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EDITORIAL

Sustainable housing and the urban poor

Peer Smets[a]* and Paul van Lindert[b]

[a]*Department of Sociology, Vrije Universiteit, Amsterdam, Netherlands;* [b]*Department of International Development Studies, Utrecht University, Utrecht, Netherlands*

Introduction

After last year's adoption of the 2030 Agenda for Sustainable Development and its 17 Sustainable Development Goals (SDGs), the year 2016 promises to be a landmark year for international housing policy agendas. In October, the UN Habitat III Conference (also referred to as 'Habitat III') will be held in Quito, Ecuador. After the successful inclusion of Sustainable Development Goal 11 on urban development and its ratification in the General Assembly of the UN by heads of state in September 2015, it is now time to consider how the ambition of making cities and human settlements 'inclusive, safe, resilient and sustainable' can be realised. Will 'Habitat III' actually introduce a new paradigm shift that is able to substantially change urban policymaking? And what will the impact be on mainstream housing policies? Target 11.1 of the Sustainable Development Goal 11 states: 'By 2030, ensure access for all to adequate, safe and affordable housing and basic services and upgrade slums'. That target alone represents a substantial task. The theme of this special issue is sustainable housing for the urban poor in the Global South. In this introduction, we will discuss some of the most relevant dimensions of urban sustainability relating to low-income housing and then introduce the papers of this special issue. First, the focus will be on the relationship between sustainability and low-income housing. Next, housing sustainability will be placed in a systemic framework that is based on ecological models. In the third section, it is argued that a cross-fertilisation between housing solutions and social innovation fosters housing sustainability. This will be followed by a discussion on urban shelter policies and their implications for a new urban housing agenda. Finally, the contributions to this volume will be presented.

Pursuing sustainable housing in sustainable cities

Popularised by the Brundtland report (WCED 1987), sustainable development is commonly defined as the long-term balance between society,

the environment and economic growth. However, due to global warming and its effects, the long-term prospects for the healthy urban habitat are under threat from climate change. Climate change is increasingly affecting several countries, and many urban neighbourhoods and even whole cities are threatened by rising sea levels, flooding rivers, tsunamis, hurricanes, heavy rains and severe drought. These conditions make urban planning more important than in the past as adequate planning, such as risk and water management, can prevent houses from being built in dangerous zones. The construction of houses in risk zones – such as areas prone to earthquakes and volcanic eruptions, but also where heavy industry is located or where hazardous materials are stored – must be prevented or restricted. Yet, making reliable weather and climate predictions in order to determine the best planning path is difficult for areas subject to changeable weather patterns.

However, while minimising risk is possible through climate change adaptation or mitigation, depending on the available options, funds and calculations, making decisions on disaster-reduction strategies is a political task. Yet as a public and communal responsibility, governments as well as households must be aware of the consequences and possibilities for prevention, protection and mitigation (Urry 2011).

Sustainability has also become an important concept in relation to environmental integrity. Human intervention results in the pollution of land, air and water, and also the disturbance of nature's equilibrium, including the loss of biodiversity. Therefore, one should look into 'alternatives to traditional patterns of physical, social and economic development that can avoid problems such as exhaustion of natural resources, ecosystem destruction, pollution, overpopulation, growing inequality, and the degradation of human living conditions' (Wheeler 2003, p. 487; cf. Ferguson et al. 2014). Insights concerning environmental sustainability can also be applied to low-income housing in the urban Global South. Specifically, more attention should be paid to the interplay between technical and social solutions for sustainable change with respect to behaviour, economic

or governance shifts (Williams 2009; Ferguson et al. 2014), which are mediated through physical spaces and the built environment (Keivani 2009).

In order to unpack the complex relationships between sustainability and low-income housing in cities, it is useful to distinguish the following five relevant fields: ecology and energy; technology and production; economy; social considerations and targeted policies (based on e.g. McGranahan & Satterthwaite 2003; Choguill 2007; Keivani 2009; Williams 2009; Dietz & O'Neill 2013; Thiele 2013; World Bank 2013).

First, low-income urban housing cannot be made sustainable unless the themes of ecology and energy are taken into consideration. Sustainability may be improved, for example, through interventions that lower the carbon footprint and through hazard-resilient measures as well as by urban planning that leads to a densification of the built-up area. Moreover, there are many other planning measures that prevent or counteract housing situations that are far from sustainability. The efficient and equitable provision of (improved) sanitation, safe water and the collection of solid waste are important elements contributing to sustainable settlements, as is the supply of serviced land that is suitable for housing the urban poor while avoiding urban sprawl: 'It is crucial that urban planning take into account informality (…) many developing cities plan the "official city" and neglect the spontaneous growth that happens outside the administrative boundary' (World Bank 2013, p. 33).

