Section 2
Spatial politics of housing

Affordable housing, self-build, re-building and the economics/policies of housing
Introduction

Ours is an urban century. For the first time in history, more people live in urban than rural areas, and cities around the world are struggling with the challenge of providing adequate housing for growing populations. Concurrently, the significant amount of housing stock built during the post-war housing boom (1950–80) is now ageing and in need of repair, which represents an equally formidable challenge to many cities. To date, the discussion surrounding both issues – growth and redevelopment – has primarily focused on the provision of new housing, predominantly multi-unit apartments for medium- to high-density living. The redesign of the significant existing housing stock is rarely regarded as a viable option for providing high-quality living and additional habitable space. These ageing buildings are often seen as a failure of modernist architecture, technically outmoded and economically unviable, so demolition and rebuilding seems to be the preferred option for dealing with them. Contributing to the preference for demolition over renovation are the difficulties associated with multiple ownership and highly diversified resident profiles, which complicate decision-making processes and often obstruct development. As a result, residents are forced to live in deteriorating buildings or move away.

However, much existing housing stock offers rich opportunities for creating more liveable, affordable and sustainable solutions, which
remain largely underexplored. This chapter investigates the oppor-
tunities opened up by the ‘adaptive redesign’ of existing housing schemes
and their potential to significantly contribute to the economic, social
and environmental sustainability of cities. It highlights exemplary rede-
velopments that break with conventions, scrutinise regulations and
utilise customised solutions to fundamentally rethink the architectural
design of buildings, starting with the needs of their inhabitants. These
offer vital alternatives to a mere renewal of the existing building fabric
and the updating of the building’s external appearance, and demon-
strate that by thinking creatively it is possible to make advances that
forge productive links between environmental, social and economic
factors. In this way, the large amount of existing housing stock in cit-
ies around the world can be adapted to provide an immediate response
to current concerns around building quality, while impacting positively
on the lives of contemporary urban dwellers over the longer term. The
chapter argues that what is needed is a meta-framework for ‘adaptive
redesign’ approaches that can facilitate the transition from disparate
ad hoc attempts towards mainstream housing solutions that influence
policy and improve living experiences for large numbers of urban resi-
dents. Drawing on a broad church of research and examples from across
the world, the chapter offers insights into fresh ways of thinking about
design that are translatable to different scenarios and have potential to
be developed further.

Ageing apartment buildings: the need for management
and decision making

Building maintenance and adequate property utilisation

In many cities, a significant proportion of the apartment stock is age-
ing, poorly maintained and in need of upgrading. Dysfunctional lifts,
deteriorating façades, mouldy walls, broken windows, defective lights,
uninhabitable balconies, poor acoustics, lack of insulation and locked-
up laundry rooms are just few examples in a long list of common defi-
ciencies that have implications for the health, well-being and safety of
apartment residents, and for the quality of the urban environment more
generally. This challenge has received significant attention in Western
European cities that have a long tradition of apartment living,\(^1\) in cit-
ies across North America and Australasia with more recent histories of
apartment living,\(^2\) across Eastern Europe in the wake of the transfer of
ownership from public to private control, in super-dense cities such as Hong Kong, and in cities with recent large-scale urbanisation and densification across Asia. In Hong Kong, Singapore and New York, for example, governments have responded to this challenge by instituting mandatory building inspections, and in Hong Kong the upgrade of apartment buildings is subsidised.

In many cases, problems surrounding the maintenance of apartment blocks and the replacement of worn-out building elements are linked to particular forms of ownership and management. Where multiple owners are collectively responsible for the maintenance of their building, the problem of the ‘tragedy of the anti-commons’ can arise, namely a break-down of co-ordination that occurs when one or more owners frustrate collective efforts to come to an agreement on actions such as maintenance, repair and development. Ultimately, fragmented ownership structures can lead to a complete deadlock, and, as a study by Buchanan and Yoon demonstrates, can result in the erasure of potential economic value because of resource underutilisation. This scenario becomes more likely as the number of owners rises in higher-density developments or as the variety of socio-economic and cultural backgrounds increases as a result of global mobility and immigration. There have been calls for legislative and legal remedies to address these challenges around the world.

