



Role of Urban Design to facilitate Ageing in place

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ABSTRACT

Globally the elderly people who require assistance to perform individual tasks in their individual house will outnumber themselves substantially in the coming years. Presently old people prefer to reside in their individual familiar environment as with age they tend to stay alone with vulnerabilities and special needs. This boosts their self esteem, confidence and feeling of security. However, majority of houses are not designed to cater to the adaptive physical planning, care and services exclusively for the frail, aged and aging population. The paper explores the needs of the frail elderly people, and searches for a plethora of modifications to make individual and collective neighbourhoods physically and socially active and also support friendly. Such factors encompass enriching and forming all-age neighbourhoods, providing supportive housing and engaging mobility, delivery, and collective services as well as communicative innovations. Some prefer to age in place while others stress on collective housing options. Urban designers take up the challenges of physical, sensory, and cognitive impairments while creating their space and suggest improved individual as well as community space.

Keywords

elderly people, venerability, adaptive planning, housing, neighbourhood.

1. Designing for the aged people

Generally across the globe it has been found that elderly people prefer residing in their own places, to “age in place,” although individual care, movement, and home supports prove to quite challenging as people grow older (Roy et al. 2018). Various policies support aging in place instead of the more expensive institutional care, such as in hospitals, nursing homes, old age homes. However it has been observed that generally the elderly residences do not have provisions to allow elderly people to stay alone and are not ably equipped to support the alterations which come with old age. Older people in majority are forced to live alone, thereby stressing on innovative support facilities. This report aims to solve the challenging issues by identifying them, highlighting the recent innovative changes and suggesting a host of future interventions in the field of urban planning and design.

Escalation in the elderly populations, especially those who experience physical and cognitive disabilities and living alone, has urged urban designers and planners to create houses and neighbourhoods to suit the vulnerable. The scope addresses the older people not only in the physical and social field but also in support and care.

2. Objectives

This paper suggests existing services, facilities and proposes new interventions that can support elderly and help them maintain independence as they combat disabilities owing to old age. Interventions include: (a) equipping neighbourhood services to allow active, collective participation; (b) adding personal and social services to existing neighbourhoods to allow ageing in place; (c) creating various facilities in the housing complexes to ensure all age group residents to actively take part in all-age communities; (d) providing purpose-built supportive housing environments; (e) allowing informal care and increased mobility in housing level through high-tech facilities to address age-related disability.

3. Methodology

This paper also takes into account the physical and cognitive problems associated with old age and it is observed that individual homes and supporting built environment are not equipped to cater to the special needs of the individual associated with it. In the realm of urban design, the house is obviously important, as it is the place from which older people interact with their neighbourhood to mix with others, enjoy shared services, communicate with nature, and involve in community events. Many innovations at housing level aid older people in purpose-built housing for both social interaction and efficient servicing. Others upgrade existing neighbourhoods to support older adults 'activities for a longer tenure place (Carmona et al. 2003; Lang 2005).

Hence this paper takes a suggestive approach or frames recommendations that can be championed and implemented by urban designers and planners to support ageing in place. It is aided with a study and analysis of the published works to explore the needs of the frail elderly people, and searches for a plethora of modifications to make individual and collective neighbourhoods physically and socially active and also support friendly. Many of these suggestions exist in reality but have not been comprehensively implemented.

4. Variations and vulnerabilities in the olds

Although older people differ in their region, age, habits etc., there has been remarkable similarity in the disabilities triggered by old age. The National Sample Survey Organisation (NSSO) identified disabilities associated by old age as visual, hearing, speech, locomotor and senility. Some ailments which develop in old age can be physical like difficulties in movement, urination, balance control etc, while others can be psychological like memory loss, Alzheimer's disease, difficulty in recognition, (Clegget al. 2013; Barrett and Twitchin 2006; Harttgen et al. 2013). Such people face difficulty in adjusting themselves to the built environment and seek measures to aid them to allow their ageing in place.

