COMMUNITY GARDENING AND THE CAPACITY TO ENRICH SOCIAL BONDING IN URBAN NEIGHBOURHOODS

Shahida Mohd Sharif*, Norsidah Ujang

Department of Landscape Architecture, Faculty of Design and Architecture, Universiti Putra Malaysia, Malaysia

*Corresponding author: shahida.mohdsharif@gmail.com

ABSTRACT

Aim: The aim of this concept paper is to identify a conceptual framework to investigate the level of social bonding/social attachment amongst participants of community gardening activity. It is estimated that more than 50% of the population would be living in urban areas by 2050. One of the drivers is the urban migration, where people are relocating themselves to new neighbourhoods, cities or countries often with the hope of better economic opportunities and social infrastructure, therefore changing the landscape of the new society and the place they reside. It is worrying as these people might not receive enough social support due to their limited social network. It could further escalate to social well-being problems such as individualism and social isolation and could later manifest mentally or psychologically as loneliness.

Methodology and Results: This paper argues that the selection of the type of urban green spaces to be integrated into urban neighbourhoods is critical in addressing the well-being problems. Community gardens, as part of urban green spaces, offer meaningful social interaction opportunities, often being missed in the context of modern societies and urban lifestyle. Therefore, there is a need to review the effects of community gardening activities as an intervention strategy to strengthen the degree of social bonding to identify its capacity in integrating isolated people back into community life.

Conclusion, significance and impact study: As a conclusion, urban designers and policymakers are suggested to adopt community gardens as a safe open space in cities to encourage more people-people-places interaction.

KEYWORDS

- Community gardens
- Community life
- Sense of belonging
- Sense of community
- Social infrastructure

MANUSCRIPT HISTORY

- Received July 2020
- Revised November 2020
- Accepted January 2021
- Available online April 2021
1. INTRODUCTION

Urbanisation is demonstrated to be impacting urban population health (Ibrahim, Momtaz and Hamid, 2013; ICLEI - Local Governments for Sustainability e.V., 2018; Deva, 2004; Siwar et al., 2016). It has attracted academics and researchers to study the reality of urbanisation in the context of modern societies. A study has reported the impacts of urbanization in the Malaysia perspective (Parameshvara Deva, 2004), which highlighted industrialization as the driver of urban migration. It is parallel to the evidence suggesting that migration, with a diversity of motivations, is one of the drivers of urbanisation (Avis, 2016). He further states that migration could be of international or internal urban migration. The migration leads to demographic changes in the cities because of the large population, especially the young people migrating in search of better economic opportunities.

Debates among academics and researchers continue to find the most effective solution to mitigate the impacts of urbanisation in local context and reality. However, it has been observed that some key players in urban design and city planning also experiment, pioneered and became successful in their efforts to create sustainable and healthy cities and neighbouring regions. They strategized interventions, preventive strategies, providing health services and educating public health (Galea and Vlahov, 2005; ICLEI - Local Governments for Sustainability e.V., 2018). More than ever, the cities and surrounding regions have been built to accommodate the challenges shaped by rapid urbanisation, demographic changes, climate change, technological advancement and development challenges, which includes public health crises and the need to end systemic inequities and poverty (ICLEI - Local Governments for Sustainability e.V., 2018).

The effort to address the impacts of urbanisation is reflecting the call for the Sustainable Development Goals, Indicator 11.A.1: Urban and regional planning needs to support positive economic, social and environmental links between urban, peri-urban and rural areas (Ritchie, Roser, and Mispy, 2018). However, there are still rooms for improvement as academics and researchers should be in the frontline to investigate future challenges especially the social links to facilitate city and urban designers in building cities and surrounding regions, alleviating the impacts of urbanisation on economic, social and the environment.

The aim of this concept paper is to identify a conceptual framework to investigate the level of social bonding/social attachment amongst participants of community gardening activity. The
first objective of this concept paper is to identify a mechanism to increase a sense of community amongst urban population. The second objective is to propose a conceptual framework to investigate the effects of community gardening on social bonding in urban neighbourhoods. Figure 1 shows the impacts of modern living in the context of the socio-psychological problem in urban neighbourhoods.