While legislative and policy changes that prevent small minorities of owners from stalling repairs and development are no doubt a part of the solution, what is also needed are tools to enable residents to find solutions that provide a range of benefits for all and turn negotiations into positive collective exercises in conjunction with architects and other professionals.

The challenges of decision making

With owners and residents of apartment buildings assuming a more central role in the redesign process, there is an evident need to provide guidance with decision making, and more generally a clarification of responsibilities and collaborative processes. There are evident tensions that arise in transforming the architectural design process into a collective practice that successfully combines social needs and aesthetic aspirations. Participatory design approaches allow architects to reinvent their role as a resource for society and have the potential to turn mere refurbishment commissions into truly social enterprises that underscore
the cultural significance of housing. Yet this is no easy task, and further investigation is needed.

Perhaps the greatest challenge in implementing an adaptive redesign approach that relies on the participation of multiple people is attaining consensus. Research undertaken in Australia\(^{12}\) and elsewhere\(^{13}\) has highlighted the difficulties of maintaining and upgrading apartment buildings under multiple ownership. For example, Easthope, Randolph and Judd found that disagreements relating to major expenditures, including major repairs, were quite common in strata schemes in New South Wales. They note:

A particular issue regarding decision-making in strata schemes … is the length of time it can take to make a decision and take action on particular issues because of the difficulties that can be experienced in getting consensus within the executive committee or between owners.\(^{14}\)

These challenges presented by neglected older apartment buildings have been recognised by government and industry in the Sydney context and formed part of the New South Wales government’s justification for changing the legislation regarding the proportion of owners who must agree to terminate a strata scheme as the first stage towards knocking down and rebuilding apartment buildings.\(^{15}\) However, demolishing and rebuilding apartment buildings is both an expensive and a potentially very disruptive exercise.\(^{16}\) The demolition and redevelopment of ageing multi-owned properties will be insufficient to deal with the joint challenges of increasing housing needs and declining housing quality. It will be insufficient because it will be financially unfeasible to redevelop many of these ageing properties in a market-based housing system.\(^{17}\) It will also be disruptive to established residential communities who at best must be rehoused and at worst will be displaced. And it will be environmentally unsustainable to redevelop properties earlier than necessary because of the massive embodied energy in new buildings.

Yet, the challenge of multiple ownership has often seen apartment buildings left out of initiatives and programmes aimed at the upgrading of apartment buildings. Toronto’s Tower and Neighbourhood Revitalization Program provides a good example. The Program, which started in 2008, is promoting the revitalisation of over 1,000 old apartment buildings through partnerships between the city council, local property owners, community organisations and donors.\(^{18}\) This is the council’s response to the outcomes of the ‘tower in the park’ model,
which was the city's main strategy for tackling housing shortages. More than 3,000 towers of five or more storeys were erected in Toronto’s metropolitan area between 1950 and 1980, representing the second highest concentration of high-rise buildings in North America.\textsuperscript{19} Designed as affordable housing, the buildings are now increasingly dysfunctional and in disrepair. Amenities such as swimming pools, sports facilities and communal spaces have been largely closed; an influx of immigrants has changed the social mix, with more than 70 per cent of inhabitants living in poverty. However, the vast majority of the buildings that fall under the council’s programme are private rental buildings with each building having one landlord owner; condominium buildings in the area that have multiple owners have been effectively excluded from the programme. This is most clearly seen in the requirement that all (100 per cent) of the owners in a condo building must sign their agreement before it becomes eligible for the city’s High-rise Retrofit Improvement Support programme (Hi-RIS) to help fund energy and water efficiency improvements, effectively excluding multi-owned condo properties from this scheme because of the difficulty of obtaining 100 per cent votes, especially where some units are owned by absentee investors.\textsuperscript{20}