5. Role of Urban design to facilitate ageing in place

Urban design principles play a pivotal role in encompassing the neighbourhood domain to curb the limitations triggered by ageing of an individual. The most important of these principles which is also a principal dimension in environmental gerontology is the Ecological Theory of Aging (ETA). Here preference is imparted on the relationship between the person and the environment that is physical, spatial and technical. (Lawton and Nahemow 1973; Lawton 1980). Another theory of ageing which is goaded by the environmental gerontological perspective (WHO 2002; Wahl et al. 2012; Rowe and Kahn 1998) stresses on the relation of age and built environment. The "inclusive" design has less application than desired (Institute for Human Centered Design 2018).

These theories identify old people as well as people bearing disabilities which curb their normal activities and urban designers insist on providing environments which aid the elderly and the temporary or permanent disabled people. Universal design or wheelchair access has limited scope, however, as ailments can restrict social and emotional interactions which pave the way of isolated stay at home for safety and supportive environments. Ideally, environments provide basic needs for people across age groups.

6. Challenges before the aging population

The challenges before the elderly population are the escalation in the number of the aged people and the formation of smaller households as the younger ones shift for generation of income.

Escalation in the elderly population

Over the last century with falling fertility rate, increase in the life expectancy, improvement in healthcare facilities, continuous and accelerated growth in population aging is observed.

Smaller households

Since the younger folk tend to shift to their workplace and the breakdown of the former joint family the nuclear family thrived which calls for individual care of the elderly population. The smaller individual nuclear family calls for a number of issues which can be addressed in the urban design and planning level.

Sl. no.	Individual and environmental issues	Intervention of the Urban Designer and Planner
1	Individual level	Creating a local support system addressing <ul style="list-style-type: none"> • Different levels of disabilities. • A safe and secure individual space. • Minimisation of the stress of living alone. • Maximisation of the support of the old people which tend to alter with time.
2	Neighbourhood level	Creating an environment bearing <ul style="list-style-type: none"> • Safe and secure environment. • Well maintained green areas. • Accessible and non accident prone areas. • Good signage areas to address all. • Service areas for people with special needs.

7. Inclination toward home care

Home creates a feeling of belonging in the mind of the owner and they develop a sense of identity, safety and security with it. Aged people having fixed incomes related to pension or savings have to depend on paid home care for their sustenance and they wish to create a personalised adaptive solution at home to ensure age friendly accommodations. They also stress on assisted living which support changing requirements owing to old age.

8. Age-friendly Built Environment

The built or physical environment constitutes houses, workplaces, schools, academic institutions, hospitals, old age homes, streets, playgrounds and any outdoor spaces. The scale of the physical environment initiates from the micro level or the home, housing, neighbourhood and culminates in the cities. (Karuppanan&Sivam 2013). The word , Housing, does not limit itself to the home alone, it consists of the surrounding environment, shared facilities, community activities, use of open land, landscaping, safety and security, accessibility and shared services. (Kaplan 1985).

The aged fraternity tend to live in their individual houses and housing which have not been designed according to their needs and capacities (WHO 2016). They tend to focus more on their health care rather than on the housing due to non-availability of financial resources. Generally, health issues of aged people are guided by restricted physical work and social isolation (Landorf, Brewer & Sheppard 2007). Many diseases in old age suggest individual and collective activities for physical and emotional wellbeing as well as improving the risk of cardiac diseases, Alzheimer's or dementia, etc.

Creating safer, healthy neighbourhoods and reducing pollution inside buildings and in outdoor air is possible only by the help of properly designed built environment. (CHE 2015). Suitable neighbourhoods are necessary to develop behavioural and social interventions that can improve social and communal feeling as they affect active participation (Karuppanan & Sivam 2013). Active ageing is vital for increased well being for longer living (Saelens, Sallis& Frank 2003) and neighbourhood plays a significant role in it. (Michael, Green & Farquhar 2006). Studies conducted on ageing have suggested strong relation between failing health and ill maintained neighbourhoods (Dunn & Hayes 2000; Pampalon et al. 2007; Wilson et al. 2004). Hence physical environment has strong impact on individual healthcare in old age and paves a pivotal role in maintaining better living conditions all along. Also a neighbourhood which fulfils the physical requirements of the old people tend to provide safety and security to their living too (De Donderet al. ; 2013).