Second, technology and production can play an important role in the development of sustainable disaster-proof building materials. For example, prefab building components can be recycled while locally produced building materials minimise transport costs. Both measures improve the sustainability of low-income housing. Depending upon contextual conditions, environmental-friendly yet durable and affordable construction materials may be produced locally, based on relatively simple technologies. Bamboo, timber, adobe bricks, compressed earth blocks and interlocking stabilised soil blocks are just some of such materials that may be used in self-managed housing and in low-cost housing schemes (Hannula & Lalande 2012; Kessler 2014; UN-Habitat 2014).

A third important dimension of sustainability relates to the economy. As such, one should also take into account the limits of the neoliberal models exemplified by the recent global financial crisis. Today, in some countries massive public housing schemes are implemented by private construction companies but within a framework of state-regulated housing programmes. In these cases, the policy objective of stimulating macroeconomic growth seems to be of greater importance than that of housing the urban poor. Current housing policies in China (Li & Driant 2014), Egypt (Soliman 2014), Brazil (Pasternak & D'Ottaviano 2014) and Mexico (Solana Oses 2013; Bredenoord and Cabrera 2014) are exemplary in this respect. Such housing schemes often present large vacancies, because they have been 'realized at considerable distances from the built-up cities, which makes it difficult and expensive for prospective residents to get to their jobs, to do their shopping or to pay social visits to their friends and families in town' (van Lindert et al. 2014, p. 399). Thus, for urban social housing programmes to be economically sustainable, it is vital that housing is connected to the city's main employment centres. Moreover, dwellings should offer the possibility of home-based economic activities which in turn can stimulate the development of neighbourhood economies (Gough et al. 2003; Wigle 2008).

A fourth element that is key to sustainable housing is the social dimension. In this respect, the engagement of community-based organisations, savings and building groups, or small-scale housing cooperatives (Ganapati 2014) are also important for supporting identity formation, social cohesion, empowerment and shared ownership. Settlement profiling through community-based enumeration (Arputham 2012; Karanja 2012) not only results in more authentic information based on local knowledge, but also functions as strong mobiliser of residents and prepares them to become engaged in the early planning stages of housing and settlement upgrading schemes and in collective negotiation with the state (Chitekwe-Biti et al. 2014). Connecting the social dimension with the economic one, community-contracting arrangements by governments and funding agencies for home improvements and settlement upgrades both enhance community cohesion and empowerment, and also lead to local employment (Steinberg 2014).

Finally, targeted policies are needed to reduce greenhouse gas emissions and prevent man-made hazards as well as to guide sound and informed city planning that includes pro-poor measures. Targeted policies are also needed for increased collaboration between national and local state levels which may foster multi-level governance arrangements between all relevant stakeholders. Yet, it is pertinent to note that no blueprint solutions or blanket approaches can solve the housing crisis in a sustainable way. National and municipal housing policies should allow for maximum flexibility and diversity. The desired outcome of the respective sectoral and specific policies is sustainable housing (see Box 1).

Box 1. Sustainable houses

Sustainable houses are those that are designed, built and managed as:

- Healthy, durable, safe and secure
- Affordable for the whole spectrum of income levels
- Using ecological low-energy and affordable building materials and technology
- Resilient to sustain potential natural disasters and climatic impacts
- Connected to decent, safe and affordable energy, water, sanitation and recycling facilities
- Using energy and water most efficiently and equipped with certain on-site renewable energy generation and water recycling capabilities
- Not polluting the environment and protected from external pollution
- Suitably located in terms of jobs, shops, health- and child-care, education and other services
- Properly integrated into, and enhancing, the social, cultural and economic fabric of the local neighbourhood and the wider urban areas
- Properly run and maintained, timely renovated and retrofitted
  Source: UN-Habitat 2012, p. 9

Sustainability as a system[1]

Figure 1 illustrates a model based on natural eco-systems whose existence over time is determined by 'sufficient self-directed identity as well as flexibility to change' (Lietaer et al. 2010: 5). Here, the flexibility to change – or resilience – refers to 'the capacity of a system to absorb disturbance and reorganize while undergoing change so as to retain essentially the same function, structure, identity, and feedbacks' (Walker et al. 2004, p. 4). This model can also be applied to housing provision and the complex relationships between

Figure 1. Housing sustainability and complex flow networks as function of the trade-offs between efficiency and resilience.

