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Life in De Kersentuin: Examining the characteristics of a
sustainable cohousing project.

Yannick Kiesel

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1. Introduction

With over 50% of the world's population living in cities, the consumption of urban land is fast-paced as its availability becomes increasingly limited, which raises many questions regarding urban commons management and governance that concerns other, still unregulated, open access resources. A constant reshaping of cities to meet the expanding needs of rapid urbanization demands adequate management of commons within cities and offers innovative approaches such as the creation of sustainable communities that promote residents' social well-being (Foster & Iaione, 2016; Seto et al., 2011).

Urban areas hold the potential for innovative designs in the housing development that integrate managerial ideals from all stakeholders, including its citizens, to create a better living environment in the urban landscape (Andersson et al., 2014). In Europe, non-governmental actors are becoming more involved in the housing development as private housing corporations often take over and the state releases its responsibilities (Fellini, 2012). Through collective action and engagement, citizens are slowly but increasingly involved in the common management of cities by starting to provide the needed services in the housing market by themselves in new forms of citizen governance (Foster, 2011; Mullins & Moore, 2018). Gofen's (2015) concept of "entrepreneurial exit" denotes "the proactive initiation, production, and delivery of alternative service by citizens, mainly for their own use" (p. 405). Even though a "do-it-yourself"- mentality of citizens is increasingly emphasized, there is still the need for professional input and support of other stakeholders as the financial support and the provision of space are essential and needed factors. Co-operations with the municipality and private experts can support citizens in taking action and create successful projects in urban developments (Mullins & Moore, 2018). Citizens can also counter the anonymous lifestyles in cities and create a more social and livable environment by introducing a "praxis of commoning" (Butot, 2017, p. 62) and sharing (ibid.). Community-building inside cities defines a complex issue and can end in a tragedy of the commons through mismanagement and failure in the organization (Hardin, 1994; Olson, 1965). In this thesis, the theories of collective action by Olson (1965) and Hardin (1994) will be transferred onto a new context of a citizen-led urban living form, called cohousing, that presents an innovative alternative: creating the space to develop sustainable communities which combine several core values, like societal well-being, ecological integrity and citizen engagement (Bamford, 2001; Flint, 2013). Cohousing aims to include all dimensions and characteristics to fulfill the needs of citizens (Foster & Iaione, 2016). Citizens assume the role of developers or property managers and shift from users to planners. However, this process still remains a constellation of different parties with the state and housing corporations taking in supporting and cooperative roles (Mullins &

Moore, 2018). The questions arises how this involvement of other parties could influence the outcome of a project in a positive or also negative way.

An important characteristic of citizen-led housing projects is the trend to prioritize sustainability (Lietaert, 2010). Due to higher consumption rates in cities, local governments often face higher pollution and scarcity in resources (Andersson et al., 2014). Industrial and capitalistic development is significant in urban areas and often results in unfavorable housing conditions, pollution, overconsumption and social unrest, which reciprocally impacts the environment (Bamford, 2001). Cohousing communities with a preference for sustainability usually build their houses with sustainable materials, focus on adequate managed green space in the neighborhood and introduce an efficient sharing system that counteracts the neoliberal trend of overconsumption (Butot 2017). The constant interactions inside a cohousing community and the daily practices define a proactive way of common resource management while maintaining the idea of sustainable community development (Blokland, 2017; Flint, 2013; Foster, 2011). The concept of cohousing was evolving for the last five decades and the focus of cohousing residents shifted from a concentration of a more social environment and a more intimate relationship to their neighbors to a high presence of the concept of sustainability (Lietaert, 2010; Sargisson, 2012). Cohousing provides a specific setting to combine the formation of a community and addresses sustainable issues at the same time. This shift toward a more sustainable way of life, in addition to communal participation, is essential in the recent development of cohousing projects and creates two co-existing dimensions of sustainability: the environmental and the social dimension.

While such cohousing projects continue to emerge, a gap in the literature remains as there is little knowledge regarding resident's profiles or the governance of resources within the communities (Mullins & Moore, 2018). Thus, this research will fill in this gap through a systematic investigation of the development of long-term social relationships and the sustainable dimensions inside the cohousing community *De Kersentuin* in Utrecht. This research will aim to define the importance of cohousing communities in urban areas with regards to sustainable development and social cohesion within neighborhoods, as well as shed light on the lifestyle associated with living within this community. Emphasis will be placed on the different characteristics, practices and shared collective values in the cohousing community, such as the two sustainable dimensions, in order to answer the following research question:

How do the characteristics of De Kersentuin shape a sustainable community?