9. Discussion

Although parameters to evaluate well-being and quality of life is not very much available, housing satisfaction is of primary concern not only because they require security and comfort at housing and neighbourhood level but also for interactive social environments for mental and social well being (Karuppannan&Sivam 2008). Successful and healthy ageing is the byproduct of physical, psychological and emotional well-being (Karuppannan&Sivam 2008). Ageing in place is therefore synonymous to active ageing as it allows aged people to be as inclusive as possible not only in individual space but also in social environment (O'Hehir 2014). Aged people generally remain confined to spaces that were not designed to suit their needs (Antoninetti and Garrett 2012) and have been barriers for their individual dwelling unit as well as surroundings were not catering to their changing needs (O'Hehir 2014). This inconvenience is triggered by the loss of physical ability owing to old age. Eventually, inside the residence, reduced physical and cognitive capability forces the senior generation to undertake new daily uninvited and unintended routines (Antoninetti and Garrett 2012). If the neighbourhood does not have walkways, places for dining out, shops or places of social and cultural interaction then the old people lose the opportunity for social activities. It in turn affects the mental and physical well being and their residences become unsuitable.

Since ageing in place is the most sought after alternative for a larger mass of older population, the demand for individual units as well as suitable neighbourhood gains preference. Minimal empirical study on neighbourhood design from the old people's perspective has been conducted though there is a strong connection between everyday living, health condition and neighbourhood (Saelens, Sallis& Frank 2003). Hence research on relationship between ageing and built environment needs to be flourished (Coleman 2015).

10. Recommendations

Although preference is given to 'Ageing in Place', and elderly people bear great sentimental attachments to the physical environment, the latter needs to be studied to ensure that people age-in-place. (Clarke 2014). The neighbourhood environment influences the individual behavioural pattern of the seniors and caters to their needs too (WHO 2007b). As an aged person lives in age-friendly environments (Modlich 2010), health improves, life expectancy increases, emphasis imparted on social interventions and health care facilities (Fitzgerald & Caro 2014) gets diminished and yields greater human satisfaction (Modlich 2010). Improved housing facilities can control obesity, cardiovascular diseases, diabetes, asthma, injury, depression, violence and social insecurities culminating in balanced and successful ageing (Karuppannan&Sivam 2008). As people age, loneliness psychologically affects mobility and hence infrastructure and surroundings need revamp to find an inclusive environment for them. Age friendly environments thus tend to accommodate people with varied needs, standard of living, habits, behaviour, living on their own. Thus, future researches tend to improve and promote design approaches for building age-friendly built environment.

11. Limitations

The definition of aging requires rethinking. Most data used for research regarding number of end-users or the aged population has been accepted worldwide as multiples (e.g. 60, 65 or 70) during reference accepting the fact that similar range has been referred to in early research work. However, the physical and mental abilities of older people have increased due to better health care facilities and large amounts of human awareness of maintaining good health. Such conditions are responsible for late ageing amongst the elderly people. The above fact is reflected in the increase of the retirement age and receipt of pension from 60 years to 65 years or 67 years. Thus, instead of the age of people the physical ability of the individuals should be the criteria of concern. The findings and analysis can be further developed to include more users as extensive methods, techniques and approaches to study aging in place should be considered before drawing conclusions.

12. Conclusion

Old age was previously only considered as being associated with vulnerability and frailty, but now this can be defined as the end product of longer life expectancy, advancements in health conditions, and developments in healthcare system, improved living standards and awareness amongst individuals. People tend to enjoy active, healthy, retired life and contribute actively in their families and communities (Kalache, 2013). Researchers feel that not only the private building spaces but the supporting neighbourhood involve themselves in the process of providing the supportive environment for the elderly people to aid them in successful ageing in place. Hence the key involvement of the urban designers to provide adoptive solutions with functional flexibility and affordability is plausible.

13. References

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