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Dense and ageing: Social sustainability of public places amidst high-density development

Dense and Ageing
Social sustainability of public places amidst high-density development

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Summary

We argue it is time to revisit urban development frameworks to bring in more social and people-centric approaches to designing and managing cities. Especially in high density urban contexts where people face constant challenges of negotiating diversity in close proximity, and as global populations age, new design issues are posed for such components of social sustainability as liveability, quality of life, accessibility, equity, health, happiness, social capital, and civic participation. It is projected that senior citizens will make up 21.1% of the world population by 2050 (UN, 2013). Increased information availability make participatory changes in urban planning processes feasible, and will increasingly be demanded by new generations of seniors who are more educated, active and empowered.

Top-down institutional urban planning cannot capture how each place and community interprets and deals with ageing and density locally. Based on case studies in Singapore and Japan, we propose that, for dense urban environments, much further specific attention needs to be placed on the role of public places and, in particular, collaborative, local place-making initiatives by and with senior urbanites. We call this the "ageing-friendly place-making".

Introduction

The two case studies presented in this chapter – Singapore and Japan – two of the most rapidly ageing countries in Asia represent contrasting high-density urban forms: high-rise in the former and low-rise in the latter. Through comparative study, this chapter examines how public places in high-density contexts are being developed and used by differing ageing communities in relation to their changing needs, how

participation is fostered or constrained, and how thereby social sustainability is made more robust and resilient. Recent heuristics among planners – such as "social sustainability" (Woodcraft, et al., 2012) and the "circle of sustainability" (Magee, et al, 2013) have been suggested as frameworks towards the United Nations goals of Rio+20 and Habitat World Urban Forums in Napoli (2012) and Medellin (2014). We propose, on the basis of the two cases presented here that for ageing-friendly dense urban environments, much further specific attention needs to be placed on the role of public spaces and, in particular, collaborative, local place-making initiatives with and by senior urbanites. We call this "ageing-friendly place-making".

Concepts of Social Sustainability

The concepts of social sustainability proposed by Woodcraft (2012) and of the circle of sustainability proposed by Magee (2013) and James (2015) are not very different. Both are premised on the increasing amount of information about urban patterns and usages (traffic flows, energy heat maps, time of day usage, and other real time mappable measures), available to planners, allowing a shift from only environmental and economic drivers to considerations of social issues such as liveability, quality of life, accessibility, walkability, green spaces, seating, pedestrian only areas, equity, health, happiness, social capital, and civic participation. Both are simple four or five principle heuristics for planners to keep in mind. Woodcraft (and his U.K. based social enterprise, Social Life), focused on housing and urban regeneration, proposes four rubrics or dimensions: "amenities and infrastructure" (past attempts), "social and cultural life" (present experience), "voice and influence" (shaping of future), and "change in the neighbourhood" (impact over time) (Woodcraft, 2014). The time element ("space for people and places to evolve") is added to the "three pillars of sustainability" or "triple bottom line" identified by the UN Millennium Declaration (2000): environmental, economic, and social pillars. Magee et al. (2013) reorder the heuristic as a set of four domains or social categories – economics, ecology, culture, and politics – and argue that all are social conditions "embedded in the resilience and wellbeing of the social unit as a whole," not externalities. Each implicating the others form a circle of social sustainability. The interactive or circle formulation is intended to help foreground social tensions among the domains, allowing them to be explicitly negotiated according to temporal (present, near-future, far future; or short-term versus

long term social benefits) and spatial (local, neighbourhood, city, regional) dimensions (James, 2015).