To answer this, several sub questions will be examined:

How do the key concepts of space, time and organizational structure shape a sustainable community?

How does the long-term development of De Kersentuin influence the recent situation?

To what extent is the mix of tenures in the community enhancing a sense of community?

What role does the environmental and sustainable agenda play in creating a sense of community?

How is the continuous participation of residents guaranteed?

What are the main reasons for residents to participate in the community?

2. Utrecht and Leidsche Rijn

The city of Utrecht, the fourth largest city in the Netherlands, is home to approximately 330.000 and has a population density of 3.423 per km², which far exceeds the Dutch average of 507 per km² (CBS, 2018; UrbiStat 2018). Due to its location and accessibility via transecting highways, railways and rivers, it is an attractive municipality for commuters. Utrecht is equally home to a relatively young and highly educated population (Buizer, 2015).

In the 1990s, Utrecht faced a particular challenge regarding the housing market: buyers were confronted with high prices and possible renters were left dealing with lengthy waiting lists, putting pressure on Utrecht's younger citizens, who struggled to find an affordable and adequate place to live. In 1994, the municipality opened the area of Leidsche Rijn in the West of the city for new construction to alleviate the pressure placed on citizens by the housing market (Slob et al., 2006). The area is built according to the principles of sustainable construction and set the stage for an innovative approach and the development of new forms of accommodation in the housing sector that has continued to draw citizens. It is expected that 100.000 people will be living and working within the Leidsche Rijn area by 2030 inhabiting 30.000 houses and 770.000 m² of commercial office space (Buizer, 2015; Janssen-Jansen, 2009).

During the last decades, Utrecht has geared its focus towards citizen involvement and self-management and inhabitant organizations were asked to submit preferences concerning the neighborhood green plans. This was supported by the *Green Structure Plan* which emphasizes the importance and attractiveness of green spaces within the city, as green infrastructure can have multiple benefits in a social, ecological and economic perspective and creates social well-being for citizens (Hansmann et al. 2012; Zareba et al. 2016). The interest in public engagement aims to tap into the local knowledge of the inhabitants and their future potential role in the maintenance and management of green spaces (Buizer, 2015).

The Dutch housing market consists of 57% owner-occupied homes and 43% rental houses of which the majority is owned by housing associations and only 18% by investors (Capital Value, 2016).

Housing co-operations have a traditional background in the Netherlands that dates back to the mid-19th century. Co-operations often happened in form of housing associations which developed into housing corporations in the end of the 20th century. Due to the semi-private status of these corporations, new forms of cooperative housing forms are sought to develop a more public character again (Kuhnert & Leps, 2017). Historically speaking, the Netherlands have long created a strong participatory framework that involved citizens in the creation of housing space, dating back to the National Housing Act in 1901 which ensured a strong protection for individual tenants until its most recent update in 2015 which created new opportunities for tenant organizations to be more involved in the general management of the housing corporations (Czischke, 2018; Pittini, 2011). Similarly, the development of Leidsche Rijn opened the door for new citizen initiatives where citizens could propose their ideas in aim of creating an ideal living place with a focus on ecological sustainability. However, only a few of the proposed citizen-led projects in Leidsche Rijn were implemented, and *De Kersentuin* is one of them.



Figure 1: Cohousing project *De Kersentuin* in Utrecht, The Netherlands as seen from above (*De Kersentuin*, 2018a).

The cohousing project *De Kersentuin* (see figure 1) began in 1995, where a group of future residents began planning their ideal sustainable living environment and the plan for a new cohousing project was conceived (Jansen-Janssen, 2009). The residents felt the need to create their own space as this kind of development couldn't be provided by traditional corporations and developers. Their ideas met the requirements and values of a sustainable Leidsche Rijn, so the municipality decided in favor of the initiative and provided the land to build on and monetary subsidies. Through the support of the Dutch housing corporation *Portaal* and the municipality, the construction of the cohousing project was finally completed in 2003. All buildings were constructed with sustainable material,