Based on: Lietaer et al. (2009).

sustainability and low-income housing in cities, particularly regarding the five fields outlined above.

Ecosystems survived over time by adjusting to changing circumstances resulting in a search for equilibrium between the two opposing poles of efficiency and resilience. The healthiest systems have an optimum balance between the two extremes, often referred to as sustainability (see the 'window of viability' in Figure 1). When the balance between resilience and efficiency is disturbed, the system becomes unstable. Excessive efficiency leads to fragility, which goes together with too little diversity and connectivity. Moreover, too much resilience causes stagnation accompanied by excessive diversity and connectivity (Lietaer et al. 2010, p. 6). These crashes can also be found in Schumpeter's creative destruction of capitalism referring to the rise and fall of enterprises (Caprio and Klingebile, in Lietaer et al. 2010, p. 3). The financial crisis, which started in the US and has spread over many parts across the globe, is already having a detrimental impact here.

The tendency when coping with a crisis, from either an economic or housing perspective, is to increase efficiency and to start again from the bottom line up. By doing so, the 'window of viability' will not be reached at all. When the focus is placed on creating diversity, a balance between efficiency and resilience can be more easily reached. This is especially true of housing solutions (see graph at bottom of Figure 1).

The sustainability model discussed earlier is also useful to understand the relationship between sustainability and the provision of low-income housing. A simple example will suffice here. In the past, sites-and-services schemes were seen as a universal solution for dealing with the housing deficit, but in reality, many sites and services were rather desolated areas that did not serve their target group. A much more suitable approach is to create a diversity of housing options for the urban poor, as illustrated by Hassan (2014). Once housing diversity is achieved, the likelihood of sufficient housing solutions surviving – and thus reaching viability – becomes significant. It is in such conditions, sustainable shelter solutions can be found.
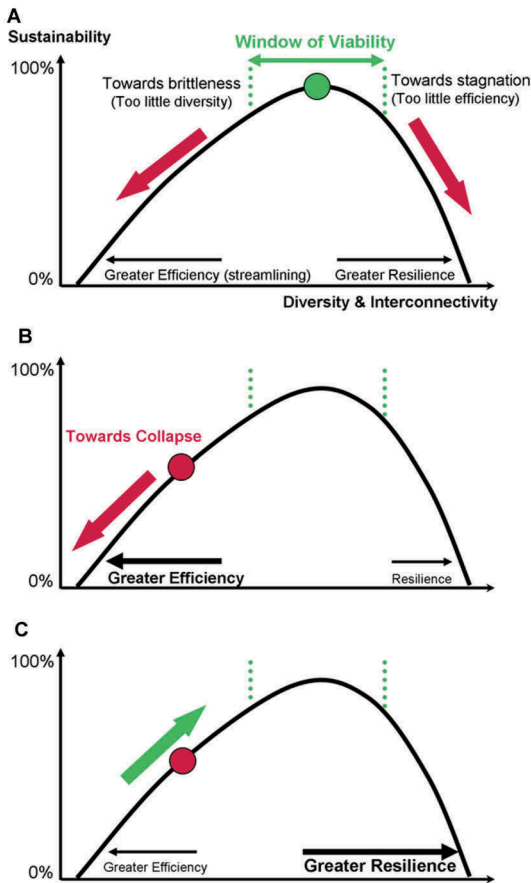
Finally, Thiele (2013, p. 198) warns us that '[s] ustainability is Janus-faced and two handed. It is future-focused but with an eye to its inheritance. And, while it deftly manages the rate and scale of change with one hand, it also firmly grasps the need to conserve core values and relationships.'

Sustainable housing and social innovation

So far, attention has been paid to different dimensions and interpretations of the concept sustainability. This section will show that sustainable development goes hand-in-hand with social innovation. To obtain sustainable housing, creative solutions have to be sought as shown by Mehmood and Parra (2013). These authors see sustainable housing as a multidimensional approach including the socio-cultural, economic, environmental and institutional aspects of human interaction.

Table 1 shows the cross-fertilisation between sustainable housing and social innovation. At the top of the table, sustainable development refers to social vulnerability, economic viability and environmental sustainability. Social innovation on the left side includes satisfaction of needs, changes in social relations, socio-political capability and governance and institutions. Sustainable goals can be identified by combining soft and hard components of social innovation and sustainable housing. This would enable the innovation of interdisciplinary tools for research and policies for affordable and innovative housing solutions.

Urban shelter policies: pursuing a new urban agenda?