Concepts of Ageing-friendly

While all this is salutary as far as it goes, we will show in the two case studies that we need to go further for dense urban areas inhabited by ageing populations, and other demographic shifts such as increasing numbers in cities like Tokyo of singles and new forms of intentional "families" (residential units that differ from nuclear or multi-generation kinship-based families). Ageing populations demand more socially driven approaches in planning urban infrastructure. It is projected that senior citizens will make up 21.1% of the world population by 2050 (UN, 2013), many of whom will live in cities. Not only more hard infrastructure such as healthcare, housing, transport, etc. need to be catered for, but also 'soft infrastructure' such as outdoor public places and social participation (WHO, 2007; Gehl, 2010). These soft infrastructures play a critical role in coping with the ageing process of the individuals, while providing a more liveable and enjoyable environment for all ages, particularly in the context of high-density living.

For these purposes, we try to clarify a series of overlapping and often ambiguously used terms. First, we adopt the emerging emphasis on "ageing *in community*" (Blanchard, 2013) rather than merely "ageing in place". Second we adopt the phase "*ageing friendly* environments" to stress the changes that age cohorts undergo as they age, in preference to "age-friendly" or "elder-friendly" environments which often are more static in their projection of what senior citizens will want or need. Murata (2010) provides a useful example with the case of the Tama New Town in the hilly outskirts of Tokyo, developed as a "new town" for baby boomers when they were in their twenties. Today both the residential buildings and their residents have aged in ways that are less than satisfactory. In contrast Cho & Kim (2016) provide a Korean example of a poor working class residential area that has been spared gentrification, and yet has through various strategies managed to slowly upgrade public facilities such as outdoor railings and seating, as well as the residences themselves.

We adopt the usage of Lehning et al. (2007) and Sharlach (2012) that an ageing-friendly community is one "where older residents can continue to engage in life-long

interests and activities, enjoy opportunities to develop new interests and sources of fulfilment, and receive necessary supports and accommodations that help meet their basic needs". We also endorse the view of the World Health Organization (2007: 72) that ageing friendly cities should emphasize enablement rather than just catering to disablement, and that in principle they should be friendly for all ages, not just "elder-friendly". This is, of course, also the philosophy of "universal design" that is slowly being incorporated into many architectural practices and building codes. A good example from Singapore is the recent introduction of a program in the community of Yishun to train shopkeepers and other "eyes" in the public to deal with persons with dementia who wander into their premises, rather than shunning or shaming or hiding them. This is one of many elements of what we call the role of public spaces in ageing-friendly place-making.

Comparative Study

The following sections explore, through the case studies on Singapore and Japan, the role of public places particularly the collaborative, local place-making initiatives by and with the senior urbanites in high-density urban contexts. Materials are mainly drawn from literature review, site studies, qualitative interviews, and sample survey conducted in 2014-2015. The comparative study then leads to a discussion of social sustainability and our proposal of "ageing-friendly place-making".

Singapore

Singapore, a dense city-state, with a population of 5.5 million on 718.3km,[2] has a population density of 7,615 people per km^2 (DOS, 2015) spread almost homogeneously across the island. Aside from density, a key urban planning challenge is the sharp demographic age shift. The total fertility rate has been lower than the replacement rate for over 30 years, while the average life expectancy has increased from 50 (1963) to 82 (2010), fourth highest in the world (NPTD, 2013). Currently there are about 400,000 residents over 65 (10.5% of the population); but some 900,000 baby boomers, born between 1947 and 1965 (NPTD 2013), began turning 65 years old in 2012. Over 25% of the state's current population, will be over 65 by 2030.

The shift ratio of labour force to retirees has caused government planning to increase the population to 6.9 million, through pronatalist policies, but mainly through immigration (NPTD, 2013). High-rise solutions have characterised Singapore's centralized urban planning, supported with public transit to move people from housing to work. The Housing and Development Board (HDB) developed high-rise public housing estates, locally called HDB estates, which house about 82% of the population (DOS, 2015). Housing block heights gradually increased from 12 to 15 storeys in the 1960s, to now 50 storeys at the Pinnacle at Duxton, completed in 2009.