![Figure 1 - The impacts of modern living in the context of the socio-psychological problem in urban neighbourhoods.](source)

This phenomenon is, therefore leading to socio-psychological concerns, such as an increased risk of social isolation and loneliness amongst urban population (John, 2020; Wu and Sheng, 2020; Yanguas et al., 2018).

Research on urban well-being has seen a multidisciplinary approach, especially in order to address issues revolving urbanisation and its impacts on society. As demonstrated in Figure 2, it is theorised that the impoverished urban landscape needs environmental and social psychology intervention to alleviate some of the trade-offs from living a busy and monotonous lifestyle. It is suggested that participation of the urban population (people) in community gardening (activity) at a community garden (place) could strengthen a sense of community in urban neighbourhoods.
Community Gardening and The Capacity to Enrich Social Bonding in Urban Neighbourhoods
Sharif, Ujang
p-iSSN 2579-9150; e-iSSN 2579-9207, Volume 4, Number 2, page 125-141, April 2021
Accredited SINTA 2 by Ministry of Research, Technology, and Higher Education of The Republic of Indonesia No. 23/E/KPT/2019 on August 8th, 2019 from October 1st, 2018 to September 30th, 2023

Figure 2  Diagram showing the proposition of community gardening as the intervention strategy to address the erosion of community life of working adults in urban neighbourhoods. (Source: Escobedo et al., 2019; Soga et al., 2017; Ujang et al., 2015; Veen et al., 2016; Yanguas et al., 2018)

It is suggested that community gardens as social hubs for various kind of activities (Veen et al., 2016) to ease the prevalence of social isolation and loneliness (Soga et al., 2017; Ujang et al., 2015; Veen et al., 2016; Yanguas et al., 2018) amongst the working adults in urban neighbourhoods. Community gardens are fitting the concept of a third-place where everyone would feel welcomed and socialize with the other neighbourhood members, thus strengthening their social bondedness and social cohesion (Veen et al., 2016). It would create a meaningful community life, therefore, offsetting the likeliness of social isolation and loneliness amongst the working adults in the urban neighbourhoods.

2. METHODOLOGY

This section discusses the research tool of the concept paper. This study employs Literature Review as its research method because LR can create a firm foundation for advancing knowledge and facilitating theory development as a source for research in addressing the objectives and questions of the study. It presents the current knowledge including substantive findings to this particular topic. Plenty of research such as by Baumeister & Leary (1997) and Tranfield, Denyer, and Smart (2003) has established literature review as a rigorous form of
collecting research data and synthesizing previous studies (Snyder, 2019). It is suggested by Webster & Watson (2002) that it creates a basis for a researcher to further advance knowledge and theory development as more research findings and perspectives are being conflated to answer research questions and objectives (Snyder, 2019). The concept paper has used several keywords to search for relevant literature review for the study; social cohesion, sense of community, social bonding, social attachment, community gardening, and urbanisation. The previous studies are instrumental to propose a conceptual framework to investigate the effects of participating in community gardening to the level of social attachment.

3. RESULTS AND DISCUSSION

This section explores the potentials of community gardens as urban green spaces strategy to address weakening social attachment and how it facilitates in nurturing social cohesion in urban neighbourhoods. It also suggested a conceptual framework to investigate the effects of participating in community gardening to the level of social attachment in urban neighbourhoods for interested researchers.

