FOODSCAPING SUBURBAN HOUSING - THE ROLE OF COMMUNAL GROWING FOR SOCIAL COHESION AND TO REIMAGINE THE CULTURAL IMAGE OF 'SUBURBIA'

Author:
ASAWARI DALVI, MARIE DAVIDOVA, TABITHA POPE

Affiliation:
WELSH SCHOOL OF ARCHITECTURE, CARDIFF UNIVERSITY, UK

ABSTRACT

This paper aims to study the conflicts that arise from the ever-present need for housing and urban expansion, with a primary focus on creating an identity for these communities on the edge.

It studies the shifting paradigm of the suburban community and proposes to reimagine the image of suburbia to balance out urban encroachment on rural landscapes through foodscaping the architecture. Concepts of communal living and communal food growing are explored spatially using design as a research tool to better understand how foodscaping can create a sense of place and social cohesion. The capacity of design to bring people together and increase social cohesion is explored through architecture that encourages communal food growing. These ideas form a preface to help broaden views of sustainable suburban living.

These hypotheses are explored at different scales: from the urban scale to the building fabric scale. This study reflects on how to make in-between spaces into places; thereby giving them an identity and further exploring the way people would interact within these places using food production as a mediator. Thereby reflecting on how design at the urban scale affects the architecture of a building and vice versa. Conclusively, communal living could provide the necessary platform where the boundaries between the urban form and the building create opportune spaces to harmoniously manoeuvre the hierarchy of the private-semi-public-communal spaces while addressing food security of its citizens.

INTRODUCTION

While this study is not primarily focused on urban design and the form of settlements per se; it still attempts to understand the wider city context and the dynamics of its relation to the way people live in communities on the edge and the reciprocal impact it makes as a whole on the city itself. Focusing on sub-urban farming in semi-public spaces ranging from urban design to architectural design level, the spatial definitions of social relations, identity and quality of life of citizens within those spaces are analysed. Thereby using food production as a mediator, the Research Question to be explored is as follows:

How can Communal food growing increase social cohesion and help to reimagine the image of 'Suburbia'?

Imageability – Image of the city

Most urban areas in developed countries have slow growth rates at 0.5-0.6% per year whereas the peri-urban areas, classified as areas on the urban-rural interface are growing four times that rate[1]. Rapid growth at this interface is usually new housing developments[2], and these communities on the edge lack a sense of belonging as they struggle to identify themselves with their environment, thereby lacking social cohesion. The study focuses on the suburban image of the city of Cardiff, in Wales, U.K.

Located in the NW suburbs of Cardiff, Plasdwr, see figure (1), is a housing development site for the proposed Local Development Plan 2006-2026 by the Cardiff City Council[3]. The intended site for design study is comparatively small sizing up to 6.2 Ha and is known as the Pentrebane farm. The existing site being primarily farmlands, the immediate neighbourhoods help to better understand the existing image of suburbia.

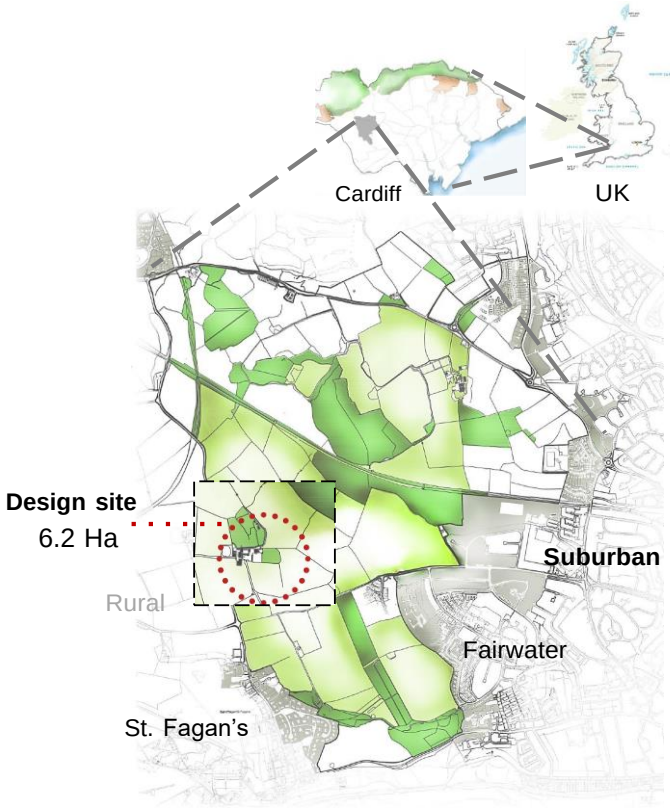


Figure 1. Design site - Plasdwr, NW suburbs of Cardiff

The Image of a city usually invokes the mental picture of the place as remembered by its residents and the world view as seen by the people passing through it, including the tangible and the intangible aspects of the place. Lynch identifies the legibility of the cityscape as the visual quality of the physical form, which gives it a high probability of evoking a strong image in any given observer and thus defines this term as 'imageability'**Error! Bookmark not defined.**.

As such physical form is perceived as Paths, Edges, Nodes, Districts and Landmarks; seen as fragmented with sudden transitions within these suburban neighbourhoods. While detached, terraced and apartment typologies appear connected with paths and nodes, sparse developments as low-density districts with fragmented boundaries lack a definite edge creating a hybrid urban-rural image.

Foodscaping

As local produce becomes the trend for healthy living; urban food projects become more accessible in attempts to reduce 'food miles', which is the distance food travels to reach your table. Justifying that local produce is better as a measure of food sustainability; brings us to define the concept of 'foodshed' as the "geographical area from which a population derives its food supply" [4] as a means to interconnect the city and the country to form a sustainable food system in attempts to bring resilience to the community [5]; thereby propagating social cohesion through communal growing and rebuilding the image of the place.