While the government has consistently emphasized personal responsibility and families' role in elder care in accordance with Singapore's "minimalist approach to social welfare" (Mehta & Briscoe, 2004), in fact over the past three decades inter-ministerial committees on ageing have convened to anticipate future needs and how government agencies can assist through urban infrastructure and social programmes (Chong, et al., 2015a).[1]

The Committee on Ageing Issues (CAI), for example, in 2006 called for more public places within housing estates and neighbourhood parks for seniors, in order to promote healthy, active living and social life. The committee also suggested the HDB and National Parks Board (NParks) work with Town Councils and grassroots organizations including the People's Association and Resident Committees to promote ground-up initiatives, such as allowing residents to 'own' small plots of land for gardening and utilizing HDB 'void deck' space (ground floor areas that are often intentionally left empty, but are considered important common areas for social activities in public housing[2]) for senior activities (CAI, 2006: 55-60). In this section

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[1] The 1999 Inter-Ministerial Committee (IMC) Report called for collective efforts from each level of the society, including government, in realizing the vision of "Successful Ageing (IMC, 1999, p.10). The Eldercare Master Plan 2001-2005, released in 2001 by Ministry of Community Development and Sports (MCDS), proposed community-based elder facilities be "planned and built as an infrastructure that is required for the community" (MCDS, 2001, p.15). The 2006 Committee on Ageing Issues (CAI) identified four strategic thrusts: housing, accessibility, healthcare and eldercare, and opportunities (CAI, 2006). The Ministerial Committee on Ageing (MCA) in 2007 added "participation" as a key pillar of the ageing policy framework.

[2] The idea was introduced in the 1970s to serve both relatively permanent uses (kindergartens, childcare centers, small commercial kiosks,) and temporary ones (weddings, funerals, celebrations, casual gatherings, sitting). Void decks function as lobby lounges to enhance the sense of belonging to communities, or as spaces for events organized by the Residents' Committees.

we examine several approaches of "ageing-friendly place-making" that have taken place in Singapore. To negotiate between the highly regulated land use planning and the diversity of community interests, it is especially important to highlight the collaborative efforts by these organizations and the community themselves.

Formalizing Underutilized Pocket Spaces

To encourage seniors to participate more actively in sports and other community-centered activities, more senior citizens' fitness corners and age-friendly playgrounds equipped with elder-friendly exercise equipment have been installed in various open spaces across the island, both within HDB estates and in parks and green spaces (Figure 1a) for seniors to exercise with their families and within the community, encouraging intergenerational bonding.

More open public areas have been made available within high-rise housing estates for seniors to interact and socialize. Even in the absence of formal activities, one can typically observe the seniors congregating in these spaces to socialize and take advantage of the shelter and seating provided. In response to the observed spatial practices of the elderly in using and appropriating these empty spaces (Chong and Cho, 2014), many void decks have been formalized and converted into "Senior Citizens' Corner" since the 1990s. These dedicated corners often come with standardized design – fixed concrete tables and steel chairs to prevent theft, simple pantry with sink, storeroom with locks, and sometimes the space is surrounded by grille for additional security. Some were locked and were only accessible during certain hours. Nevertheless, some of them became popular when the senior communities were able to take control and re-appropriate these places (Figure 1b). The success of the Senior Citizens' Corners thus depends on the community themselves beyond the provision of infrastructure.

Since 1999 when Kampung Senang Organic Farm initiated the first community garden in Tampines (CAI, 2006), there has been rising demand by senior residents to convert open spaces in HDB estates to gardening space. To accommodate the emerging needs yet within an institutionalized framework, NParks introduced the "Community in Bloom" program to offer a consultative approach to the residents, to

enable them to set up community gardens.[3] To date, over 600 community gardens have been started, with some 20,000 residents taking up gardening within their housing estates (Leong, 2013). Some community gardens became more successful than the others (Figure 1c), depending on whether a balance between exclusivity (to safeguard the plants) and inclusivity (to allow as many people as possible to enjoy the garden) could be achieved.