In this century, most rapid urbanisation takes place in the Global South. Here, cities grow in size and number, which makes it extremely difficult for poorer sections of society to find adequate shelter with security of tenure. This has already led to an increasing number of slum dwellers, and it is estimated that their number worldwide will amount to about two billion by 2030. One of the most significant policy challenges of today is how to realise the ambition of inclusive cities for all, including slum dwellers and urban poor outside slum areas which could be achieved through better housing policies for the urban low-income

Table 1. Cross-fertilisation potential between social innovation and sustainable housing.

Sustainable housing/social innovation	Social vulnerability	Economic viability	Environmental sustainability
Satisfaction of needs	Satisfaction of housing needs and basic services and facilities	Sustainable production and consumption; neighbourhood-based economies; home-based economic production	Diversity of habitat solutions; environmental-friendly building materials and technologies
Changes in social relations	Social inclusion and engagement; social cohesion	Sustainable communities; social entrepreneurship	Socio-ecological transitions of habitat conditions
Socio-political capability	Cooperation in communities and with stakeholders; citizens' movements	Participatory decision-making based on local knowledge	Question the effectiveness of techno-optimism
Governance and (social/cultural) institutions	Identity formation; empowerment of communities; reflexive governance	Adaptive management; microfinance initiatives; strategic investments	Flexible and adaptive governance; densification of built-up area

Source: After Mehmood and Parra (2013, p. 60).

population (UN-Habitat 2015). There is a need for sustainable housing solutions for the poor in the urban Global South. Unfortunately, affordable housing is out of reach for millions of low-income families, as a consequence of their limited incomes, and because of national and local housing policies that fail to reach the urban poor: 'genuinely sustainable houses are those that are inclusive and affordable for all. Addressing the issue of affordability is, therefore, a necessary condition for transformation towards sustainable housing' (UN-Habitat 2012, p. 3).

The upgrading of housing and living conditions in existing slums and informal settlements is indispensable, while a range of affordable housing alternatives ought to be promoted in order to bring sufficient 'decent housing solutions' in particular to the low-income groups. Furthermore, moving away from slum deterioration, new slum formation and a severe lack of sufficient housing production mechanisms represent other challenges of today.

Over the past four decades, approaches to low-income housing have witnessed some remarkable shifts. Patrick Wakely's contribution to this issue convincingly describes how housing paradigms, policies and practices changed initially under the influence of the so-called self-help school and, more recently, along with a neoliberal trend of stimulating private housing markets. Chiodelli (2016), who also focuses on the respective variations in housing policies, presents a slightly different analysis of the respective policies towards the informal city, while agreeing with Wakely and other authors (see e.g. Bredenoord & van Lindert 2010; van Lindert 2016) that even with the various shifts in policy approaches, rehabilitation and upgrading of informal settlements, including the provision of tenure security and support to incremental housing in existing settlements, still play a leading role in current housing policy packages. At the same time, these authors also concur with Gilbert (2008, 2014, 2015) in affirming that rental housing has always remained the poor relation of housing policies for the urban poor, even though 'across the world, approximately 1.2 billion people live in rented accommodation' (Gilbert 2015, p. 1). Indeed, the gross neglect of rental housing on the policy agendas and the bias towards private home ownership is also demonstrated by Fernanda Lonardoni and Jean-Claude Bolay's study of Florianopolis' favelas in this issue, confirming that the expansion of the rental housing market characteristically takes place in informal settlements and coincides with dwelling consolidation. But it should also be recognised that tenants often represent a vulnerable segment of the population. Eva Dick and Torsten Heitkamp, in this issue, point to a particularly vulnerable group, namely, temporary migrants with multi-locational livelihoods in rural and urban areas. They often entirely depend on their social networks – and no government policy takes their needs into consideration. Below, we will introduce all papers in this special issue in greater detail. These papers present convincing empirical evidence that housing conditions are very much dependent on the socio-economic, cultural and political contexts. In this regard, Choguill (2007, p. 147) comments: 'there is no such thing in housing as universal "best practice"'. With our plea for more flexibility and diversity in national and municipal housing policies, we hope that a greater proportion of urban low-income groups will be accommodated in suitable, affordable, decent and secure housing, which is sustainable for both citizens and cities alike. Hopefully, the new urban agenda that will be discussed at the Habitat III Conference in October 2016 will present clear directions to achieve the aforementioned Sustainable Development Goal 11: 'to make cities and human settlements inclusive, safe, resilient and sustainable'.