3.1 Community Gardens as Urban Green Spaces Initiative to Address Weakening Social Attachment in Urban Neighbourhoods

The researcher has argued that a sense of place and community identity can be achieved by introducing urban green infrastructure to the neighbourhoods (Selman, 2012). It is essential as it can de-homogenized urban biodiversity and forge meaningful social interactions within communities. Several studies have linked community gardening with the ability to foster a sense of community, improving community integration, and promoting sustainable community development (Exner and Schützenberger, 2018; Matarrita-Cascante and Brennan, 2012; Poulsen et al., 2017; Teig et al., 2009) as cited in (Lee and Matarrita-Cascante, 2019). It is not surprising as the essential feature that separates community gardens with other green spaces network is its strong local involvement; commonly managed for, and by, local community groups but sometimes run as partnerships with local (Viljoen et al., 2005). More extensive group benefits such as active community movement can be established and enjoyed from having a strengthen social tie, which to is achieved through a sense of belongingness to a place (e.g., Manzo & Perkins, 2006; Perkins & Long, 2002) as cited in (Scannell and Gifford, 2017).
However, the evidence of community gardening and the degrees of its capacity to strengthen social bonding or attachment is still minimal. Community gardens are physical spaces in which urban population can establish and sustain relations with people, nature and the neighbourhood (Booth et al., 2018; Petrovic et al., 2019), perceives to be able to bring people from different demographic backgrounds to be working in shared goals and interests.

Just like physical attachment, social attachment is often nurtured through a well-designed urban place to facilitate familiar social and cultural exchange amongst its users; whether it is through their friendship, hosted events and occasions (Ujang, 2015). Citing Riger and Lavrakas work in 1981, social attachment or bondedness consists of social ties, belongingness to the neighbourhood, and familiarity with fellow residents and neighbourhood children (Scannell and Gifford, 2010). It is assumed that social ties, a sense of belonging and familiarity could transpire from participating in urban community gardens could support and nurture social interaction in neighbourhoods.

Community gardening also encourages positive psychological influence both at the individual level, i.e. self-esteem, independence, personal control, and the relational and social level, i.e. relationships, social connections, community and neighbourhood (Dyg, Christensen and Peterson, 2019). Community members that receive social support from their community gardening social network are assumed to be socially included, and at lower risks of suffering from social isolation and loneliness, thus leading to an increase of the sense of belonging and social cohesion (Forrest and Kearns, 2001).

It is also observed that gardening participants described their perspectives on gardening as a political activity (Alaimo et al., 2016; Shostak and Guscott, 2017), which makes it credible to view the activity as some response to environmental/place-based disruption mechanism demonstrated by the population. It can also be observed in studies how more than often; community gardens are more about the community rather than they are about gardening. However, the meaningful interaction observed within the community members is more significant than the ability of the garden to produce crops. The nature of community gardening activities; where people can learn and interact with other members of the community is seen to be able to enrich social capital, acting as a bridge to reconnect individuals to the community and urban nature.
At the community level, participating in community gardening activities allow access for people from different demographics and becomes a platform for people who are socially isolated to be able to integrate and extend their networks (Viljoen et al., 2005). At an individual level, increased knowledge and skills could improve a persons’ self-confidence, thus fosters pride and identification within a local community hence encourages people to participate in public life.

3.2 A Conceptual Framework Based on the Literature Review

The section discusses the importance of quality of life in the face of urbanisation and monotonous urban lifestyle. It also discusses the shrinking of urban green spaces due to urbanisation and how it affects the urban living. The section also explores social capital importance; especially the sense of community in urban neighbourhoods. It also elaborates on the capacity of community gardening to minimise the lack of accessibility to urban green spaces and community life in urban areas.

Urbanisation and Reduced Quality of Life

It has been observed that urbanisation limits the population's opportunities to participate in community life in public open spaces and hamper social interaction opportunities in neighbourhoods (Ujang et al., 2015). Modern lifestyle or urban living is often characterized by long working hours, low wages, high cost of living, crime, social problem, environmental deterioration, unemployment and poverty (Siwar et al., 2016).

It is worrying as more people might consider the impoverished way of living as the new normal, especially amongst the vulnerable people, the poorly educated and the economically marginalized. Reduced quality of urban life is a threat of achieving Goal no 3 of the Sustainable Development Goals: Good Health and Well-Being (Ritchie and Roser, 2020). Cities around the world are aiming to ensure healthy human lives and to promote well-being for all at all ages. However, modern lifestyle is making it harder to safeguard public health and well-being, especially to preserve mental health from further deteriorating.

