institutions, thus securing that it will become a basic part of formal housing policies. Currently, official attitudes on housing themes focus on integrated settlement improvement, that is: a habitat-wide and a city-wide approach. This is basically an approach with a rather long-term scope and the urban poor cannot wait that long. The city-wide approach has to become accompanied with differentiated and targeted housing policies that support the self-help efforts of the urban poor.

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⁷ ACOVICHSS is a housing cooperative in San Salvador, established with the help of the NGO Fundasal. In September 2008 a project visit was executed with the help of Lic. Ana Silvia Menjivar of Fundasal (www.fundasal.org.sv/libreria).

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