Introduction to the papers in this volume

All of the items discussed above will be covered in the special issue, but the emphasis on specific topics varies according to the contributors' different disciplinary backgrounds, varying from urban planning, architecture, social geography, to sociology. These papers deal with different countries, namely, Egypt, South Africa, Ghana and Brazil.

Meanwhile, two papers have a global focus. Overall, this special issue links theory and practice in such a way that it is useful for academics, and also for professionals, policymakers and activists dealing with low-income sustainable housing and urban development.

In his contribution to this special issue, Patrick Wakely provides an overview of low-income housing paradigms, policies, programmes and projects for the post-World War II period until the mid-2010s. He describes the shift from the provision of public housing and removal of slum areas towards unaided and aided informal housing processes which would accommodate the livelihoods of the poorer sections of society. Later, the focus is more on enabling strategies encouraging the urban poor to participate in improving their habitat conditions and the private sector involved in the production of low-income housing. These attempts show an increasing need for creating sustainable housing policies.

The focus of Ahmed Soliman is on Egyptian cities where the expansion of the cities increasingly leads to conversion of 'scarce' agricultural land into housing construction sites. To cope with urban sprawl, a programme with a participatory approach has been implemented for 226 Egyptian settlements. The paper describes a programme that facilitates a certain sustainable land delivery system for the urban poor in the city of Kotor. Soliman shows that the community-driven process bears fruit once the government acts as an agent for compatibility and sustainability aiming to save agricultural land and promote unsustainable urban development. This implies that a government's role as facilitator is insufficient. For the sake of sustainability, active involvement of the government is required.

Fernanda Lonardoni and Jean-Claude Bolay focus on the opportunities of growth and production and consumption of rental housing in informal Brazilian settlements. The authors focus on the potential of informal rental markets in providing shelter and livelihood opportunities for the urban poor. The authors use a political economy approach to describe and analyse the consolidation of the informal rental housing market and how commodification perpetuates informality. This paper discusses whether the actions of landlords and informality reproduction can enable or constrain the sustainability of access to shelter and livelihood opportunities in urban areas. The challenge is how to anticipate such informal strategies for a sustainable urban future.

The contribution of Eva Dick and Thorsten Heitkamp deals with the provision of sustainable housing regarding transit migration in South Africa and Ghana, and linkages of migrants in urban areas with their urban or rural areas of origin. Such migration may be the result of economic and political circumstances, but it can also imply income-generating activities and a sense of socio-cultural belonging. These authors examine the impact of transit migration on the urban housing market and related challenges for sustainable housing. Although governmental housing in Ghana rarely focuses on the urban poor, housing for the South African urban poor is subsidised by a housing subsidy system through the post-Apartheid Reconstruction and Development Programme (RDP). Though there are many differences between Ghana and South Africa, both countries do face a lack of transitory housing measures such as out-rental of backyard shacks, house-sharing or peri-urban caretaking and the establishment of new informal settlements. A sustainable and community-based development requires an active urban government to participate in this highly dynamic housing sector.

Finally, Noah Schermbrucker, Sheelah Patel, Diana Mitlin and Nico Keijzer describe Slum/Shack Dwellers International's (SDI) experiences from its Urban Poor Fund International (UPFI); a fund for housing and infrastructure. SDI seeks to build on what the poor know and do, and to facilitate their leadership through dialogue and negotiations with professionals and practitioners in development linked to cities at local, national and international level. The UPFI fund offers possibilities in downmarket housing finance, thereby connecting the financial sector with the poor. On the basis of experiences of the SDI affiliates in India and South Africa, the paper discusses housing and infrastructure financing models that are sustainable and affordable for the urban poor.

Disclosure statement

No potential conflict of interest was reported by the authors.

Note

1. This section is based on Smets et al. (2014).

Notes on contributors

Peer Smets is an Assistant Professor at the Department of Sociology, Vrije Universiteit Amsterdam, the Netherlands. His PhD was on housing finance and the urban poor in India (2002). His research mainly focuses on urban habitat conditions (housing and its living environment) in low-income neighbourhoods in southern and western countries, as well as perceptions which determine liveability. He has published on urban segregation, housing, housing finance, government bureaucracy, communities and social life in neighbourhoods.

Paul van Lindert is an Associate Professor in human geography and international development studies at Utrecht University, the Netherlands. His PhD was on migration, urbanization and housing strategies in Bolivia (1991). He has taught at various universities in Latin America and Africa as a Visiting Professor. His area of experience includes urban development and planning; city networks and city-to-city cooperation; rural-urban relations; regional and local development; local governance, and multi-local livelihoods.

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