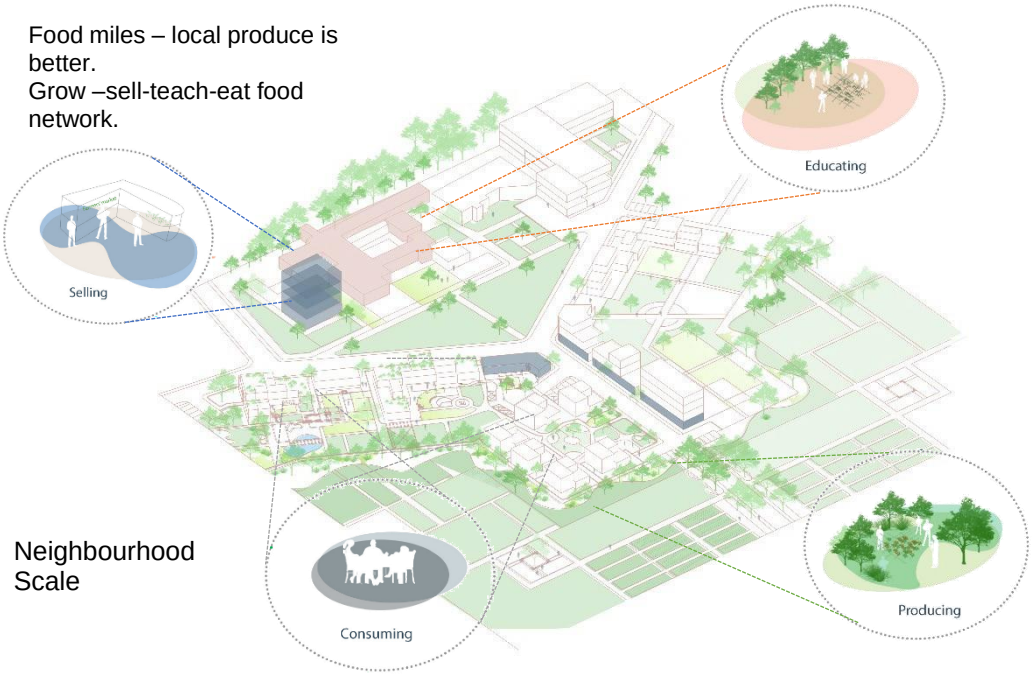


Figure 2. Foodscaping at the neighbourhood scale; design site

Foodscapes are the spatial distribution of food across urban spaces and institutional settings[6]. Therefore, in the context of productive image rebuilding, foodscaping can be considered as edible landscaping. And while urban agriculture is also farming activity, foodscaping is derived from 'landscaping'; thus, assuming that it should predominantly be the design of land in context with food growing and encompasses all stages of food with the grow-sell-eat network.

Introducing foodscaping at the design site, with figure (2) we attempt to reduce food miles by making the food produce local in hopes of creating a self -sufficient food network within the neighbourhood that works as grow- sell-teach-eat cycle. At the architectural scale, within one of the clusters, as shown in key plan figure (3.1), this image comes together as a cohousing apartment with green walls, rooftop gardens, integrated greenhouses and kitchen gardens. Figure (3) is an illustrative image of the preliminary design showing the elements of foodscaping embedded into the architecture. The co-housing apartment proposes a way of shared living with each floor sharing a kitchen/dining space; enabling the residents to share a meal. Foodscaping components such as the food forests and hydroponics are a part of the design criteria aiming for self-sufficient housing.

Collective Identity

Stokols and Shumaker defined place as the ‘entity between aspects of meaning, physical properties and relative activity', and emphasized the collective perceptions of place and propose that a place has a ‘social imageability'.[7] This imageability is the collectively held social meanings the place has amongst its occupants or users.

With foodscaping building the collective identity of a place, the spatial qualities thus employed at a community level can help understand the role of design in shaping the architecture of a building around it, as opposed to the generic approach of designing the building with the environment in context.

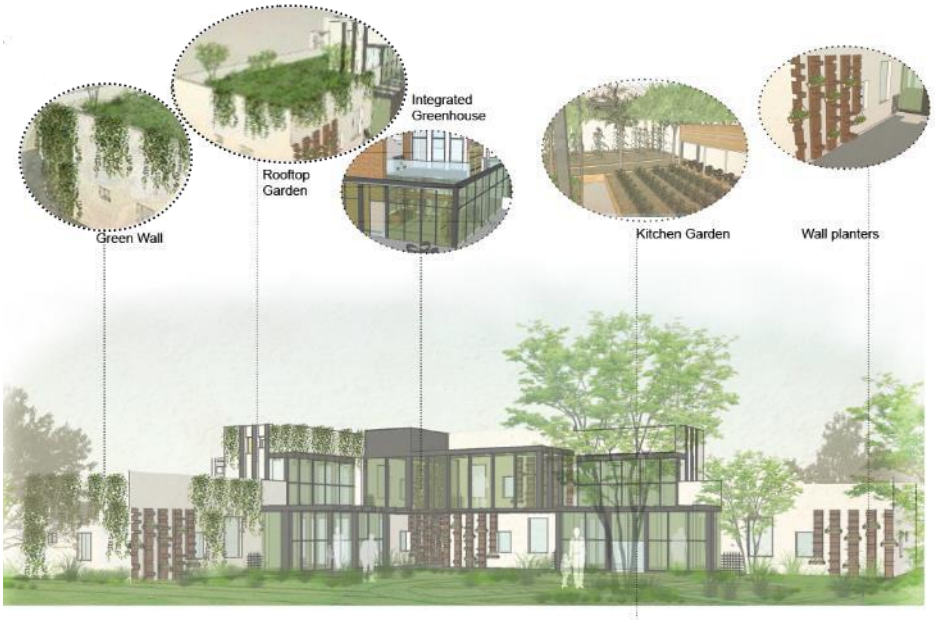


Figure 3. Illustrative elevation; Co-housing cluster showing foodscaping at the architectural scale

Figure 3.1. Key plan showing the cohousing cluster

METHODOLOGY

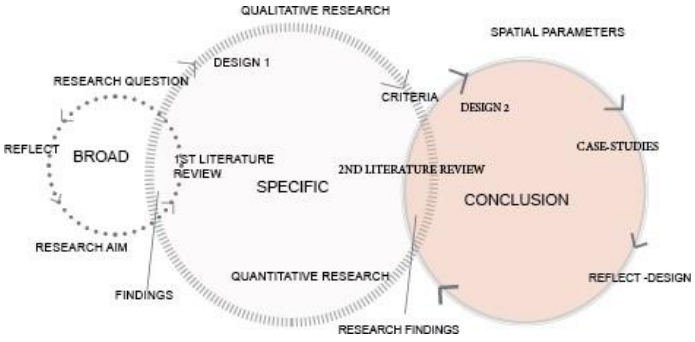


Figure 4. Research framework

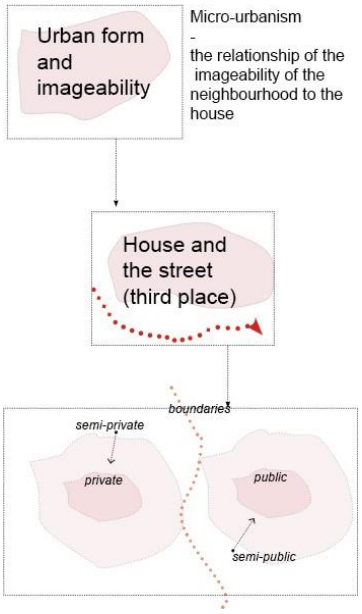


Figure 4.1 Research by design; from urban to architectural scale

The fundamental approach to methodology is to research by design. Figure (4) explains this research framework where; exploring broad ideas at the urban scale, the 1st literature is used to find a new urban paradigm defining the research aim, while investigations at the neighbourhood scale to find a research gap then leads to 2nd literature findings at the architectural scale. These findings are first analysed with design to form the criteria for case-studies. Using findings from these cases and theories, we find the necessary spatial parameters to reimagine suburbia. Interpreting this approach spatially, figure (4.1) shows the concepts explored at each scale. From urban form and imageability at the urban to the house and street at the neighbourhood and the boundaries between public and private spaces at the building scale. Here the latter forms the hypothesis of this research. We explore how the hierarchy of spaces and the neighbourhood image can transform a space into a place.

