INTRODUCTION

The question of ageing population growth in the built environment is one of several societal realities in the world, and its importance to housing cannot be ignored. The sense of living in a multi-generational society is now becoming real to many people, and the unparalleled ageing of individuals of virtually all advanced and emergent nations lends credence to the fact that the world is facing a momentous demographic change.\(^1\) Population ageing is not unique to any nation; it is observed as an inherent aspect of the demographic transition from comparatively high fertility and mortality rates to comparatively low fertility and mortality rates.\(^2\) Going by the United Nations’ forecast, virtually one-third of the world population will be aged sixty-five or older in 2050.\(^3\) According to Rosenberg and Everitt, the Organisation for Economic Co-operation and Development Countries (OECD) has acknowledged that, in future decades, ageing individuals will be the quickest growing sections of their population.\(^4\) Also, the International Institute for Applied Systems Analysis (IIASA) estimated that Europe will have one hundred and seventy three million persons aged sixty-five and above by 2050.\(^5\) This was substantiated by the submission of Wiener and Tilly that although the United States of America is ageing just like the rest of the world, the proportion of the ageing population in Europe is greater than that of the United States.\(^6\) In the context of the global ageing population, the case of New Zealand is significant as well. Lupis, McVeagh, and McGarr observed that New Zealanders are constantly growing old, and that Auckland’s population is estimated to rise by one million over the next thirty years, and an ageing population with specific needs will constitute a substantial percentage of that increase. According to them, one in four of the NZ population will be over sixty-five by 2051.\(^7\) This fact was supported by Davey\(^8\) and Grant\(^9\) who affirmed that New Zealand’s ageing population will have unparalleled impact on all facets of the society; one of these facets is housing. Therefore, the reality of the world’s ageing population cannot be unclear.

The relationship between housing and ageing population is currently being observed by scholars; and with the increasing population of older individuals, housing crisis seems to be more of a lifetime question. Unfortunately, the housing situations of ageing individuals are multifarious and challenging to address because housing needs comprise an intricate array of changing factors.\(^10\) It is noteworthy that challenges, ranging from mental (memory loss) to physical incapacitation, insidiously characterize the everyday life of the aged. In spite of this, most of them prefer to stay in their homes.\(^7\) In New Zealand, just as in the rest of the world, old people’s obvious preference to live and age in their old private homes which are not adapted to their changing needs contributes to housing challenge in its social and design form. Such homes are not aged-friendly because the consideration for behaviour and response patterns of the aged
were not conceptually and practically integrated in their design and construction. However, various governments have observed this challenge and employed several interventions to ensure quality of life of ageing individuals in the built environment; this is seen in the following section. This paper therefore identifies some critical housing questions within the context of population ageing in Auckland, New Zealand. It accentuates the necessity for an appropriate housing strategy that best meets the needs of the ageing cohort and suggests a systematic approach that can help in meeting these housing needs.

ACTIVE, POSITIVE AGEING INTERVENTION

Active ageing is understood in various ways by different countries, however, its interpretations are similar. The idea of active ageing started in the early 1960s in the USA as successful ageing in which impractical optimism was placed on old individuals to stay in the same activity level as the middle age people. Later, in the 1980s, the concept was seen as productive ageing which was narrowly based on a life course perspective of the continuous engagement of the experiences of old people in the production of goods and services, until the 1990s when a new concept of active ageing developed. Active ageing as a concept seeks the connection between activity and healthy ageing.\textsuperscript{11,12} Planned activities to guarantee the protection, dignity, social, physical, social, and economic needs and rights of the ageing population was underscored in the active ageing vision; it however challenges the undue outlooks of old people characterised by passivity and dependency, but emphasises independence and involvement.\textsuperscript{12}

“The process of optimising opportunities for health, participation and security in order to enhance quality of life as people age” is active ageing.\textsuperscript{13,14,11} Other competing definitions for active ageing abound; however, there is no consensus definition for it.\textsuperscript{13} The World Health Organization has identified various determinants of active ageing; these are culture and gender, health and social services, behavioural determinants, economic determinants, social determinants, personal factors, and the physical environment (See Figure 1 and Table 1). It is remarkable that safe housing is part of these determinants (under the physical environment).

![Figure 1. Determinants of active ageing](image-url)

Source: adapted from Malanowski, Özcivelek and Cabrera\textsuperscript{1}
Table 1. Determinants of active ageing

<table>
<thead>
<tr>
<th>Determinants</th>
<th>Indicators</th>
</tr>
</thead>
<tbody>
<tr>
<td>Culture and gender</td>
<td>Cross-cutting</td>
</tr>
<tr>
<td>Health and social services</td>
<td>Promotion and disease prevention, Curative services, Long term care.</td>
</tr>
<tr>
<td>Economic determinants</td>
<td>Income, social protection, work</td>
</tr>
<tr>
<td>Behavioural determinants</td>
<td>Tobacco use, physical activity, healthy eating, oral health, alcohol, medications.</td>
</tr>
<tr>
<td>Social environments</td>
<td>Social support, violence, abuse, education and literacy</td>
</tr>
<tr>
<td>Personal factors</td>
<td>Biology and genetics, psychological factors.</td>
</tr>
<tr>
<td>Physical environments</td>
<td>Transportation, safe housing, falls, clean water and safe food.</td>
</tr>
</tbody>
</table>