**Ageing apartment buildings: the need to respond to demographic change**

**Changing resident profiles**

The renewal of the building fabric and services might resolve technical deficits, but it ignores additional social benefits that can be achieved with a fundamental rethink of the building occupation strategy. The issue is whether these ageing apartments continue to meet the needs of their current residents and prompts the questions who is living in them, and what are the socio-cultural sensibilities of current residents? Research has demonstrated that over time the resident profile of suburbs, and the apartment buildings within them, can change significantly, so that the people who live in these apartment 10 or 20 years after they are built may be quite different from the occupants envisaged by architects, developers and planners when the buildings were first constructed, as is the case in Sydney and Melbourne.\textsuperscript{21} Indeed, in older suburbs ‘considerable restructuring of the local housing markets is likely to have taken place over time’ with ‘changing demand segments leading to up- or down-grading’, as Randolph and
Tice explain. Another study conducted by Easthope and Tice shows how, in one Sydney suburb, the resident profile of a new development made up of multiple apartment buildings changed rapidly to include increasing numbers of households with children and lower income households within just a few years.

The changing resident demographics observed in Australia’s major cities are a common occurrence in Europe as well. A recent housing project in the residential neighbourhood area of Ommoord in Rotterdam/Netherlands cited changes in resident profile as the main motivation for redesign. The Ommoord apartment blocks were constructed in the 1960s, and in 1999 the housing association commissioned biq architects to upgrade the buildings’ technical performance and find an architectural solution to improve the increasingly tense relationships between different resident groups. In particular, younger families from varied socio-economic and ethnic backgrounds and older residents who had lived in Ommoord from the beginning presented conflicting needs and an ignorance of respective social codes. The architects noted that:

The departure of the stable population of pioneers and the influx of new tenants with different skin colours might be a completely normal manifestation of urbanisation, but for older residents it is a threat to their ways – new families parking their children’s bicycles on the access gallery is their worst nightmare.

The conflicts witnessed in Ommoord are a common occurrence in other developments too. In Slotervaart, a district in Amsterdam West, 50 per cent of the population were from a migrant background and, in surveys, 38 per cent of residents stated that they did not feel safe on the streets while 27 per cent indicated that they experienced friction with residents from other cultures. It is evident that the people living in older apartments may very well not be the types of people envisaged to live in them when they were built, and beyond that the demographic profiles of cities have also diversified as a result of increasing immigration and ageing of the population, which is likely to have led to a diversification of needs, or even conflicting needs. Add to that changing demands on space over time as home technologies, living practices and aspirations continually evolve, and one would expect that older apartment buildings might no longer meet the needs of their current residents.

At Ommoord, biq architects astutely recognised the positive impact that adaptive redesign could have on the lives of its residents.
Negotiating the customised solutions to meet the diverse social and cultural needs represented a significant part of the architects’ charge. In a nine-year participatory design process, biq developed an alternative occupation strategy by rethinking the spatial organisation of the scheme. The final design proposed a redistribution and sectionalisation of apartments according to social groups and, more specifically, the inclusion of aged care facilities and the reservation of two blocks for older residents.

Aesthetic sensibilities

Other successful approaches have focused on the aesthetic sensibilities of resident groups with different cultural backgrounds. In the Slotervaard neighbourhood of Staalmanplein on the outskirts of Amsterdam, half of the residents are Muslim, and alternative building aesthetics were explored in an intense participation process. Crystalline forms were developed with the intention to break with the traditional orthogonal patterns of the modernist post-war neighbourhood and create openness and access at ground level to increase communication. On another Slotervaard site, an apartment building received a screen to mitigate noise from an adjacent motorway. Here the architects’ façade design drew on ornaments derived from Persian carpets and Moorish ornamentation, directly targeting the aesthetic preferences of the local Muslim community. Whether seen as cultural tokenism or meaningful references, these approaches recognise the increasing stratification of space, which is becoming more and more reliant on negotiating social cultural sensibilities rather than limited functional considerations to a degree that did not previously exist.