including special thermal insulation, wall heating, solar panels and a balanced ventilation system. Additionally, an impressive amount of green spaces was included. The area consists of three community gardens, all with different themes and 94 residences, 28 of which are social housing and 66 are privately owned. The dwellings of social housing are rented out by the housing corporation *Portaal* which was an important financial and planning supporter of the project as citizens didn't have the complete financial resources to build the project. This also helped to make the buildings affordable for smaller income groups. There are about eight different customized house styles; some are located on top of a car park to enhance the quality of the neighborhood and create space which is used to enlarge the common garden (ibid.). *De Kersentuin* will be the focus of this case study research as it defines one of the most prominent cohousing project in the Netherlands as of yet. The question arises why and how this project turned out to be successful as only a few citizen-led projects in Leidsche Rijn were implemented. The relation to the municipality and the housing corporation *Portaal* could play a role in the establishing this project.

Next, this research paper will examine the existing literature of cohousing and its components, followed by the explanation of the methodological approach and the discussion where the results of the research will be presented and compared with the existing literature. In the end, I will finish with a conclusion and suggestions for a future research.

3. Theoretical framework

3.1. Cohousing

“Cohousing initiatives constitute a sometimes pragmatic, at other times idealist, response to the challenges of living in contemporary Europe.” (Tummers, 2016, p. 2023)

Rising emphasis on capitalist and neoliberal social systems have shifted cities from places of protection and social life to a place favoring production and competition, which results in the decline of the welfare state and the development of self-reliant citizenship (Lietaert, 2010). This has led to a higher demand of alternative and individualized housing forms that reinvent a social environment for urban citizens (Mullins & Moore, 2018). Cohousing combines the concepts of societal trends of decentralization and increased self-reliability in the participation of custom-made solutions (Tummers, 2016) and presents a solution to issues urban areas are facing like pollution, usage of space and anonymity. Neoliberal tendencies in city development ask for a “do-it-yourself” mentality of its citizens as the well-fare state is slowly about to decline and remains in a supporting position (Fellini, 2012; Mullins & Moore, 2018). Cohousing was created in the 1960s in Denmark and adapted in the Netherlands in the 1970s through the projects of “Centraal Wonen”, with 70 to 80 current projects running, to recreate social links within a community (Butot, 2017; Lietaert, 2010). In the Netherlands, cohousing is becoming specifically interesting for the population over 50 years of age, as the community design enables independent living combined with an informal social support structure (Bouma & Voorbij, 2009; Zamora et al. 2016). Apart from the attractiveness for elderly people and the recreation of closer social links with other residents, aspects like environmentally friendly behavior (Lietaert, 2010), self-reliance (Butot, 2017) as well as individualization and self-development (Butot, 2017; Jarvis, 2011) are the most common reasons to create and participate in a cohousing project. Czischke (2018) defines cohousing as such:

“We define collaborative housing [also referred to as cohousing] as the arrangement where a group of people co-produce their own housing in full or part in collaboration with established providers. The degree of user involvement in this process may vary from high level of participation in delivery and design within the context of a provider-led housing project, to a leading role of the user group in the different stages of the housing production.” (p.7)

Several characteristics distinguish cohousing from other innovative housing projects. Lietaert (2010) defines six fundamental characteristics of cohousing: A participatory process, an intentional

neighborhood design with the combination of elements of private and collective ownership, extensive common facilities, a complete resident management, absence of hierarchy, and the separation of incomes apart from the share of collective purchases.

Cohousing	Housing with common space and shared facilities
Collaborative housing	Housing oriented towards collaboration by residents
Collective housing	Emphasizing the collective organization of services
Communal housing	Housing for togetherness and sense of community

Figure 2: Proposal for definition of different types of cohousing after Vestbro (2010: 29).