Figure 1 Formalization of underutilized pocket spaces within HDB estates to create ageing-friendly public places: top-left (a) Senior Citizens' Fitness Corner; top-right (b) Senior Citizens' Corner at void deck; bottom-left (c) community garden; bottom-right (d) Environmental Deck at rooftop of multi-storey car-park. (Source: Authors)

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[3] Community gardens are usually located on unused land next to HDB blocks or within public spaces after consultation with various stakeholders including the Town Council and Citizens' Consultative Committee. The Residents' Committees usually manage them.

Introducing High-level Public Places

Since 1990s, new HDB estates were planned with higher density to accommodate population growth.[4] Provision of public places in these estates thus called for different approaches. The "Multi-Storey Car Park" (MSCP) was first introduced in 1980s to increase parking while conserving surface use.[5] However, it also increases density, and only after several iterations was the potential of MSCP rooftop realized as public places. Since 2005, housing blocks are planned around the MSCP; its rooftop garden serving as new "Environmental Decks" (E-deck) integrating and linking blocks (Figure 1d). This new high-level ground provides additional public places that are barrier-free and safe from vehicles. Many common facilities such as elderly exercise corners, landscape parks and community gardens are now located on these E-decks.

Collaborative Place-making with Senior Communities

With better education, as well as more exposure to information and diversified access, the public begins to demand more involvement in decision-making and community planning. When it comes to planning of facilities for seniors, competition for space can create NIMBY (not in my backyard) syndrome. In one case, opposition to a nursing home facility transformed the design into a community friendly building with green hanging garden facades. "Participation" and "Inclusive Environment" thus become the recent key drivers when dealing with urban development. Residents are now consulted before improvements and place-making efforts at block-level (such as seating area, lift lobby, residents' corner) and at neighbourhood-level (such as drop-off porch, playground, fitness corner, pavilion) are implemented. Much of the participatory process in community space planning are public forums such as Town Hall Meetings, dialogue sessions, block parties, mini-exhibitions, surveys organized by the authorities or town councils.[6]

Participatory approaches have helped foster new developments such as the design of integrated social service centres (called Senior Activity Centres, SAC), usually

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[4] For example, Sengkang and Punggol New Towns were planned with gross plot ratios of 3.0 to 3.4 persons as compared to the previous 2.8 (URA, 2008).

[5] Such high-rise high-density infrastructure only gradually became acceptable in mid 1990s, when residents felt that MSCP was safe and affordable to use (The Straits Times 13 Jan 1995, p.29).

[6] http://www.hdb.gov.sg/fi10/fi10328p.nsf/w/UpgradeWhatsNRP?OpenDocument

located at the void deck of high-rise HDB blocks where many seniors reside, to help them maintain health and strengthen their social networks. Seniors can visit these centres to make friends and engage in regular social activities. They may also receive social support, especially if they are living alone (NCSS, 2016).

A prototype is SilverCOVE,[7] a medical concierge with home monitoring systems and also an elder commercial and social hub, and an open spatial design that is welcoming for both senior and sometimes other users on the ground floor within the confines of a high-rise service core. A participatory workshop was conducted with the recently moved-in residents before the design of the centre actually commenced (Figure 2). The venue of the workshop was at the actual site of the new SAC below their apartments, which allowed the residents to physically feel and visualize how this place could be. The workshop gathered the new residents' inputs on programmes, spatial requirements and design preferences for the SAC. These suggestions, ideas, and desires, together with service provider requirements, helped shape the design.

The design of this new SAC departs from earlier typology: it focuses more on the ambience (rather than functions), as well as giving the elderly residents more freedom and empowering them to choose what they want to do in each spaces. With a modular room concept, adjustable partition and mobile furniture design, these spaces are interchangeable to accommodate variety of programmes (Figure 2). This new typology and participatory design process can become a precedent for future senior studio apartments and SACs that can foster a sense of ownership and participatory community among the residents.