Aesthetic sensibilities come into play in the context of environmentally sustainable architecture, too: working with the givens of existing buildings constitutes an integral part of redesign approaches, and is often articulated as an interest in ethics over aesthetics. Lacaton & Vassal, for example, have frequently cited their commitment to ‘making do with what you have, working with the inherent qualities of the space or site’, and being ‘attentive to the situation you have in front of you’ – tactics which show little interest in designing an architecture with a particular style, or using established design methods. Leaving walls and floors unfinished, exposing services and signs of use, and deploying a limited range of off-the-shelf materials are integral to their
adaptive redesign approach and evidenced in buildings such as La Tour Bois le Prêtre in Paris. Interestingly, they are frequently accused of an intentional anti-aesthetic that draws on imagery of dereliction and utilitarianism, a criticism that stands in opposition to their own emphasis on purely performative and economic criteria. Whether the repeated use of these design strategies does result in a certain aesthetic or style is not the main concern. More importantly, Lacaton & Vassal’s emphasis on a purely pragmatic, environmental approach downplays the cultural and aesthetic aspirations that have come to play a much more vital role in contemporary society since the late 1990s. German philosopher Gernot Böhme suggests that modern-day desires – the intensification of life, ‘being seen’ and outward presentation – all lead to an increased appreciation of aesthetics over functionality. If Karl Marx distinguished between use value and exchange value, today, as Böhme argues, the exchange value, namely the aesthetic appeal, increasingly assumes the role of a new use value. In architecture, this is evidenced in the extensive presentation of materials and settings that form the backdrop to everyday scenarios and form part of the commercial culture in our age of advanced capitalism. The implications for the redesign of apartment blocks are significant. Any form of participatory redesign would have to consider the importance of such consumer-driven aspirations that would have formed an additional stratum to the cultural occupation of space – both assuming a role that is equal to or even more important than the pragmatic consideration of everyday needs.

It highlights two important points that currently impede the transition of adaptive reuse and participatory modes of design into the mainstream: first, from the perspective of architectural critics, participatory and adaptive redesign approaches lack genuine creativity and an aesthetic dimension and this represents a vital deficit that positions them outside the accepted range of architectural endeavours – they are not architecture; second, from the perspective of architects engaged in such endeavours, the social, cultural and economic significance of aesthetic considerations is often downplayed or denied. The increasing aestheticisation of everyday life that has been embraced by contemporary mass society – the penchant for designer labels and buildings, the desire for self-representation and the staging of our everyday lives in social media – all points to the importance of design aesthetics, including the aesthetics of the apartment buildings in which we live.
Future demographic developments

The challenge of rethinking occupation and design strategies in response to changing resident profiles assumes growing significance when looking at the future development of populations. Changes to the demographic profile of residents and the resultant diversification of habitation patterns can be attributed to various causes. In Australia, increasing immigration rates, including disproportionately more young adults, substantially add to demand for housing and lead to significant changes in resident profiles. Predictions highlight that, beyond 2040, as much as 80 per cent of population growth could be attributed to migration from overseas, and in Sydney this figure could reach 100 per cent.

In contrast, European cities have to cope with considerably less predictable immigration scenarios. The European refugee crisis has seen EU countries grapple with housing unprecedented numbers of asylum seekers and immigrants. In Germany alone, 441,899 first applications for asylum were registered in 2015 alone, and the housing needs have rocketed to an estimated 350,000 new housing units per year, representing a 350 per cent increase on the current construction rate.

These developments necessitate inventiveness beyond standard construction practices and have shifted focus onto the possibilities offered by the transformation of existing buildings for housing.