URBAN FORM AND IMAGEABILITY

Shape of a neighbourhood and the degree of social cohesion

Jan Gehl said, "Only architecture that considers the human scale and interaction is successful architecture." Life in a city is the measure of interactions it sees every day and thereby becomes the character of the place. This behaviour is equated as: B = f (P, E), where B is the behaviour then P is the person and E is the environment. [8] Thus assuming that the image of the city is a sum of social interactions and the environment therefore perceived as the behaviour of that place. Assuming this, (good) behaviour becomes social cohesion or the lack thereof that contributes to the sense of place and evokes an image giving it a cohesive or a divided character accordingly. And because the image of the city is predominantly defined by its visual elements, a look at the relevance of the spatial relationship between imageability and the built environment forms the hypothesis - would the shape of a neighbourhood affect the degree of social cohesion?

Communities on the edge: socio-spatial character

Looking at shifting boundaries on the urban-rural interface, Table (1) lists out urban form paradigms from compact city to urban sprawls and the spatial behaviour they exhibit. All these general city models envisaged the dissolution of urban-dwelling typologies which had a direct connection to the street and thus architecturally defined public spaces[9]. The housing typologies thus produced, have had an indirect effect on the behaviour of that place and direct relation to the imageability. As the suburban street character changed from compact terrace housing to detached setback with garden- open city planning following the green city movement; the advent of perimeter blocks was an attempt to bring back the continuity of the street and opening up the resultant courtyard as enclosed semi-public spaces[10]. This spatial relationship of the urban fabric becomes the socio-spatial character of that place defined by the interactions between the built environment and the physical environment: how the building relates to the urban structure and vice versa, thus changing the townscape. Therefore termed 'Micro-urbanism', is a way to explore the possibilities of boundaries between public and private space by redefining the threshold conditions at a finer grain and enhance interactions between residents.[11] Relatively, communal living could then provide the necessary platform where the boundaries between the urban form and the building create these opportune spaces to harmoniously maneuver the hierarchy of the private - semi-public - communal spaces.

Urban form	Design attributes	Spatial behaviour	References
Compact cities	- Self-sufficient - Dense urban areas	Walkable areas Easy access to amenities The high cost of living	Kotharkar et.al 2014
Garden cities	- Low density - Self-contained - Surrounded by green belts	More personal space More green space	Jacobs, 1961
Neighbourhood unit	- Sub-divide the city - Smaller cohesive units	Closed off gated community	C. perry, 1929
Perimeter housing	- strong outward edge - interlocking private gardens	- public front - private open space at the back - consistent front/back distinction	Bentley et al. 1985
Garden suburbs	- same as garden cities without the industrial elements - Garden enclaves, garden villages on the periphery	- connected to but away from the city - a precursor to satellite towns	Stern et.al 2013
Edge cites	- suburban retail and employment centres	- grow exponentially as urban sprawl	Lang 2003
Edgeless cities	- random low density - use-segregated development	- lacking the physical definition of an edge	Lang 2003
Polycentric cities	- low density -metropolitan areas	- several city centres spreading out	Lang 2003
Communal housing typologies	- affordable economy through sharing of services and communal areas	- living together -diverse communities - social interactions with mutual support, care and security	Vestbro 2010

Table 12 Urban form paradigms

CONCEPT - REIMAGINING SUBURBIA - URBAN DESIGN PROPOSAL

Understanding these various paradigms figure. (5(a)) puts the findings from the literature together to conceptualise a neighbourhood strategy for a new paradigm. Reiterating the concept of garden cities, where green belts can regulate the land use and help control the way the city grows out. Continuous Productive Urban Landscapes (CPULs) is a concept derived from productive landscapes by identifying the green spaces in the city and connect them as food corridors to feed the city[12].

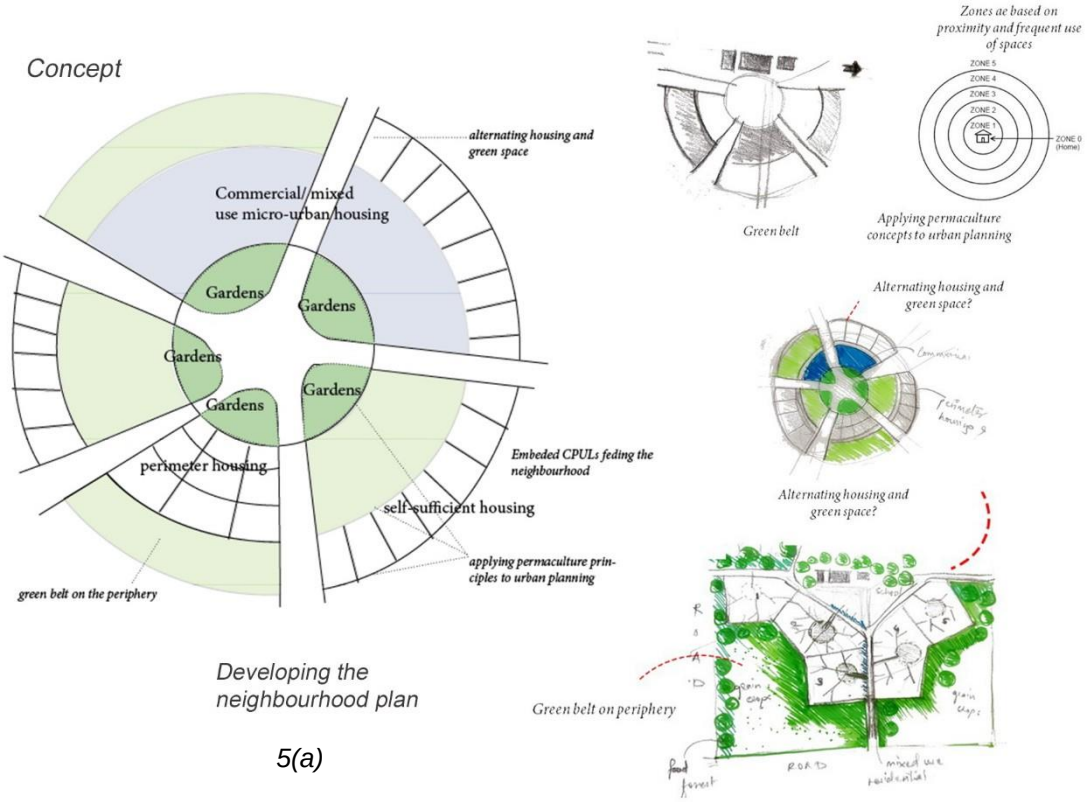


Figure 5. Concept for a new suburban paradigm (using findings from literature)