Urbanisation and the Shrinking of Urban Green Spaces

Rapid urbanisation has, for an example, motivates the government of Malaysia to concentrate
more on building physical infrastructure such as affordable housing scheme for the growing urban population to address substandard urban housing condition (Abu Kasim et al., 2018). However, it leads to a decline in the acreage of public open space in the city areas primarily because of conversion to other types of uses and development (Dewan Bandaraya Kuala Lumpur, 2004). It is worrying as it decreases the opportunities for people to have enough access to safe, inclusive and accessible, green and public spaces by 2030 as recommended by the Sustainable Development Goals indicator 11.7.1: Access to open spaces in cities (Ritchie, Roser, and Mispy, 2018). Hence, it means opportunities for the urban population to enjoy more public open spaces are diminishing, which could limit the occasions for the urban population to access urban green spaces to experience community life while doing their recreational activities.

**Urbanisation and Its Impacts on Community Life**

It has been observed that the lack of access to integration and participation opportunities in urban green spaces is hindering a vibrant community life. It is the everyday reality of urban living for many populations. As reflected in diagram Figure 1, the limited meaningful interaction the community members in a nature-based setting unfortunately reduced, however it is understood that any positive personal or relation with other people would lead to positive impacts not just on the environment but also to the well-being of people. As observed in Figure 1, urban living that is commonly repetitive, with limited social network and support, is threatening the well-being of people, especially to the working adults. The lack of participation in community-based activities is eroding their community life (Soga et al., 2017; Ujang et al., 2015; Veen et al., 2016; Yanguas et al., 2018) due to lack of social infrastructure (Aldrich and Meyer 2015; Ujang et al., 2015) thus threatening the aim to be an inclusive society with solidified cohesiveness as a society (John, 2020; Veen et al., 2016).

This section below discusses the impacts of urbanisation on the modern lifestyle. It will also elaborate on how a high level of social attachment could contribute to urban population’s well-being.

**Sense of Community and Its Impact on Community Health**

This section examines the importance of having a sense of community amongst members of the neighbourhood. It also discusses the needs of infrastructure to emphasize social well-being as
one of the components of health in creating a robust social attachment or bonding in the context of urban neighbourhoods.

Evidence has suggested that meanings and attachment formed by the urban populations to places can sustain place identity and sense of place, thus promoting emotional well-being, fulfilment and happiness (Ayeghi and Ujang, 2014). However, a study by Parigi and Henson has elaborated that the modern lifestyle is commonly associated with the declining traditional bonds that used to connect people to their communities and extended kinship groups (Parigi and Henson, 2014). It signals the weakening sense of community amongst the urban population. Sense of community is a central construct in the field of community psychology, and it can be defined as feelings of membership or belongingness to a group; a feeling that members matter to one another and the group, and a shared faith that members needs will be met through their commitment to being together (Perkins and Long, 2002; Yu, Wong, and Woo, 2019).

For this paper, the sense of communities will be reviewed from the social dimension perspective that is from the social bonding construct. Researchers have established several scales to measure the social bonding level amongst community members. Plenty of evidence pointing out to the need of investigating (a) strength of social ties; (b) sense of belongingness; (c) level of familiarity (Riger and Lavkaras, 1981) as cited in (Scannell and Gifford, 2010) to measure the level of social bondedness or social attachment in a community level.

Sense of community is necessary to address social isolation and loneliness. Social isolation and loneliness are both related, although both are not the same thing and often confused with each other (Waite, 2018). A recent study has defined social isolation as the absence of a support system or having reduced social interactions or relationships with (a) family and friends at an individual level and with (b) a general, low-level of social participation in community life (Wu and Sheng, 2020).