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[7] SilverCOVE is a subsidiary of NTUC Health. Its first centre was conceptualized and designed by COLOURS: Collectively Ours, a design consultancy specializing in collaborative place-making.

Figure 2 SilverCOVE Senior Activity Centre: (top) participatory workshop with senior residents; (bottom from left to right) completed design with open community lounge, modular medical hub, reading corner, herb garden façade (Source: Authors)

Japan

In 2014, 93% of Japan's population was urban (World Bank, 2016), urban density averaged 4,700 people per km^2. Tokyo – with 32 million people or 38% of Japan's population – is about 5,700 people per km^2 (World Bank, 2015). Within Tokyo itself, urban density varies by district, either high-rise (e.g. Shinjuku district) or low-rise (e.g. Bunkyo district).[8] In 1960 the Population Census of Japan introduced the term "Densely Inhabited District" (DID),[9] and counted 43.7% of the nation's population in DIDs on just 1.03% of the land. In 2005, these figures had increased to 66% of population on 3.32% of the land (Brumann & Schulz, 2012).

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[8] Population density (people per km^2) in 2010 by Japan Area Ranking List: Shijuku district: 17,899.6; Bunkyo district: 18,269.3.

[9] Densely Inhabited District is defined as groups of contiguous enumeration districts, each of which has a population density of 4000 inhabitants or more per km^2, and whose total population is 5000 or more.

Like Singapore, Japan urbanized rapidly after World War II, when it lost 4.2 million housing units. In 1955 the Japan Housing Corporation (JHC) was established to systematically plan and develop public housing nation-wide along with community facilities, shops, schools, parks, *hiroba* (open space or plaza) and streets, adopting western urban concepts such as "neighborhood units" and "pedestrian networks". As in Singapore, housing estates became leading developments. They provided relatively good living environments during the high economic growth period of 1960s and 1970s (Fujii, 2015). One public rental housing type, called *danchi*, accommodated collective, affordable living.

From a predominantly low-rise city (average 1.6 stories in the 1960s), by the 1980s Tokyo had become a conglomeration of low-, mid- and high-rise structures. By the late 1990s, remnants of the older Tokyo in central wards had become increasingly isolated and even threatened pockets within the new metropolis (Waswo, 2013).

In addition to urban density, Japan is the world's most aged country with 30.79 million people over 65, or 24.1% of the population, and is projected to be 39.9% by 2060 due to the low fertility rate (UN, 2013). 40% of households currently contain elderly people, majority of which are households with an elderly person living alone or as a couple (Japanese Cabinet Office, 2013). Japan has taken a nation-wide top-down approach with a number of measures to address various ageing issues.[10] Japan's city with the highest number of seniors, Akita, has become a member of WHO's Global Network of Age-Friendly Cities.

As in Singapore, various approaches to improve public spaces are carried out either by the authorities or the community. We observe place-making initiatives by seniors. The low-rise, high-density and small-scale context intensifies the negotiation between

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[10] The fundamental framework of those measures is based on the 'Aged Society Basic Law' – Act No.129 (1995) – which comprises six fundamental principles: (1) Change of awareness on 'elderly people', (2) establishment of social security system to secure peace of mind in people's old age, (3) utilization of the elderly's will and capability, (4) strengthening regional power and realization of stable regional society, (5) realization of safe and peaceful living environment, and (6) preparation for '90-year-aged human life' from the younger time and realization of generation circulation (Japanese Cabinet Office, 2013). Japan has also promoted more employment, social activities (voluntary work) and continual learning opportunities suitable for the elderly (Japanese Cabinet Office, 2012).

public and private realms, but also challenges the people to work more collaboratively.