Testing the design site, figure. (5(b)) goes on to develop this concept at the neighbourhood scale. Green belt agriculture on the periphery and embedded CPULs imagine the city to grow with the foodscape by employing edible landscaping planning systems. Permaculture, a multidisciplinary landscaping system-based planning rooted in horticulture and agroforestry is applied to different scales from home gardens to city blocks to farms[13]. Zero-acreage farming also known as vertical farming is seen in the form of rooftop gardens, kitchen gardens, community farms. With 5 housing typologies clustered around growing spaces, a farm shop selling local produce, farmlands on the periphery and a hydroponics indoor farm form a food cycle of grow- sell- eat (see fig. 2).

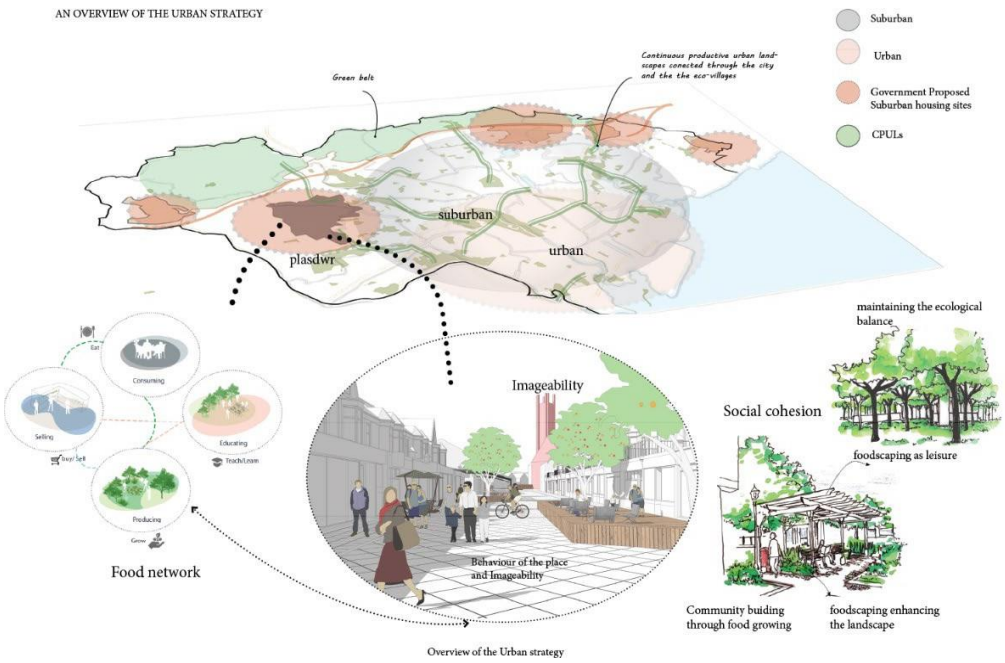


Figure 6. Cardiff city map reimagined.

To envision the wider city context, the framework imagines for a polycentric edge cities concept with suburban eco - villages imagined as a food-producing network becoming a recreation aspect to bring people to the suburbs not just for the convenience of the place and thus reducing the economic and transport dependency on the urban areas. When applied at the city of Cardiff, UK, figure. (6) attempts to answer the question of how foodscaping can reimagine suburbia at the urban scale.

HOUSE AND THE STREET

Research Gap

Reflecting on this newfound image with context to the architectural scale, the research question is broken down into two sub-questions; 1) How does foodscaping help in bringing people together? and 2) Can foodscaping help in place-making and thus changing the identity of suburbia? Further reflecting leads to the following hypotheses to be analysed:

- Socio- spatial characteristics of the boundaries between the residential building and the neighbourhood
- the use of co-gardens to study the user group interactions and bring about social cohesion between neighbours.

Since micro-urbanism explores the relationship between the inside of a building and the outside, creating the public and private hierarchy through communal living and communal food growing. Thus, assuming that the gap lies in the design of boundaries of public, private, and semi-public spaces in the housing context to redefine the image.

Between Space and Place

Reiterating that places with a strong identity help to enhance community awareness and bonding it can be assumed that social cohesion contributes to place identity. The collective perceptions of place are the ‘social imageability’. Which builds upon the argument that the boundaries in-between space (housing)

and the place (neighbourhood) are important in defining the image; and foodscaping might be this medium that alters these boundaries to achieve a hierarchy of public to private spaces.
Sense of place is about the relationship between human beings and spatial settings [14]. As such, space becomes a place when it has meaning. The meaning of a place is created by users and inhabitants in the process of using and living in it.[15] Recognizing this use of space in the three levels of privacy, figure. (7) explores how this interaction might happen in the hierarchy of spaces. We find that the in-between spaces or more so transitional spaces are important in defining the degree of interactions. The level from public to private is defined through the degrees of access (paths), interest (edges that provide views) and agency (nodes as meeting points). These spatial attributes are thus outlined in Table (2).

Third Place and Fourth Place

Figure 7. Testing literature with Design

Oldenberg defines third places as the places where you relax in public and encounter familiar faces and make new acquaintances. Whereas fourth place is the intermediate space located inside the third place, publicly accessible semi-public space[16]. A lot of active interaction such as chance happenings, friends and acquaintances take place in the fourth place.[17] Fig (7) investigates the hierarchy of spaces at the design site within one of the clusters as a co-housing unit, where intermediate transitional spaces become the third place. As the activities defining that informal social space give it meaning, leading the user towards identifying the space as a place. Within this place, informal pockets of 'fourth space' are identified around the props and edges where the informal interactions are likely to happen. Thus, the degree of social cohesion depends on the spatial attributes of the third and fourth spaces.