On the other hand, loneliness is usually considered to be the psychological manifestation of social isolation (Yanguas et al., 2018). For a context, it has been observed in the study of Malaysia that showed that 49.8% of older Malaysians are at risk for social isolation (Ibrahim et al., 2013). Therefore, urban population should participate in community activities to nurture a reliable social network and well-being and decrease the likelihood of being socially isolated and lonely.
Since several studies have indicated that social isolation and loneliness are more common in older adults, many researchers and academics have concentrated their effort to investigate the impacts of these problems on health amongst the age group (Clifford, 2018), therefore neglecting people from lower age bracket. It is quite unfortunate as most developing countries have a population from the lower age groups. Malaysia, for example, is one of the countries with a higher portion of population currently is from the 25-54 year old age group (Central Intelligent Agency, 2020). However, it has been observed that there is minimal research on how urbanisation has impacted these lower age group of people, especially in the developing world, which calls for a need to investigate the degree of their well-being, and how proactive planning decision could facilitate them to prepare for their later stage of adult life.

It is theorized that a community that has a strong level of social bonding/attachment would be more empowered to be sustainable. It is also necessary as reflected in SDG indicator 11.7.2, for green spaces to be safe, inclusive and accessible (Ritchie, Roser, and Mispy, 2018), through forming social relationships, receiving adequate social support, little or no social strain, some social participation, social inclusion in one's society, secure and well-functioning social networks (Waite, 2018).

In general, the sense of community can reduce the risk of social disconnectedness and perceived isolation amongst the population. However, the focus of this paper is to identify which initiatives can increase the social bonding amongst the participants to mitigate the impacts of social isolation and loneliness due to rapid urbanisation. It is theorized that an urban green space strategy could improve social health or social well-being in the cities areas.

**Urban Green Spaces and Their Capacity to Improve Community Health and Well-Being**

The section discusses urban green spaces pivotal role in nurturing social connectedness in urban context and reality. It will analyze how social bonding could improve community health and well-being.

Urban green spaces are deemed crucial for meaningful socio-spatial interactions, especially at a small-scale neighbourhood (Kasim et al., 2018; Bott, Ankel and Braun, 2019). It can safeguard people’s health and well-being as it nurtures a stronger sense of attachment and supporting healthy behaviour (Cradock et al., 2009). A recent study by (Astell-Burt and Feng,
2019) suggested that living near green spaces may support the population's mental and general health. The study has also indicated that access to green spaces may also prevent depression amongst the people. However, as previously pointed out, not many of the urban population are economically capable of living near or having access to urban green spaces, which further deprive them of managing their health and well-being.

Several studies have also highlighted that living and working in a substandard urban environment: a densely built environment with little nature contacts; have made researchers believe that it also leads to the rise of social isolation and loneliness amongst the urban population and further eroding community ties (Chang, Tsou and Li, 2020; ICLEI - Local Governments for Sustainability e.V., 2018; Steg et al., 2013; Wu and Sheng, 2020; Yanguas et al., 2018).

The policymakers and city planners need to start putting more weightage to the aspects of meanings and attachment, strengthening social capital, which can be developed through meaningful engagement to the people and place (Aldrich and Meyer, 2015; Ranreng et al., 2017; Ujang and Zakariya, 2018), especially if safeguarding public health is one of its main concerns. As outlined by (Viljoen, Bohn and Howe, 2005), strengthening ties and regenerating urban and other communities lives by providing them with access to community green spaces to foster pride and identification within local communities, eventually would translate courage for more people to participate in public life.

Hence, there is a real pressure for academics and researchers to address social health problems, especially in urban neighbourhoods, by providing more access to green spaces to everyone. Thus, it is suggested to investigate community gardening as the initiative to urban green spaces intervention strategy to create a socially cohesive community that encourages community members’ participation and interaction regardless of social backgrounds. In general, to safeguard community health, the community members need to have access to the social network to increase the likelihood to receive social support, primarily to mitigate the impacts of urbanisation to the population in safe spaces in cities.