The ageing of long-term residents represents another significant issue in changing resident profiles. As recent demographic studies by the Australian Population Research Institute show immigration and the ageing of resident households are, together, the two most important aspects that shape resident profiles in Sydney and Melbourne. But there is a plethora of secondary causes, too: a recent report, for example, cites alternative habitation formats such as shared housing or children returning to live with their families in response to tightening rental markets as additional factors contributing to changing forms of habitation and resident demographics.

These demographic changes and associated social and cultural needs are not prioritised in most modernist housing schemes, where standardised solutions are expected to fit the needs of an average resident. Even more radical modernist architects associated with the Neues Bauen (New Building) movement – which emerged in Europe in the 1920s and included well-known innovators such as Le Corbusier, Walter Gropius, Bruno Taut and Alvar Aalto – focused on what was regarded as basic universal requirements. This standardised thinking is equally
engrained in building standards and architectural design approaches, and sits uneasily with the increasing socio-cultural diversity of populations which has become common rather than exceptional in an age of global mobility. These developments call for a fundamental rethinking of the ways we design based on contemporary needs and aspirations of a multiplicity of potential residents.

The transformative potential of adaptive redesign: linking economic, social and environmental benefits

The adaptive redesign of ageing buildings offers remarkable opportunities for reducing energy usage and greenhouse gas emissions and, in addition, is economically cheaper than demolition and rebuilding. Environmental strategies in adaptive redesign schemes are significant given that the built environment accounts for around 30 per cent of global annual GHG (greenhouse gas) emissions and consumes up to 40 per cent of all energy. The energy consumption and GHG emissions of a building can be divided into three phases of the whole-building life-cycle: construction, use and demolition. In most building projects, the use phase by far exceeds the other phases, with 80 per cent of GHG emissions occurring in this phase, compared to 10–20 per cent produced for construction, maintenance and demolition. Technical upgrades to reduce energy usage and emissions during the use phase of buildings – which are the result of heating, cooling, ventilation, lighting and other applications – are an effective environmental performance measure that equally contributes to cost savings for inhabitants.

Because efforts have largely focused on improving environmental performance and fixing technical issues, architectural services have frequently not been involved. The lack of architectural consideration is one of the reasons why this model of renovation is highly reductive and ignores potentially important social outcomes. As was noted in a 2015 roundtable discussion hosted by the journal of the Royal Institute of British Architects:

In large-scale housing retrofit, clients generally regard the work as a mere technical fix that does not require an architect. In doing so, they potentially miss out on considerable value-adding opportunities that arise from the wider design vision that architects offer.
More recently, however, adaptive redesign approaches have become increasingly complex and often include an interplay between economic, environmental and social factors. More than simple renovations, they offer viable and holistic alternatives that are transformative rather than ameliorative.

Social benefits of adaptive redesign in collaboration with residents

Adaptive redesign of apartment buildings, especially if it involves the participation of residents and owners, has the potential to generate significant social benefits. First, it allows for the provision of amenities and facilities that fit the needs of current residents and enables a response to demographic shifts in the socio-cultural and age profile of apartment residents. Secondly, the participatory nature of the process itself has the potential to strengthen social ties and improve social capital.40

At the scale of the individual dwelling and the building, participation in the redesign process can also help residents to feel more in control over their properties. The importance of control over one’s living environment for feeling at home in one’s dwelling has been well documented, and similar relationships also exist at the scale of the building in the case of multi-owned housing.41

Prefabrication and off-the shelf materials

A milestone in the adaptive redesign of older apartment buildings is the acclaimed transformation by architects Druot, Lacaton & Vassal of the 1960s apartment block La Tour Bois le Prêtre in Paris in 2011.42 The 16-storey tower with 96 apartments underwent adaptive redesign using environmentally sustainable strategies such as minimising new building works, the intelligent use of materials, and performative upgrading to minimise operational costs such as heating and electricity, among others. The use of prefabricated elements permitted the residents to continue inhabiting the building during the construction phase, and thus avoided the considerable financial burden of rehousing them in other locations for the duration of the works. The use of prefabrication and off-the shelf materials also minimised construction cost and time, causing only minor disruption to residents: the addition of balconies and winter gardens, for example, had an installation time of one day per apartment.43 The architects demonstrated that the cost of adaptive redesign
can be less than half the cost of demolition and rebuilding: the project cost came to €15 million instead of the €26 million initially envisaged for a new building.\textsuperscript{44}