Source: adapted from Malanowski, Özcivelek and Cabrera

Interestingly, about eighty percent of human activities are performed indoors; therefore, ensuring that older people are kept active can be associated with safe housing. This is evident in the study of McLaren, Turner, Gomez, McLachlan, and Gibbs\(^\text{15}\) that elders living in nursing homes or assisted facility, compared with those who stay at home, are more likely to exhibit low level of sense of belonging; and low sense of belonging is associated with high level of depressive symptoms. It also confirmed that house type and sense of belonging interact to influence symptoms of depression among older adults. This indicates that housing type among older adults plays a vital and dynamic role in the quality of life.

For some time, many research efforts have been looking at this area and environmental gerontologists have particularly looked at sociological factors affecting the older people and their home environments. For instance, Oswald, Wahl, Schilling, Nygren, Fange, Sixsmith, and Iwarsson studied the relationship between housing and healthy ageing, the survey detailed the findings related to housing and healthy ageing in five European countries (Germany, Hungary, Latvia, Sweden and UK). It was discovered that healthy ageing is related to both objective and perceived aspects of housing. According to the study, participants “living in better accessible homes, who perceive their home as meaningful and useful, are more independent in daily activities and have a better sense of well-being.”\(^\text{16}\) Though cross-sectional and involved only old people living alone, it emphasised the fundamental importance of housing in the life of the ageing population. It is therefore imperative to further explore how suitable and sustainable accommodations can be provided for the ageing population.

The Positive Ageing Strategy, which was launched by New Zealand Government in 2001, is regarded as a life time process which commences at birth. It sketches central policy principles and sets out precedence objectives and key actions in ten areas. Among these objectives is to ensure “affordable and appropriate housing options for older people.”\(^\text{11}\) Up till now, achieving this objective is still a challenge. Currently, reports have shown that though New Zealand is one of the world’s liveable countries, yet the housing stock is still characterised by poor affordability, poor dwelling design and performance, residential instability, and poor economic and social connectivity and isolation. What are the emergent residential concerns and needs of the ageing population? How can buildings and neighbourhoods that meet the needs
of the ageing population be provided? These are questions that must be examined in order to explore how to ensure optimum relationship between older individuals and housing. This paper therefore discusses the some of the contemporary housing questions relating to the ageing population in Auckland, New Zealand.

INFLEXIBLE HOUSING AND OLDER INDIVIDUALS
An unreal perception and impression of sustainability is merely created if a building is not flexible enough to accommodate change and reuse. Buildings were once designed and constructed as static structures, many of which are existing rigid constructions used for specific purposes. Scholars substantiated that buildings have been constructed to meet specific needs such as comfort, income estimate and function. These needs dwell on the “uses and conditions of the moment, and therefore usually require remodelling or replacement when needs or circumstances change.” This relates to the condition of the existing housing stock in Auckland and New Zealand in general. However, the continuous transformation of the environment built or unbuilt - seems to have recently necessitated the perception of buildings no longer as static structures but as one of man’s dynamic and interactive products. Buildings experience progressive and constant change over time, and their interactive nature is expressed in their ability to be influenced by the activities of man.

CHANGING ENVIRONMENT, PERFORMANCE AND ACCESSIBILITY OF EXISTING HOUSING STOCK
The suitability and performance of the existing buildings in New Zealand are bordered by significant questions relating to the deterioration in the performance of the stock built between 1970 and the first decade of the 21st century. The performance, physical conditions and location of ageing people’s houses are critical to their health and quality of life. In Auckland, some newly-constructed buildings show certain design and construction defects, and are subject of controversial issues of weather-tightness. The National Institute of Water and Atmospheric Research in New Zealand have outlined the expected climatic changes by 2090 resulting from the anthropogenic emissions of greenhouse gases and aerosols as “decreased frost risk, increased frequency of high temperatures, increased frequency of extreme daily rainfalls, decreased seasonal snow cover, and a possible increase in strong winds.” With the challenge of climate change, the need for modifications, repairs and maintenance of existing housing for the ageing population is indisputable and essential. The home maintenance surveys performed by the Centre for Research, Evaluation and Social Assessment (CRESA) showed that one-third of one hundred and sixty-three old people living in their own homes in Auckland, Christchurch and Wellington often delay undertaking repairs due to the expenses involved. Certainly, this action is at the risk of their health and in contradiction to their common aspiration to maintain physical independence. According to this survey, “deferring repairs was statistically significantly associated with age.”