Nature of Enclosure and Edge Character (Between Mass and Space)

Complex forms can create simple exterior spaces, thus making the viewer aware of the purity of the form, with an inward-oriented exterior space that becomes dominant. Whereas simple architectural forms can be used to create complex exterior spaces, to perceive a dynamic space, making the mass

dominant. [18]Because they are planar, building facades read as hard spatial edges; the closer and more continuous the edge, the more definite the enclosure.[19] Following this relationship between mass and space, in figure (7) the mass cluster lacks the offsets to form alcoves. These form a dominant space creating a series of alcoves.[19] These alcoves could create threshold spaces for chance encounters. As the paths are misaligned, attention is drawn to closed edges reducing the spatial enclosure as analysed in figure. (7). Forcefully defined space can gain a permeable edge with plant material either as architectonic or naturalistic.

Likewise, the plan form of the edge affects the degree of enclosure, visual impact and spatial character. According to Gehl's 'edge effect' theory, people prefer to sit or stand on the edges initially, and once they are fully occupied, they tend to move inwards[19]. The edge effect exists because people prefer to sit in areas facing the pedestrian flow, and therefore the location on the boundary of the public spaces will provide the best views, with extensive and richer visual fields.[20]

Elements	Spatial definition (Literature findings)	Nature of interactions (findings from design tests) in fourth space	References
Thresholds	The immediate interface between the inside and the outside of a building	Boundaries accessible to public and private space	Psillidis, 2006
Nodes	- Meeting points at dominant space - Courtyards	Public to Semi-public space	Aelbrecht, 2016
Paths	Streets	Transition space Rate of flow Approach	Aelbrecht, 2016
Props	spaces near activities Furniture	Informal semi-private space	Aelbrecht, 2016
Edges	Functions as enclosure Backdrop and enframement	Soft edges Semi-private frontage	Gehl, 1987

Table 13 Attributes of third place

With these theories in mind, figure. (8) understands the nature of interactions within the boundaries of semi-public to semi- private. This reveals the surrounding spatial elements which should be paid attention to. Figure. (8) tests the design to find alternatives for possible interaction thresholds as a semi-private roof garden, semi-public with threshold spaces as the core and stepped gardens for visual connections and interactions at different levels.

Attributes of Third Place
Nature of interactions (findings from design tests) in fourth space

- Thresholds = Accessible Boundaries
- Nodes = Meeting points
- Paths = transition spaces
- Props = informal semi-private spaces
- Edges = soft / semi-private frontage

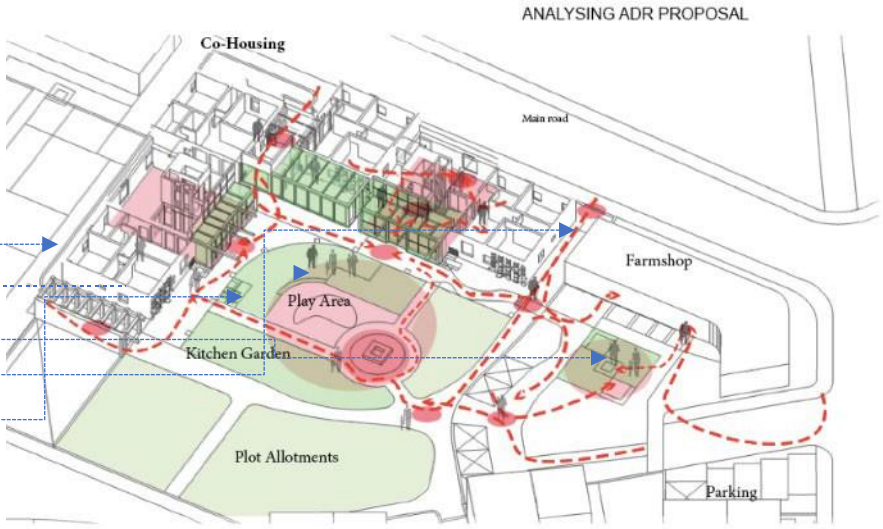


Figure 8. Testing design with theories

	Paths	Open spaces	References
Safety			
Eyes on the street	Shops on the street act as natural surveillance		Jacobs, 1961
Sense of enclosure	Be open on one side and visually accessible from all locations		Carmona, 2012
	The perceived enclosure is maximised when façades are continuous or when significant breaks in the architectonic edge		Motloch, 1990
Amenity			
Light and shadow	Some overhead cover	Open space or adjacent to open spaces	Layne, 2009
	Variation in light (sun and shade)	Trees provide shade in the hot times of the day	
Seating	Appropriate seating		Layne, 2009
Visual connection	Views into and out of spaces		Layne, 209
Services	Foods and drinks nearby (cafes, restaurants, eateries)		Memarovic, 2014
Multiple activities			
Lively	Varied passive and active activities	People present within the space but not crowded	Gehl, 2011 Layne, 2009
Diversity	Diversity of activities and options		Layne, 2009
Sense of belonging			
Personalisation	Advertisement boards, decorative features, shading structures and chairs, flower box		Layne 2009
Sense of place	Familiar with people, objects and pathways		Carmona, 2012
	Familiar with sounds, smells and sights		Carmona, 2012

Table 3 criteria for social cohesion; analysed with case-studies[21]

CASE-STUDY FINDINGS[21]

Tools of analysis	Ashley vale Neighbourhood unit (suburban scale)	Agrocite Community garden (community scale)	CW Delft House and street (arch. Scale)
Physical parameters			
Sense of enclosure	Maximum enclosure with porous façade Accessible from all locations	Enclosed on one side	C- shaped buildings enclosed around growing spaces
Eye on street	From the café City farm is bound by a low fence but viewable from two sides.	The public front is the façade of the building	The public face and the entrance differ for each cluster
communication			
visual connection	Lack of views into growing spaces/ gardens makes people occupy the edges	Views into growing spaces from kitchens	Views into growing spaces from kitchens
activity levels	High around edges	High around boundaries between growing and cooking spaces	High around courtyards
Spatial organization			
Mass- space dynamic	Segregated	Linear	Compact
Nodes	City farm, Café and garden, play area	Kitchen space and play area	Courtyards
Edges	Paths occupied around farm, café and garden	Boundaries between spaces	Paths around courtyards, vegetation as a porous edge
Collective identity			
personalization	Play areas, café, plant nursery, group activities for gardening made available as a recreation place.	Informal gathering place, Neighbours cook together with fresh produce	Benches, chairs in courtyards, chicken coops
Sense of place	Landmark- not usually found in the city Attracts people from greater distances.	Inviting communal space for neighbours	Well-connected within the residents Conflicts with the image as perceived by surrounding neighbourhoods