Figure 3 shows how academics and researchers could identify the capacity of community gardening to foster social attachment by measuring several components of social connectedness amongst its participants. The findings could support the notion to integrate community gardening as part of the urban green space initiative to improve community health.
Community Gardening and The Capacity to Enrich Social Bonding in Urban Neighbourhoods
Sharif, Ujang
p-ISSN 2579-9150; e-ISSN 2579-9207, Volume 4, Number 2, page 125-141, April 2021
Accredited SINTA 2 by Ministry of Research, Technology, and Higher Education of The Republic of Indonesia No. 23/E/KPT/2019 on August 8th, 2019 from October 1st, 2018 to September 30th, 2023

and well-being. In general, participating in the community gardening initiative is proposed to be able to foster social bonding amongst the community members in urban neighbourhoods. It is suggested that when it is not possible for allocation of a new piece of land to community application, the governing body should work hand in hand with the community to retrofit existing landscape for them to work on gardening activities.

Figure 3 A conceptual framework to investigate the effects of community gardening on social bonding/attachment components. (Scannell and Gifford, 2017; Soga and Gaston, 2016; Veen et al., 2016)

4. CONCLUSION

It is theorised that participating in community gardening could offset the impacts of urbanisation on the cities and its population, therefore increasing social bonding/social attachment. The lack of opportunities for integration and participation into community life is unfortunate as any positive personal or relations to other people would lead to positive impacts on the well-being of people. There is a need to improve the capacity of urban green spaces to fulfil the needs and requirements of users to nurture positive relationship and attachment between users’ and to their environment. The study acknowledges the limited access to lands but seeks to find a reconciliation strategy between the governing body and the communities to develop sustainable cities and communities.
It is proposed that the integration of community-managed green spaces such as the community gardens would facilitate the development of people individually and collectively, thus enriching the social capital of the urban neighbourhood. A community gardening activity needs to correspond to the local context by respecting local values, norm and culture to empower the community to be more active and socially cohesive. It is important as maintaining and managing community gardens need substantial social capital to sustain the projects in transforming cities into resilient and sustainable societies.

It is also suggested that a well-developed urban nature would create opportunities for people to access restorative environment, which enable those who need escapism from their routine day-to-day environment. It is proposed that connectedness with urban nature accessed through urban green spaces in neighbourhoods improve people health and well-being: improve community connections, enhancing ecological sustainability and restoring psychological well-being. Therefore, reconnecting people to nature is essential to improve their health and well-being. It is particularly important to people who are facing social well-being problems such as life stress, socially isolated or lonely to seek a third place as a refuge as a respite from their workplace and home.

Community gardening is theorised to be capable of encouraging members participation thus strengthening community attachment. It is proposed that the integration of community-managed green spaces such as the community gardens would facilitate the development of people individually and collectively, thus enriching the social capital of the urban neighbourhood. The nature of community gardening activities; where people can learn and interact with other members of the community is seen as a bridge to reconnect individuals to the community and urban nature.

REFERENCES

Alaimo, K., Alyssa W.B., Caroline C., Elizabeth H.S., and Jill S. Litt. 2016. Amplifying Health through Community Gardens: A Framework for Advancing Multicomponent, Behaviorally Based Neighborhood Interventions. Current Environmental Health Reports. 3(3): 302-12.

Aldrich, D.P. and M.A. Meyer. 2015. Social Capital and Community Resilience. American Behavioral Scientist. 59(2): 254-69.

Astell-Burt, Thomas and X. Feng. 2019. Association of Urban Green Space with Mental Health and General Health among Adults in Australia. JAMA Network Open. 2(7): 1-22.
Avis, W.R. 2016. Urban Governance. GSDRC (November): 1-57. https://gsdrc.org/wp-content/uploads/2016/11/UrbanGov_GSDRC.pdf [10 June 2020].

Ayeghi, A. and N. Ujang. 2014. The Impact of Physical Features on User Attachment to Kuala Lumpur City Centre (KLCC) Park, Malaysia. Geografia - Malaysian Journal of Society and Space. 10(3): 44-59.

Booth, J.M., D. Chapman, M.L. Ohmer, and K. Wei. 2018. Examining the Relationship Between Level of Participation in Community Gardens and Their Multiple Functions. Journal of Community Practice. 26(1):5-22.