The French policy called “Plan solidarite” viewed ageing as the onset of physical frailty and dependency, this shows that disability increases with age. Therefore, ageing population growth indicates an upturn in the number of the physically-challenged with major implications for planners, policy makers, homebuilders and built environment professionals. With the gradual experience of disability, the conditions of ageing individuals who have mobility challenges are worsened by ill-maintained old stock which perform poorly in relation to accessibility, cold and damp. The requirements for accessible, safe,
warm, comfortable housing that work well for young and old people with impaired mobility are not met and are predicted to increase with the increasing population who are physically-challenged. Furthermore, merely a small number of new houses have barrier-free features that ensure accessibility for the physically challenged. Therefore, going by the projection that the proportion of ageing population suffering from severe disability is expected to be above seven and half percent in 2050, the housing situations of older individuals cannot be overlooked.

ETHNIC DIVERSITY

New Zealand people comprise the Europeans, Maoris, Asians, Pacific and few Africans; and many families have multi-national relationships. This cosmopolitan nature finds predominant expression in Auckland which, according to the 2013 Census, has a population of about 1.5million people (thirty-one percent of the total population of New Zealand). Although all ethnic groups are ageing, but due to ethnic differences in fertility, the broad European population is ageing faster than the young others. The consequence of heterogeneous ethnicity is revealed in diverse housing needs of the ageing population. The living arrangements, housing design preferences, neighbourhood, support and home care vary across all cultures. It is difficult to relate culture or society to housing or the built environment because of the abstract, broad, and general nature of the concepts; only when culture is broken down into precise variables is it found to be related to housing preferences, housing choices, group differences, etc.

Consequently, the intricacy and ethnic nuances of the heterogeneous ageing population poses a great challenge to research in this area.

INCOME

In Auckland, as in the rest of the cities and towns in New Zealand, the retired are known to be asset rich but cash poor, and they live on fixed income termed superannuation. They own houses but lack enough liquid assets for home maintenance and some living expenses. Unfortunately, the rates of owner-occupation are dwindling. Compared to the currently fewer than sixty-five percent, seventy-two percent of households were owner-occupiers thirty years ago, and this relates to the increasing bane of housing affordability. When homes no longer suit their living, some old people downsize by selling off their property to move to rented apartments. Some are faced with huge costs to procure modifications which could have been avoided at the initial design stages through universal design principles. Those who cannot afford spatial modifications stay put in their homes at the detriment of their health.

NEIGHBORHOOD

Aucklanders and New Zealanders in general have ambition to live in detached suburban housing, and this remains a barrier to the visions for a compact city as expressed in the Auckland Plan. Houses on the urban fringes are often not served by public transport, consequently travel time and costs are higher for people who live there. Also, the Auckland landscape is experiencing burgeoning retirement villages and rest homes, especially in the North Shore. Regrettably, inadequate suitable housing for some who need higher level of care and support, land shortages, and rising costs are subjects of concern for developers.

SUGGESTED SYSTEMATIC APPROACH
Since housing is a key mechanism for the promotion of active ageing, it is essential to develop a concise systematic approach (see figure 2) that is based on deductions from relevant literature and is part of an ongoing doctoral research on appropriate housing for the ageing population in Auckland. This approach begins with identifying the target population (ageing cohort) and classifying them into age-groups. The importance of this is to identify their needs, which vary according to age-groups. Furthermore, it is also essential to assess these needs in order to know the appropriate interventions to adopt. The outcome of this intervention is then subjected to rigorous appraisal by the stakeholders involved. During occupation, users are expected to use a needs-report template to communicate their changing needs; this will ensure the assessment and subsequent satisfaction of such needs. It is hoped that this approach will be useful for policy review and improvement for the built environment. It can also serve as a reference base for future studies on related researches.

CONCLUSION
This paper has highlighted some needs of the ageing population in Auckland, New Zealand; these needs relate to accessibility in homes and neighbourhoods, cultural diversity, income and changing environment among others. The paper also acknowledged the intricacy and vicissitudes of these needs. This complexity implies that the provision of appropriate housing solutions may not be in the exclusive preserve of built environment professionals alone. A cross-disciplinary effort is essential to deliver buildings and neighbourhoods that can appropriately express the value and needs of users. Therefore, the understanding and analysis of older people’s needs require additional input from numerous disciplines such as medical, social, psychological, behavioural and other relevant and related disciplines. Knowledge from these areas will guide in the provision of appropriate approach in meeting the housing needs of the ageing population.
Figure 2. suggested systematic approach
ENDNOTES


27 Kay Saville-Smith, Bev James, Ruth Fraser, Bernadette Ryan and Sarah Tragavilia, Housing and Disability: Future Proofing New Zealand's Housing Stock for an Inclusive Society, (Aotearoa New Zealand: CHRANZ, 2007).
32 Canada Mortgage and Housing Corporation, Planning Housing and Support Services for Seniors, (Canada: Canada Mortgage and Housing Corporation, 1998), 14-34.
BIBLIOGRAPHY