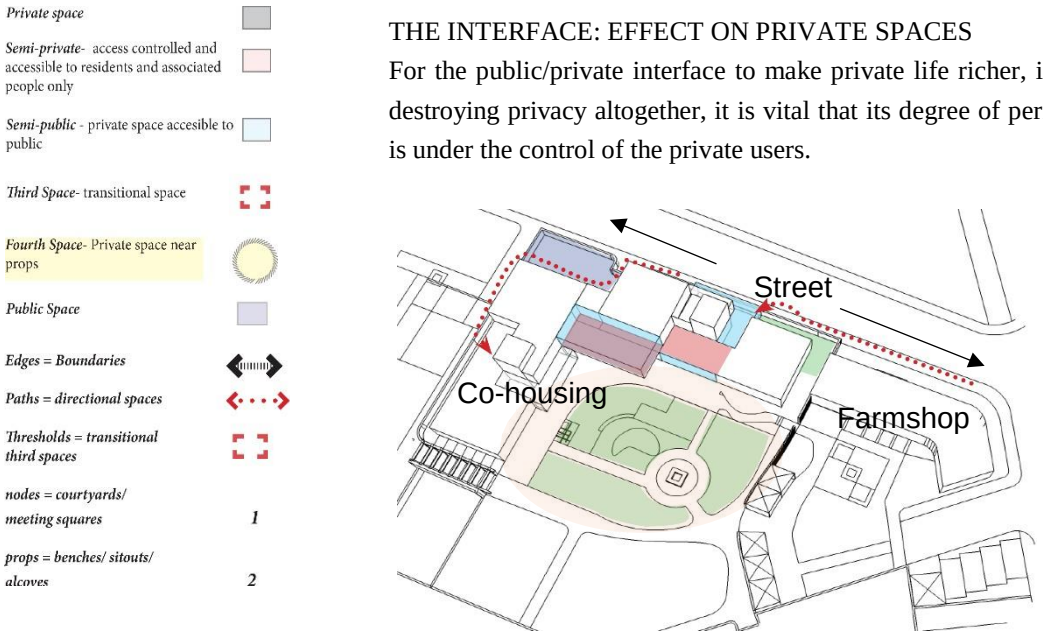
Table 4 case-study findings for the house and the street

DESIGN TESTS

Summarizing findings from case studies [21]as outlined in Table 4, the design is tested again. The mass space relationship, approach to and from the space, and the use of plant material with these elements affects the degree of enclosure, visual impact and spatial character of the place. The level from public

to private is defined through the degrees of access (paths), interest (edges that provide views) and agency (nodes as meeting points). Therefore, with context to the co-housing cluster, the criteria for testing the design would be to redefine the boundaries to provide access to green space. Entering through the courtyard, the public face along the street becomes the back of the building with less active façade; while increasing the backyard garden, results in lack of connectivity with the kitchen and the growing space (see figure. 7) However, entering on the street front, with the integrated greenhouse results in the back of the house opening into the courtyard with views from the communal kitchen/dining. (see fig. 9(a)).

Further exploring these interventions with foodscaping elements defines the architectural fabric to create an active and cohesive space at the boundaries (fig 9 (b)). Defining edges with the plant material brings out more possibilities for a porous enclosure and legibility that can bring out the spatial hierarchy for the threshold spaces between the inside and outside of the building. The courtyard then becomes the third space, where edges, alcoves and props like seating and trees become the fourth spaces for opportune chance happenings.



THE INTERFACE: EFFECT ON PRIVATE SPACES

For the public/private interface to make private life richer, instead of destroying privacy altogether, it is vital that its degree of permeability is under the control of the private users.

Figure 9(a). Design testing

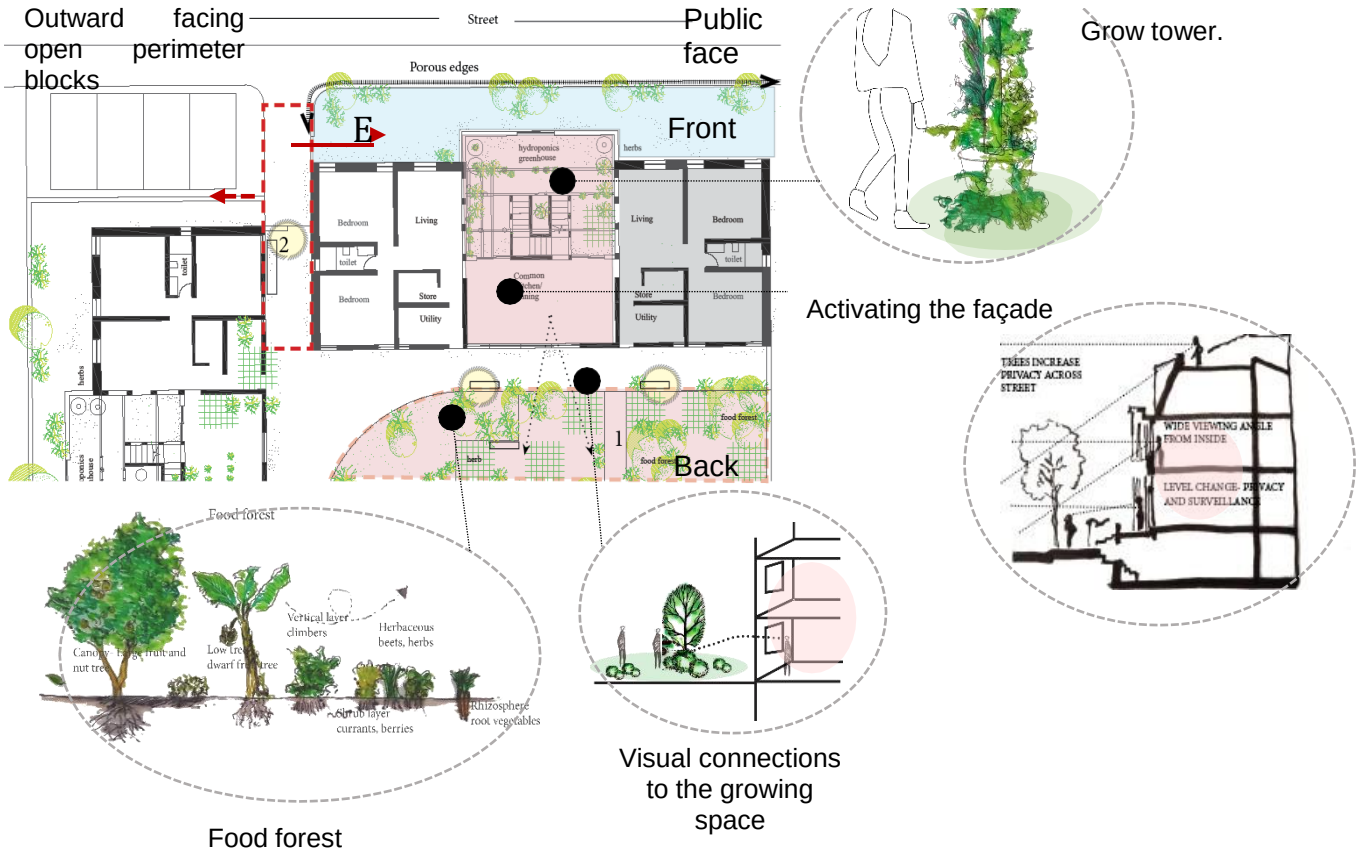


Figure 9(b). Design test details: outward facing open perimeter block

DISCUSSION

To summarize, the relationship between the house and the street depends on the spatial hierarchy. The threshold spaces determine how space becomes a place. The degree of interactions at these thresholds

forms the neighbourhood image. In conclusion, the spatial organization of the building affects the outdoor spaces, which defines the house and street relationship and the neighbourhood image that therefore comes with it.