Vestbro (2010) lists several definitions for cohousing (see figure 2) but proposes the terms “collaborative”, “collective” and “communal” be included as it is a combination of these. For Sargisson (2012), cohousing includes a more practical and spontaneous lifestyle for its residents, and provides intergenerational neighborhoods and environmentally-sensitive design. Residents normally take part in each aspect of the project development, ranging from the design process and the collective management of the area to sharing common facilities like a common house or room for the daily use (Ruiu, 2015). This leads to the establishment of solidarity and mutual help between residents and an enhanced connection to nature, community and space due to the collective sharing (Mullins & Moore, 2018; Sanguinetti, 2014). Cohousing communities normally have specific rules and codes of conduct concerning internal practices, either formal or informal (Sargisson, 2012). However, the degree of commitment varies from project to project (Ruiu, 2015). Tummers (2016) refers to cohousing projects as “laboratories for new urban models for social interaction” (p. 2037). In Europe, the combination of rented and privately owned homes in cohousing communities are most common, whereas in North America, cohousing communities are usually defined by ownership (Sargisson, 2012). Contrasting values, goals and behaviors of different dwellers can help to understand the inner social relationships in a cohousing community (Bouma & Voorbij, 2009). Lietaert (2010) sees the establishment of cohousing projects as an answer to the rising “hyper-individualism” (p. 578), anonymity and loneliness in urban areas. As there are different possible locations for a cohousing community ranging from urban to rural and from small size to large size, there is an impressive diversity of cohousing arrangements including planning strategies, housing densities, community size, degree of participation, organization of common life, as well as household types (Bamford, 2001; Butot, 2017). Sometimes, cohousing projects are created for a specific socio-demographic group, e.g. elderly people who are looking for a more social place to live (Mullins & Moore, 2018). The involvement in cohousing requires a strong commitment and motivation by its members to invest their time and strengths (Tummers, 2016).

As there is commonly a combination of rented and privately owned homes in cohousing communities throughout Europe, the aim is to create a balanced socioeconomic mix of residents (Sargisson, 2012). Manley et al. (2012) state that a socially mixed neighborhood has the ability to tackle negative neighborhood effects. Evans (2009), on the other hand, describes mixed tenure as a possibility to create segregation as cross-tenure interactions are largely of a casual nature while deeper friendships occur between people living in the same tenure. Arthuson (2013) mentions a negative stigma private renters are often confronted with, especially the ones with a lower income. That said, Shaw (2012) sees a social mix in the neighborhood as one strategy for enhancing a sustainable community with a positive socio-economic diversity. A different social mix in the neighborhood can have different impacts on the social interaction as shown in the examined literature. Therefore, the practices used inside the community are important to define the success in social integration and cohesion between mixed tenures and if there is any (Evans, 2009). Yet, there is no evidence that a balanced social mix is necessary to create an inclusive community or that it impacts the development of a sense of community (Evans, 2009; Shaw, 2012). Equally important to mention is that most rental homes in the Netherlands are owned by housing associations which are less likely to select based on personal characteristics (Capital Value, 2016; Bouma & Voorbij, 2009). It needs to be examined how new residents, renters in particular, are being chosen with a focus on a possible integration. Additionally, a spatial clustering of mixed tenure can be important to enhance or worsen the social interaction between mixed tenure (Arthuson, 2013; Evans, 2009). Therefore, the concept of mixed tenure and the physical appearance of the cohousing project are highly connected.

As the tenure structure, the number of dwellings, and the design and degree of participation varies in a cohousing community, the physical appearance and structure of a cohousing project can have different impacts on the social interaction between the residents (Butot, 2017). Furthermore, cohousing projects are usually designed to reflect the groups' values and intentions to serve a common purpose (Sargisson, 2012).

A main characteristic of a cohousing building structure are multiple dwellings that orient around a common open area, e.g. a community garden (Bouma & Voorbij, 2009). Hasanov and Beaumont (2016) refer to the importance of spatial and social proximity which is able to promote knowledge exchange and enhances the development of interdependencies between residents. Apart from the proximity, there exist several other physical aspects that need to be considered in possibly affecting social interaction like the position towards other houses, buffer zones between private and general space, and shared pathways (Bouma & Voorbij, 2009). In sustainable cohousing communities, it is also likely to share a community garden, common facilities as well as parking spaces that can often be created through resigning bigger private living space by the residents (Sanguinetti, 2014). Fennell

(2004) refers to this common space as “interaction space” that hosts knowledge exchange and social capital accumulation. Therefore, spatial structures are highly related to social action and interaction (Löw, 2015). There exists an aspiration to maximize the common space which enables a sharing of life events and creates meeting points for the residents (Bamford, 2001; Ruiu, 2015). Due to this maximization, the introduction of “encroachment zones” is possible, which “describe the transition zone between private and public, or between building and street and challenge people’s idea of private and public space” (translated from Urhahn, 2018).