Bott, L.M., L. Ankel, and B. Braun. 2019. Adaptive Neighborhoods: The Interrelation of Urban Form, Social Capital, and Responses to Coastal Hazards in Jakarta. Geoforum. 106(August): 202-13.

Central Intelligent Agency. 2020. Malaysia - The World Factbook - Central Intelligence Agency. Central Intelligent Agency. https://www.cia.gov/library/publications/the-world-factbook/geos/my.html [15 June 2020].

Chang, P.J., C.W. Tsou, and Y.S. Li. 2020. Urban-Greenway Factors’ Influence on Older Adults’ Psychological Well-Being: A Case Study of Taichung, Taiwan. Urban Forestry and Urban Greening. 49:126606.

Clifford, S. 2018. Health Effects of Social Isolation and Loneliness-Aging Life Care Association TM. Journal of Aging Life Care.

Cradock, A.L., I. Kawachi, G.A. Colditz, S.L. Gortmaker, and Stephen L. Buka. 2009. Neighborhood Social Cohesion and Youth Participation in Physical Activity in Chicago. Social Science and Medicine. 68(3):427-35.

Deva, M.P. 2004. Malaysia Mental Health Country Profile. International Review of Psychiatry. 16(1-2): 167-76.

Dewan Bandaraya Kuala Lumpur, Kuala Lumpur Structure Plan 2020 : Land Use and Development Strategy, 2004.

Dyg, M.P., S. Christensen, and C.J. Peterson. 2019. Community Gardens and Wellbeing amongst Vulnerable Populations: A Thematic Review. Health Promotion International. 1-14.

Escobedo, F.J., V. Giannico, C. Y. Jim, G. Sanesi, and R. Laforteza. 2019. Urban Forestry & Urban Greening Urban Forests, Ecosystem Services, Green Infrastructure and Nature-Based Solutions : Nexus or Evolving Metaphors ? Urban Forestry & Urban Greening. 37(November 2017): 3-12.

Forrest, R. and A. Kearns. 2001. Social Cohesion, Social Capital and the Neighbourhood. Urban Studies. 38(12): 2125-43.
Community Gardening and The Capacity to Enrich Social Bonding in Urban Neighbourhoods

Sharif, Ujang

DOI: 10.25105/urbanenvirotech.v4i2.7754

Galea S. and Vlahov, D.in: S. Galea and D. Vlahov, Epidemiology and Urban Health Research, in Handbook of Urban Health: Populations, Methods, and Practice, Boston, MA: Springer US, 2005, p.76-259.

Ibrahim, R., Y.A. Momtaz, and T.A. Hamid. 2013. Social Isolation in Older Malaysians: Prevalence and Risk Factors. Psychogeriatrics. 13(2): 71-79.

ICLEI - Local Governments for Sustainability e.V. ICLEI in the Urban Area: Our Vision for a Sustainable Urban World, 2018.

John, S. 2020. What Risks Does COVID-19 Pose to Society in the Long-Term? World Economic Forum. World Economic Forum. https://www.weforum.org/agenda/2020/05/what-risks-does-covid-19-pose-to-society-in-the-long-term/

Kasim, A., J. Binti, M.J.M Yusof, and H.Z.M. Shafri. 2018. Urban Green Space Degradation: An Experience of Kuala Lumpur City. Environmental Management and Sustainable Development. 8(1): 27.

Lee, J.H. and D. Matarrita-Cascante. 2019. The Influence of Emotional and Conditional Motivations on Gardeners’ Participation in Community (Allotment) Gardens. Urban Forestry and Urban Greening. 42(May): 21-30.

Perkins D.D. and Long D.A., Neighborhood Sense of Community and Social Capital, 2002, p291-318.

Petrovic, N., T. Simpson, B. Orlove, and B. Dowd-Uribe. 2019. Environmental and Social Dimensions of Community Gardens in East Harlem. Landscape and Urban Planning. 183(October 2018): 36-49.

Ranreng, R., Wiranegara, H. W., Supriatna, T. 2017. Relevance of Social Capital in Kampung Arrangement in Kampung Pisang, Makassar, Indonesia. Indonesian Journal of Urban and Environmental Technology. 1(1): 37-52.