The density is a key factor in the social cohesion of a place; because a certain degree of density is essential in the cohesiveness of a neighbourhood, giving opportunities for interaction. And that the density of the urban fabric tends to be the deciding factor on the compactness or the expansiveness that the city grows into. Concepts like micro-urbanism could prove essential in filling these gaps spatially by understanding how people use the domestic space and the degree of social interaction that proves instrumental in the cohesive functioning of the neighbourhood and the sense of that place. And while cohabitation, communal living, co-housing are all subtle variations for sharing the services and living an environmentally friendly life, they are indeed imbued with a sense of togetherness.

CONCLUSION

Social cohesion contributes to place identity. Space thus becomes a place, depending on the nature and degree of the activities that give it meaning. Use of the domestic space and the degree of social interaction proves instrumental in the cohesive functioning of the neighbourhood and in-turn the sense of that place. There are more possibilities at co-housing boundaries where the hierarchy of spaces is fluid and there are more thresholds where one can bump into people. And although cohousing may not be attractive for everyone with the many possibilities for ownership conflicts; but applying spatial attributes from the co-housing typology might result in more interactive residential models, setting a healthy living trend for not just a sustainable suburbia, but as prototype eco-communities growing together.

NOTES

[1] Anette Piorr, trans., *Peri- Urbanisation in Europe: Towards European Policies to Sustain Urban-Rural Futures*, (Copenhagen: Forest & Landscape University of Copenhagen, 2011), 9-10.
[2] Shlomo Angel, *Planet of Cities*. (Massachusetts: Lincoln Institute of Land Policy, Cambridge,2012), 4-7.
[3] Pegasus Urban Design, *Plasdwr, Design and Access Statement*, (Gloucestershire: Pegasus Planning Group, Nov 2014), 8-12.
[4] Christian J. Peters, Nelson L. Bills, Jennifer L. Wilkins, and Gary W. Fick. "Foodshed Analysis and Its Relevance to Sustainability." *Renewable Agriculture and Food Systems* 24, no. 1 (2009): 1–7. doi:10.1017/S1742170508002433.
[5] Susan Parham, "Chapter 8 Foodscape and Food Urbanism in Europe: The Urban-Rural Interface 2019". Springer International Publishing AG, part of Springer Nature 2019 E. Gottero (ed.), Agrourbanism, GeoJournal Library 124, https://doi.org/10.1007/978-3-319-95576-6_8
[6] Johnston trans., 2010, as cited in Bosschaart, 2015) Wim Bosschaart, *Spatial Strategies towards Urban Foodscapes* (Doctoral dissertation, Thesis), (Netherlands: Wageningen University & Research, Feb 2015), 17-18.
[7] Stokols, D. and Shumaker, S. A. *People in places: A transactional view of settings*. In Harvey, J. H. (Ed.). Cognition social behaviour and the environment. (Hillsdale, NJ. Lawrence Erlbaum Assoc, 1981), 441-488.
[8] Kurt Lewin, Trans., "The Sage Handbook Of Methods In Social Psychology", (California: Sage Publications, 2004), 119.
[9] Wolfgang Sonne, " Dwelling in the Metropolis: Reformed Urban Blocks 1890 – 1940" Report for the RIBA Research Trust Award RRT03008, (Glasgow: University of Strathclyde, Department of Architecture, October 2005), 3.
[10] Kenneth Frampton, "The Evolution of Housing Concepts: 1870-1970". final draft, excerpt from the forthcoming catalog Another Chance for Housing: Low-Rise Alternatives The Museum of Modern Art June 12 - August 19, (1973), 4.
[11] Eva Lovra, "Micro-Urbanism in Central Europe (1867-1918), The Concept." 7th International conference, Contemporary achievements in civil engineering, Subotica, Serbia, (April 2019)
[12] Andre Vilijoen, trans., *Continuous Productive Urban Landscapes: Designing urban agriculture for sustainable cities*. (Oxford: Elsevier, Architectural Press, 2005).
[13] Andrew Millison, *Introduction to permaculture*, (Open Oregon State, 2017).
[14] B. Jorgensen, and R. Stedman. "Sense of place as an attitude: Lakeshore owner's attitudes toward their properties". Journal of environmental psychology (2001). 21.3: 233-248.
[15] Ryden, Kent C "Mapping the invisible landscape: Folklore, writing, and the sense of place". (University of Iowa Press,1993)
[16] Ray Oldenburg, *The great good place: Cafes, coffee shops, bookstores, bars, hair salons, and other hangouts at the heart of a community,* (Cambridge MA: DaCapo Press, 1999).
[17] Patricia Lopes Simoes Aelbrecht. "'Fourth places': the contemporary public settings for informal social interaction among strangers." Journal of Urban Design 21 (2016): 124-152.
[18] John Motloch, *Introduction to Landscape Design*. (New York: Wiley, 1990).
[19] Jan Gehl, *Life between buildings: Using public space*. Washington DC: Island Press. 1987, 2011.
[20] Beatriz Campos," book review -Jan Gehl, Life between buildings using public space", Journal of space syntax, 3(1), (August 2012), 2-3.
[21]Asawari Dalvi, "Dissertation Report - Reimagining the image of Suburbia", (2019), 27-31. doi:10.13140/RG.2.2.29692.56962

BIBLIOGRAPHY

Aelbrecht, Patricia Lopes Simoes. "'Fourth places': the contemporary public settings for informal social interaction among strangers." Journal of Urban Design 21 (2016)
Angel, Shlomo. *Planet of Cities*. Cambridge, MA: Lincoln Institute of Land Policy, 2012.
Bentley, Ian. trans., *Responsive Environments: a manual for designers*., Oxford: Architectural Press, Elsevier, 1985.
Bergman, Els and de Heer, Judith, "Social Cohesion and Everyday Built Environments", Netherlands: Utrecht University of Netherlands, 2018.