Leveraging land value for improved living experiences: activating communal space

Advanced prefabrication and the smart use of off-the-shelf materials are only one possibility for making adaptive redesign economically attractive. Graeme Stewart of ERA Architects, a practice that has been working on the renewal of tower blocks in Toronto, promotes the activation of land value to finance the redesign and upgrade of existing apartment towers. He proposes the construction of new high-density, mixed-use buildings, which are inserted into underutilised open spaces. These increase the economic viability of redevelopment and provide added social advantages: shops and restaurants provide missing amenities at ground-floor level and market housing on the upper levels increases the apartment mix and social diversity of the area (Figure 4.1). Stewart argues that the value of the land on which the towers sit can be leveraged to bring new investment to these neighbourhoods. By building new housing or commercial space on vacant land, Stewart believes, property owners could finance energy retrofits and building upgrades, while bringing in much-needed businesses and services. By combining new

\begin{figure}[h]
  \centering
  \includegraphics[width=\textwidth]{figure4.1.png}
  \caption{Once a middle-class status symbol, Toronto’s 3,200 residential towers are ageing into overcrowded homes for the poor. Several efforts are under way to refurbish the towers and stitch them into the modern city.}
\end{figure}
development with adaptive redesign, these developments aim to contribute to broader urban renewal processes.

Leveraging property value for improved living experiences: customising home

In Lacaton & Vassal’s La Tour Bois le Prêtre scheme, social sustainability was of equal importance to environmental and technical factors. Indeed, for the architects, consideration of the users acted as the main driver of the project. By developing customised measures in close collaboration with the residents, and looking at the adaptive potential of the building, the architects deployed a case-study approach that built upon the particulars of the project scenario. The residents’ needs codetermined the adaptations of the individual apartments to provide simple comforts such as more space, light, views and social contact. Main improvements included extending habitable spaces through the addition of balcony spaces and winter gardens, providing generous views through the replacement of small windows with full-width glazing (the architects found that ‘the building’s windows were tiny, so [that] even the units on the upper levels of the building had no real view of Paris’), and rethinking communal areas to facilitate collective activities.45 Anne Lacaton explains that this approach is distinct from traditional renovation approaches, which reinstate rather than rethink, and often focus on external appearance. She insists that in La Tour Bois le Prêtre the design and aesthetics arose from decisions about the quality of the spaces: ‘We could have done something playful and fashionable on the outside, to look better, if we had put just a few balconies here and there. But our priority was improving the living conditions for everyone.’46 Conceived to improve the life experiences of inhabitants, the redesign represented a socially viable alternative to conventional renovation approaches, allowing residents to articulate their individual needs and appreciating the opportunities afforded by the customised housing design.

Trialling new models of habitation to inform evidence-based policy change

In Germany, the housing shortage has been exacerbated by rapidly rising immigration figures. Interestingly, the ensuing crisis has been seen as an opportunity to fundamentally rethink housing solutions by querying architectural typologies and standards.47 In 2015, the German ministry
in charge of urban development and environment (BMUB) called for inventiveness, providing €120 million for the development of so-called ‘Vario Apartments’ – small modular units intended for temporary living.⁴⁸ These can be inserted into unutilised spaces such as vacant buildings or empty sites. Rather than permanently transforming these sites and buildings for residential use, the typology seeks to temporarily insert habitable space, proposing a provisional use. If successful, the initiative might influence the BMUB’s review of a reduction of building standards and codes to facilitate alternative solutions for the present and make housing more diverse and affordable. As Stefan Rettich points out, ‘not everyone needs the same standards’, and ‘people react differently to noise and have different heating requirements’.⁴⁹ Yet a reduction in standards should not mean facilitating deregulation and substandard codes; rather, deregulation can offer scope for social innovation and greater participation of residents in the design of their homes. Central elements of this idea can easily be translated in the context of redesign of ageing apartment blocks, where modular units can be attached to façades as in La Tour Bois le Prêtre, added to roof tops, or placed elsewhere to create additional living area and improve building performance and aesthetics.