Cohousing initiatives are enhancing a mix of accommodations as well as unconventional designs to challenge the frontiers of private and public space (Butot, 2017). These characteristics establish an interpersonal closeness that lead to more pro-social behavior in the neighbor-to-neighbor relationships (Sanguinetti, 2014). The availability and quality of common spaces as well as the pleasantness of buildings and facilities are able to trigger a higher degree in citizen participation, social well-being and life satisfaction (Mannarini et al., 2017). Ruiu (2015) defines the physical design as a key element in producing a sense of community (see Mannarini et al., 2017) and refers to the physical design process as first and main step to form a group. Tummers (2016) adds that if residents are actively participating in the design process, there will be more acceptance among residents and less conflict once the building is inhabited.

Nevertheless, Jarvis (2011) states that proximity and social contact alone “are not sufficient to cultivate conviviality and cooperation between residents” (p. 573). Indeed, other factors are needed like common practices as well as collective values and intentions which will be further discussed in this paper. Arthuson (2013) suggests a mixed tenure construction where there is no difference in the quality and appearance of social housing in comparison with private housing, as this has the greatest potential for success in enhancing social interaction. The variety of existing cohousing initiatives and the specific uniqueness of each project create the need to answering the question of what holds the specific community together every time and in each case (Tummers, 2016).

3.2. Sustainability

The Bruntland Report for the World Commission on Environment and Development in 1987 provides an elemental definition of sustainable development: “Development that meets the needs of the present without compromising the ability of future generations to meet their own needs”(WCED, 1987). Sustainability is a key concept in this research as the notion of sustainable behavior acts as a core value of the cohousing project that creates social cohesion (Lietaert, 2010). The notion of sustainability and the ecological intentions of the residents can therefore be linked to social

development in the community and be of complementary nature as it is one of the main motivations for participation (Butot, 2017). Sanguinetti (2014) describes this as following:

“[...] more socially and environmentally sustainable lifestyles are supported in these [cohousing] communities due to an enhanced sense of connection among residents, nature, and community, or a greater understanding of the interdependence of self, society, and environment” (p.87).

Sustainability does not only refer to eco-friendly behavior, but also to upholding valuable connections among residents and promoting cooperation and civic engagement (Flint, 2013). These connections assure the longevity of the community project and introduce a societal sustainability that exists of key elements like interdependence, equity, cohesion, distribution, consumption of available resources, age-integration, life-course and life cycle approaches, sustainable health and well-being (Kaplan et al. 2017). Specifically multi- and intergenerational social relations can develop a sustainable community where the aging process is experienced together and can have positive and negative effects on the community (Jarvis, 2015; Kaplan et al. 2017)

With regards to sustainability from a primarily environmental stance, Videras et al. (2012) found that individuals with a green neighbor profile were more likely to engage in community-based behaviors and seek other concerned individuals. Therefore, sustainable communities are still deeply connected to pro-environmental behavior which influences the daily social practice of a cohousing project (Flint, 2013). In her self-expansion model, Sanguinetti (2014) defines the role of nature as essential in cohousing community to extend one's relationship to the environment and refers to performed practices:

“In the context of cohousing, connection to nature may be enhanced via practices whereby residents are exposed to or take an active role in relation to natural resources and processes by which their needs are met, such as growing food and building shelters with local materials” (p.88).

Jarvis (2011) adds that “the commitment most cohousing residents demonstrate towards environmental conservation, volunteering, and the development of community initiatives arguably adds a “second shift” to income-generating activities” (p. 564). Through the introduction of efficient sharing systems which avoids overconsumption, and sustainable buildings linked with a general environmentally friendly behavior, cohousing projects tend to cut CO₂ emissions by about 50% as residents become aware of their personal ecological footprint (Bamford, 2001; Lietaert, 2010). Additionally, cohousers leave their bigger houses in exchange for smaller dwellings and hence,

cohousing projects are also of environmental significance for municipalities and cities to introduce self-organized sustainable behavior and usage of space (Bamford, 2001). From an economic perspective, low-income households could benefit from this reduction of emissions as this leads to a reduction of energy bills through more efficiency in the buildings and the solidarity of the group (Mullins & Moore, 2018). Moreover, a pro-environmental behavior increases a feeling of empowerment under the residents through performing environmentally friendly practices like composting or water conservation (Bamford, 2001; Jarvis, 2011). Residents realize that they can make a difference through their environmental behavior and that “the environmental gains are deeper than whatever material economies and efficiencies individual communities manage to achieve” (Bamford, 2001, p. 9). Indeed, the feeling of empowerment among residents varies because of different stages of involvement in sustainability and pro-environmental behavior due to an individual level of preferences, resources and restrictions as well as the size and location of the cohousing project (Manley et al., 2012).