Revitalizing Matured Housing Estates

The JHC has become the Urban Renaissance Agency (UR) in 2004, with a new mission to revitalize public housing including creating new landscaped community public spaces (UR, 2016). Many UR properties have not been densely developed; so can accommodate more buildings (Fujii, 2015).[11] Takeda (2012) found that the creation of varied functional spaces in larger open spaces, including parks around he housing blocks and green walking trails, attract more older people to use them for daily activities. He recommends transforming *hiroba* into social places for multi-generational exchange, and proposes to build a system engaging senior volunteers in daily maintenance of the estates, which could lead to new ways of using these open spaces.

Reclaiming Public Roads into Hokoten

In Japan, "pedestrian zones" or car-free zones are called *hokousha tengoku* (literally "pedestrian paradise"), or *hokoten* for short. They are truly havens for pedestrians. The streets are closed to car and sometimes bicycle traffic usually on specific weekend and at specific times, so that people can enjoy safer walking on the road, shopping, watching street performances and socializing, which in turn are expected to boost the number of visitors, shoppers, and commercial activities. Pedestrianisation of public roads has become particularly popular to cater for seniors and the rising need for more public space in the high-dense city. The first *hokoten* was formally organized in Ginza, Tokyo in 1970, as a response to surge in traffic accidents and environmental issues during the period of high economic growth and rapid increase in car ownership (Metropolitan Police Department, 2016). Since then, *hokoten* have been designated in many modern shopping districts as well as traditional shopping streets, or *shotengai*, in Tokyo and other cities.

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[11] It is also more efficient and economical to build them on UR's land as the land costs are relatively inexpensive and sometimes even free.

We look at two cases of *shotengai* in Tokyo – Sugamo and Togoshiginza. Sugamo evolved over generations around the Koganji temple, a popular destination that draws some 20,000 visitors (mostly elderly women) daily. On the other hand, Togoshiginza, one of the longest *shotengai* in Japan (1.6 km), is known for traditional food and dining culture. These shotengai consist of 3-4 storey shops and houses lining up on both side of the streets, providing a human-scale, fine-grained, streetscape enjoyed by pedestrians. Self-organized business communities have formed in both *shotengai* and they have regularly updated websites.[12] They have renovated the streets to level the sidewalks with the streets to create a barrier-free environment, safer for seniors especially those in wheelchairs. They work with the local police to ban car access during designated hours,[13] and organize festivals throughout the year.

Many seniors live in the *shotengai*, run the shops, and serve the other seniors – a "seniors-serve-seniors" business model. In fact, Sugamo is well known for being "*Harajuku* for grandmas" (Heine, 2008:94).[14] Togoshiginza is seen to cater to seniors, and also teenagers and young families with small children.[15]

Appropriating Open Spaces and Gaps between Buildings

Our field surveys uncovered several ageing-friendly place-making initiatives in the two *shotengai*, undertaken with or by the elderly. In both sites, pockets of vacant spaces have been turned into resting social places or playgrounds, with seats and landscaped gardens for the public. At Sugamo, there are innovative bollards designed as seats at the plaza that was converted from an unused crossing (Figure 3a). Benches form a circle making an inviting public area in front of Koganji temple (Figure 3b). Other clusters of chairs along the main street are set up by the shop owners. Our interviews revealed that the business community and senior residents set up most of

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[12] www.sugamo.co.jp; www.togoshiginza.co.jp

[13] Sugamo is pedestrianized during specific hours: 7:30-9am and 3-6pm on weekdays, and 12-6pm for weekends and holidays, except the 4th, 14th and 24th of each month with a separate timing). Togoshiginza is catered for pedestrians specifically from 3-6pm on weekdays and from 2-7pm on weekends and holidays.

[14] Harajuku is a famous pedestrian shopping street in Tokyo especially attractive to teenagers.

[15] For instance, on a weekday afternoon, based on pedestrian count of 15min interval (4:45pm - 5pm) it was interesting to observed that majority of the pedestrian were in fact non-seniors (27 seniors compared to 402 non-seniors).

these places. In Togoshiginza, many roadside-dining spaces can also be observed, set up by trans-generational family restaurants (Figure 3c). In both *shotengai*, almost all of the interview respondents said that they want to continue to live, work or visit there (To & Chong, 2014).