Beumer, C. *Social Cohesion in a Sustainable Urban Neighbourhood*. ICIS., (s.l.) 2010.
Bosschaart, Wim. *Spatial Strategies towards Urban Foodscapes* (Doctoral dissertation, Thesis), Netherlands: Wageningen University & Research, Feb 2015.
Bollman, R. "The Demographic Overlap of Agriculture and Rural", Agriculture and Rural Working Paper, No. 81, Statistics Canada, Ottawa, Canada, (2007).
Campos, Beatriz." book review -Jan Gehl, Life between buildings using public space", Journal of space syntax, 3(1), (August 2012).
Carmona, Matthew. trans., *Public space – The management dimension*, Oxon: Routledge, 2008.
Chavez-Tafur, Jorge and Roderick J. Zagt (eds.). "Towards Productive Landscapes." Tropenbos International, Wageningen, the Netherlands. (2014).
Dalvi, Asawari "Dissertation Report - Reimagining the image of Suburbia", (2019), doi:10.13140/RG.2.2.29692.56962
DeWeerdt, S. "*Is Local Food Better?",* World Watch Magazine, May/June, Volume 22, No. 3, http://www.worldwatch.org/node/6064 (2019)
Feagan, R. *The place of food: mapping out the 'local' in local food systems*. Progress in Human Geography, 31(1), 2007.
Frampton, Kenneth. "The Evolution of Housing Concepts: 1870-1970", an excerpt from the forthcoming catalogue Another Chance for Housing: Low-Rise Alternatives The Museum of Modern Art, June 12 - August 19, 1973, New York. (1973).
Gehl, Jan. *Life between buildings: Using public space*. Washington DC: Island Press. 1987, 2011.
Getz, A. *Urban foodsheds*. Permaculture Activist, 1991
Holland, C trans., *Social interactions in urban public places*, Bristol, UK: Policy Press, 2007.
Hedden, W. P. *How great cities are fed.* Boston, MA: D.C. Heath and Company, 1929.
Horst, M., & Gaolach, B. "The potential of local food systems in North America: A review of foodshed analyses. Renewable Agriculture and Food Systems", 30(5), 399–407, (2015).
Howard, Ebenezer. *Garden Cities of Tomorrow*, London: Swan Sonnenschein & Company, Limited, 1902.
Jacobs, Jane. *The death and life of great American cities*., New York: Vintage Books, 1961.
Jorgensen, B and Stedman, R. "Sense of place as an attitude: Lakeshore owner's attitudes toward their properties". Journal of environmental psychology, 21.3: 233-248, (2001).
Kloppenburg, J., Jr., Hendrickson, J., & Stevenson, G. W. *Coming into the foodshed*. Agriculture and Human Values, 13(3), (1996).
Kotharkar, R trans., "Measuring Compact Urban Form: A Case of Nagpur City, India", www.mdpi.com/journal/sustainability (2014).
Layne, M. R. "Supporting intergenerational interaction: Affordance of urban public space", North Carolina State University, 2009.
Lang, Robert. *Edgeless cities: exploring the elusive metropolis*. Washington, D.C: Brookings Institution Press, 2003.
Lewin, Kurt, trans., *The Sage Handbook of Methods in Social Psychology,* California: Sage Publications, 2004.
Lynch, Kevin (). *The image of the city*, Massachusetts Institute of Technology, USA: MIT Press, 1960.
Lovra, Eva. "Micro-Urbanism in Central Europe (1867-1918), The Concept." 7th International conference, Contemporary achievements in civil engineering, Subotica, Serbia, April 2019
Madanipour, A. Public and Private Spaces of the City. Abingdon and New York: Routledge, 2003.
McGranahan, G and Satterthwaite, D "Urbanisation concepts and trends, IIED Working Paper". IIED, London. http://pubs.iied.org/10709IIED (2014).
Memarovic trans., "The street: a quintessential social public space", Journal of Urban Design,23(1),.163–16. (2014).
Millison, Andrew. *Introduction to permaculture*, Open Oregon State, (s.l.), 2017.
Motloch, John. *Introduction to Landscape Design*. New York: Wiley, 1990.
OECD "Creating Rural Indicators for Shaping Territorial Policies", Paris, France: OECD Publications, 1994.
Oldenburg, Ray. *The great good place: Cafes, coffee shops, bookstores, bars, hair salons, and other hangouts at the heart of a community,* Cambridge MA: DaCapo Press, 1999.
Parham, Susan. "Chapter 8 Foodscape and Food Urbanism in Europe: The Urban-Rural Interface 2019". Springer International Publishing AG, part of Springer Nature 2019 E. Gottero (ed.), Agro-urbanism, GeoJournal Library 124, https://doi.org/10.1007/978-3-319-95576-6_8 , 2019.
Perry Clarence, The Neighbourhood Unit. New York: Routledge/Thoemmes Press, 1929.

Peters, Christian J., Nelson L. Bills, Jennifer L. Wilkins, and Gary W. Fick. “Foodshed Analysis and Its Relevance to Sustainability.” *Renewable Agriculture and Food Systems* 24, no. 1 (2009): 1–7. doi:10.1017/S1742170508002433

Piorr, Anette, trans., *Peri- Urbanisation in Europe: Towards European Policies to Sustain Urban-Rural Futures*, Copenhagen: Forest & Landscape University of Copenhagen, 2011.

Pizzoli, E. and Gong, X. “How to Best Classify Rural and Urban?”, FAO (2007)

Ryden, Kent C “Mapping the invisible landscape: Folklore, writing, and the sense of place”. University of Iowa Press,1993.

Sonne, Wolfgang. " Dwelling in the Metropolis: Reformed Urban Blocks 1890 – 1940” Report for the RIBA Research Trust Award RRT03008, Glasgow: University of Strathclyde, Department of Architecture, October 2005.

Steel, Carolyn. *“Hungry City: How Food Shapes Our Lives.” 2008.*

Stern, R. trans., *Paradise Planned: The Garden Suburb and the Modern City*. New York: The Monacelli Press, 2013.

Stokols, D. and Shumaker, S. A. *People in places: A transactional view of settings*. In Harvey, J. H. (Ed.). Cognition social behaviour and the environment. Hillsdale, NJ. Lawrence Erlbaum Assoc, 1981.

United Nations, “World Urbanization Prospects 2018”, United Nations, New York, 2018.

Vestbro, Dick Urban (ed.), “Living Together - Cohousing ideas and realities from around the world”. Division of Urban and Regional Studies, Stockholm: Royal Institute of Technology in collaboration with Kollektivhus NU, 2010.

Vilijoen, Andre. Trans., *Continuous Productive Urban Landscapes: Designing urban agriculture for sustainable cities,* Oxford: Elsevier, Architectural Press, 2005.