Ritchie, Roser, Mispy, Ortiz-Ospina. 2018. Measuring Progress towards the Sustainable Development Goals. https://sdg-tracker.org/cities [20 July 2020].

Ritchie, H. and M. Roser. Urbanization: Our World in Data. Our World in Data, 2020.

Scannell, L. and Robert G. 2010. Defining Place Attachment: A Tripartite Organizing Framework. Journal of Environmental Psychology. 30(1): 1-10.

Scannell, L. and Robert G. 2017. The Experienced Psychological Benefits of Place Attachment. Journal of Environmental Psychology. 51: 256-69.
Selman P., Sustainable Landscape Planning: The Reconnection Agenda, 1st Ed. New York: Routledge, 2012.

Shostak, S. and N. Guscott. 2017. Grounded in the Neighborhood, Grounded in Community’: Social Capital and Health in Community Gardens. Advances in Medical Sociology. 18: 199-222.

Siwar, Chamhuri, Ferdoushi Ahmed, Ahmad Bashawir, and Md. Shahin Mia. 2016. Urbanization and Urban Poverty in Malaysia: Consequences and Vulnerability. Journal of Applied Sciences. 16(4): 154-60.

Snyder, Hannah. 2019. Literature Review as a Research Methodology: An Overview and Guidelines. Journal of Business Research. 104(July): 333-39.

Soga, Masashi and Kevin J. Gaston. 2016. Extinction of Experience: The Loss of Human-Nature Interactions. Frontiers in Ecology and the Environment. 14(2): 94-101.

Soga, Masashi, Kevin J. Gaston, and Yuichi Yamaura, Gardening is Beneficial for Health: A Meta-Analysis, Preventive Medicine Reports, 5: 92-99, 2017.

Steg, Linda, Agnes E. Van Den Berg, and Judith I. M. De Groot (Eds.), Environmental Psychology: An Introduction. 2nd Ed. West Sussex: John Wiley & Sons Ltd, 2013.

Ujang, N. 2015. Defining Place Attachment in Asian Urban Places through Opportunities for Social Interactions. Environment-Behaviour Proceedings Journal. 1(1):28.

Ujang, N., Amine, M and Zakariya, K. 2015. Sense of Well-Being Indicators: Attachment to Public Parks in Putrajaya, Malaysia. Procedia - Social and Behavioral Sciences. 202 (December 2014): 487-94.

Ujang, N. and Zakariya, K. 2018. Place Attachment as Indicator for Place Significance and Value. Asian Journal of Behavioural Studies. 3(10): 95.

Veen, E. J., B. B. Bock, W. Van den Berg, A. J. Visser, and J. S. C. Wiskerke. 2016. Community Gardening and Social Cohesion: Different Designs, Different Motivations. Local Environment. 21(10): 1271-87.

Viljoen, A., Katrin Bohn, and Joe Howe, CPULs_ Continuous Productive Urban Landscapes_ Designing Urban Agriculture for Sustainable Cities, edited by A. Viljoen, 2015, Oxford: Architectural Press.

Waite, Linda J, Future Directions for the Demography of Aging, in Future Directions for the Demography of Aging, Washington (DC): National Academies Press (US), p. 99-130.

Wu, Fan and Yu Sheng. 2020. Differences in Social Isolation between Young and Old Elderly in Urban Areas of Beijing, China: A Cross-Sectional Study. International Journal of Nursing Sciences. 7(1): 49-53.
Yanguas, Javier, Sacramento Pinazo-Henandis, and Francisco José Tarazona-Santabalbina. 2018. The Complexity of Loneliness. *Acta Biomedica*. 89(2): 302-14.

Yu, Ruby, Moses Wong, and Jean Woo. 2019. Perceptions of Neighborhood Environment, Sense of Community, and Self-Rated Health: An Age-Friendly City Project in Hong Kong. *Journal of Urban Health*. 96(2): 276-88.