In Togoshiginza, a particularly interesting approach to optimise space usage in high-density context is the utilization of gaps between buildings. These gaps were planned and built to comply with Japan's fire protection code. The widths vary, from a narrow 15cm to as wide as 2m (To & Chong, 2014). As the width of the gap expands, many creative ways of appropriation by the residents also increases accordingly (Figure 4).

Transforming Roji into Shared Community Event-Space

Yanaka, Nezu and Sendagi (collectively known as "Yanesen", combining the first syllable of each name) are adjacent neighbourhoods in Bunkyo district filled with high-density but low-rise, traditional *Shitamachi* (literally Low Town) in Tokyo. The largely densely built 2-3 storey houses were blended in a network of *shotengai*, *roji* (alleyway), small plot size yet ubiquitous greenery and open spaces, with numerous old but popular temples. According to Muminovic (2014), Yanesen can be an example of an intensity of "smallness", a unique quality of urban character in Tokyo across different scales (from architectural details to entire neighbourhoods), inherited from its historical urban fabric. Public and private spheres of the houses, streets and alleys overlap.

For example in Yanaka, an active community movement involving many elderly residents has improved small and local streets by celebrating them as a "historic inheritance" and re-designating them as civic spaces. They proclaim the rights to participate in urban change by shaping a common vision of the meaning, governance, and future of these shared spaces, creating a neighbourhood constitution, organizing art events and festivals, engaging new participants in shared property rights, proposing new criteria for assessing urban change, telling diverse narratives and experiences, and publishing them in a popular local magazine called "Yanesen". As public streets and numerous *roji* are very narrow, and that many *roji* and gathering

places are on private land with customary shared usage, demarcation between public and private spaces has been blurred (Figure 3d). Well-publicised maps and tours of historical assets in the community serve as an education tool about community interests and rights over those shared spaces. The movement together with many initiatives has been a symbolic yet politically powerful strategy (Sorensen, 2009). The emerging practice of strong community governance of "shared private spaces" in Japan suggests that a united local community can have a strong voice in decision-making processes at their locality.

In Sugamo and Togoshiginza, we also observed that many shops and eateries expand their service areas into the side *roji*. Besides optimising the space between buildings and enhancing the connection between main street and *roji*, this also invites visitors and residents to socialize in these spaces.

Figure 3 Appropriating open spaces and reclaiming public streets to create ageing-friendly public places in Tokyo: top (a) & (b) resting places at Sugamo *shotengai*; bottom-left (c) pedestrianisation with roadside-dining at Togoshiginza; bottom-right (d) *roji* at Yanesen. (Source: Authors)

Image				
Gap-width	20 - 50 cm	40 cm	80 cm	1.1 m
Uses	Piping service	Piping service + partial bicycle parking	Bicycle parking place with a gate	Storage
Image				
Gap-width	2 m	2.5 m	2.5 m	2.7 m
Uses	Bicycle parking place + passage way	Side court yard with a gate	Vending machine	Alley to rear blocks + vending machine

Figure 4 Appropriating gaps between buildings along Togoshiginza *shotengai*. (Source: Authors)

Discussion

In both Singapore and Japan, we have noted various initiatives to create new ageing-friendly public places. In Singapore this is done through creative use of void decks: senior exercise corners, Senior Citizens' Corners, and Senior Activity Centres, and as housing estates and car-parks increased in density and height, a new typology of E-deck was introduced. A participatory approach in designing these public places with the communities of seniors has recently started, as in the SilverCOVE Senior Activity Centre.

In Japan, we see ageing-friendly public places designed both by the UR, and by senior residents taking their own initiatives: turning public streets and traditional shopping streets *shotengai* into pedestrians' *hokoten*, networks of lanes and alleys *roji* into shared community event-spaces, open spaces and gaps between buildings into enjoyable social places. These improvements are local, ground-up and small-scale, yet have great impacts on the social living environments.