Participatory design processes: opportunities and limitations

Participation is a word that is frequently used in architecture today but is understood in quite different ways, and often genuine participation of clients and users does not occur, for example when participants are offered only two options and no prior consultation has taken place – a standard practice in architects’ presentations to user groups. Architectural historian Andres Lepik points out that genuine participation means ‘listening to the community first, before starting a plan at all’, and actively involving the community in the design and construction processes of projects.⁵⁰ This has vital implications for the professional role and self-understanding of the architect. In his discussion of participatory processes, architect Markus Miessen has proposed the model of the ‘cross-bencher’ as a creative intervener, someone who belongs to no party, and stimulates argument and debate rather than consensus.⁵¹ In this line of thought, the architect is no longer necessarily someone who designs buildings, but is more generally a creative producer or mediator who also aligns with art-inspired participatory practices proposed, for example, by practices such as muf, who does not see buildings as the only architectural outcome but also includes the making of relationships, the forging of dialogues and the staging of temporary interventions.⁵²
Some forms of co-housing also provide important insights on the challenges and opportunities entailed in the collective engagement of architects and residents in the design process, although most multiple-owned housing schemes do not form ‘intentional communities’ in the sense of co-housing projects. In a recent series of seminars, for example, the UK Cohousing Network seeks to tackle issues associated with knowledge transfer, particularly with respect to what they term ‘the professionalization of the collaborative process between communities and expert partners’. Expert partners would include architects who traditionally assume the role of the consultant team leaders. Asking whether ‘collaboration between groups and professionals’ can ‘take place without undermining grassroots autonomy and creativity’, the network points to the fact that client bodies see the involvement of professionals as a threat to their independence and participatory aspirations.

Concluding thoughts

The examples of French, Dutch, Canadian and German housing schemes discussed in this chapter should be seen as pilot projects for trialling approaches to adaptive redesign based on user participation. It is important to note that in these projects the standard design processes used for architectural projects are no longer applicable. In both Ommoord (biq) and Paris (Lacaton & Vassal), the design consultation phase was ongoing and extensive, whereas the construction phase was comparatively condensed due to processes such as prefab and strategies of minimising new-built interventions. While these case studies are exemplary in terms of their outcomes, they also suggest the need for improved guidance to streamline the participatory design approach. In Ommoord, the entire project involving 2,000 residents extended for nine years (1999–2009), of which the construction phase only took up two years (2007–2009).

Interestingly, few details are known about the methodological approaches and design processes used by Lacaton & Vassal, biq or other architects involved these projects. The design guides of architect and planning institutes have equally little to say on the subject. In the absence of a clearly articulated methodological framework and the lack of evidence-based approaches, obvious problems come to the fore. If residents participate in the design process, how are design decisions made and who makes them? What then happens when parties such as residents make design decisions, which they are not professionally qualified
and not best suited to make? And what does this mean for the role of the architect?

It is evident that standard design protocols for architectural projects do not effectively meet the needs of residents in existing properties nor of architectural professionals attempting to provide services for them. What is needed is a new design process for adaptive redesign that increases the efficiency of what to date have been case-by-case approaches and enables participatory design approaches to become a mainstream design approach. Where adaptive redesign has been employed, the design approaches have not been comprehensively recorded or disseminated and therefore there is a need for knowledge transfer. This would include (a) collecting the information that exists about what has been done internationally and (b) collecting new information through case studies. Building on the knowledge now available from these and other case studies, it should be feasible to develop a framework to support this type of participatory design process, thus opening up new solutions for multi-residential housing.