To discuss the social sustainability of these government-led public place implementations and ground-up place-making initiatives, we build on three common dimensions shared among the social sustainability frameworks by Woodcraft (2014), Magee (2013) and James (2015) – physical and temporal dimensions, and voice of the community.

Physical Dimension

The physical dimension should involve integration with social design. In Singapore, the introduction of new public places such as community gardens or Senior Citizens' Corners was a response to existing lifestyle pattern of the seniors. Rather than wholesale redevelopment, it proceeds as a kind of "urban acupuncture," stimulating the community nervous system to become healthier. The layout, height and accessibility of the E-Deck have gone through several design iterations, in order to find better connectivity with the everyday lifestyles of residents. In Japan, the "small yet intensive" context of low-rise housing neighbourhoods in Tokyo help to create a blurring of boundaries between public and private lands so that spaces become more shareable. To achieve more ageing-friendly designs, more prototyping with seniors and other residents could make these places more adaptable (for example, reconfigurable furniture to suit different needs at different time), [16] and more variety (from formal set-up to informal occupation),[17] to cater for the diverse interests enjoyed by different communities across ages (Chong, et al., 2014).

Temporal Dimension

Sustainability is about ensuring future needs and growth. As such, the temporal dimension of these public places cannot be ignored. The design should allow space for the community to evolve, and allow different functions through negotiation of social goals. For example, the success of the Senior Citizens' Corners in Singapore or

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[16] While they provide ample seating with clean and neat environment, it was observed that the formalized Senior Citizens' Corner with fixed layout were usually difficult to use, impossible to move or rearrange such that there are often more elderly sitting on their own chairs, in more private corners between building blocks, sheltered walkway, or in the shades under the trees.

[17] Surveys and research have revealed diverse preferences and needs among seniors with varied genders, age groups, ethnicities, educational attainments, health conditions, income levels, etc. As a result seniors tend to perceive and use spaces and services differently. Senior Activity Centres, for example, attract more female than male based on author's survey (Chong, et al., 2015b).

the creative use of gaps or vacant lands between buildings in Tokyo depend on the extent the community can appropriate these spaces themselves, and determine how and when they want to use them. Here, constant negotiation is important especially when there is more than one community accessing the public place. The time-based pedestrianisation of *shotengai* in Tokyo provides an example. We also need to strike a balance between exclusivity and inclusivity, so that while more people should be able to access and enjoy the public place, we can still promote a sense of ownership in some of the residents to really take care of the place and ensure its sustainability, as seen in the community gardens in Singapore. Therefore, planning should take a more incremental approach in this respect, to empower the community to co-own and co-develop the place, and to allow negotiations between different groups to achieve different goals when consensuses are made.

Voice of the Community

In both Japan and Singapore, we witness a rising trend in citizen participation in planning and urban design, more so in Japan than Singapore. The younger generation of senior citizens, being more educated, wealthier, healthier and more active than the earlier generations, is also more vocal in how they would like their environment to be. Public engagement of seniors in Singapore has begun to take place, through exhibition, focus groups and participatory design. Yanaka in Japan is a good example of how the senior community celebrated the historic district through various ground-up movements, improved the local streets through shared resources such as the emerging practice of "shared private lands". It requires strong community governance, building on a heightened awareness of "rights to the city" (Harvey, 2003).

Through the case studies in Singapore and Japan, we have examined how public places have been developed or redeveloped in response to the ageing trend and within the high-density urban environment. Despite two different local contexts, we could see common threads in terms of social-spatial integration, creative appropriation, temporal negotiation, and community participation. The lessons learned from the two cases, we believe, could be applicable in other high-density urban contexts facing similar issue of population ageing to achieve a more socially sustainable development, through the process of what we call "ageing-friendly place-making".

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