Regarding an environmentally sustainable community, Flint (2013) claims that the creation of a sustainable community does not happen by accident, but is purposely designed around an “eco-centric” (p. 60) ideal. Furthermore, a conscious and ongoing commitment and collective action by the residents is needed as “a sustainable community is continually adjusting to meet the social [...] needs of its residents while preserving the environment’s ability to support them” (ibid., p. 146).

3.3. Community

3.2.1. Common resource management and collective action

Freedom of action and self-realization are personal qualities shared by cohousing residents that are linked to the establishment of new civic formations through the combination of experiences and knowledge (Hasanov & Beaumont, 2016). As the government is looking to share its responsibility in the housing development, it enables its residents to take over both the process and content of housing developments in urban areas (Foster & Iaione, 2016). Citizens are able to reclaim control over the development and growth in urban areas to promote more access to urban resources for all inhabitants. This inclusive and more equitable form of city-making instead of city-using defines urban space as a “commons” (ibid., p. 284) empowered by the government. However, a management of resources is also able to create tensions between the government and its citizens in terms of city-making as different opinions are clashing (ibid.). These clashes exist because commons not only refer to material resources and physical space but also to social and cultural values as well as social relations, mutual obligations and a variety of rights (Bruun, 2015; Gudeman, 2001).

These commons in form of urban resources at its core need to be managed through collaborative and collective action by urban residents (Foster, 2011). Foster (2011) calls it a social revolution and describes this management as a “common urban resource managed by groups of users in the absence of government coercion or management [...]” (p. 58). Common resources in urban areas can refer to neighborhood streets, parks or gardens which are collaboratively managed by a group of users (Foster & Iaione, 2016). However, the capacity of an effective management of common property relies heavily on factors of community size, stability of the community membership, resources scale, shared social norms and values (Butot, 2017; Foster, 2011). In regards to cohousing, there are clear similarities between the concept of common resource management and the organization of cohousing communities where nature is considered part of a common resource. Bruun (2015) argues that cohousing projects “are an instance of an urban commons characterized by overlapping claims to and rights in the commons” (p. 155). Therefore, this concept can help to understand the self-governance between participants in cohousing projects and the attempt to organize the community on a level of equal access and participation, comparable to property managers, which can be observed in their daily practices (Blokland, 2017; Foster, 2011).

Hasanov and Beaumont (2016) refer to a capture in collective means of action among citizens that lead to spontaneous performances between them through the process of self-organizing. These performances are of essential meaning for the creation of a sense of community and sustaining a community-based activity (Blokland, 2017; Hasanov & Beaumont, 2016). Examples can be the simple and spontaneous sharing of goods and facilities, but also organized common garden activities as sustainability defines a major ideal for collective action in most cohousing projects (Lietaert, 2010). Through shared daily practices and activities, the group is able to act more efficiently and flexible in the management of their goods which Foster (2011) refers to as “collective action enabling” (p. 110). Additionally, Hasanov and Beaumont (2016) explain collective intentionality which can lead to the formation of collective values and action:

“Every individual has a unique set of intentions, which also can be shared with others. If such 'sharing' occurs, there is a chance that a mutual form of action based on collective forms of intentionality will appear. [...] The extent to which intentions can evolve into collective action depends on the level of reciprocal sharing that individuals perform” (p. 238).

Butot (2017) refers to the different depths of intentionality of the individual resident that can hinder the process of decision-making. However, as long as an overarching and leading motive exists,

collective problems can be overcome by compromising for a greater cause (ibid.). Compromises can be achieved through communication which is an essential feature to maintain the well-being of the community as it plays a binding role in the connection of residents and serves as a tool for self-reliance inside the group (Flint, 2013). Butot (2017) names self-reliance as important collective intention for cohousing initiatives as residents embody a “do-it-yourself” mentality in creating a capacity to socially and physically self-manage their living environments to make use of the empowerment received by the government. Collective action is needed to act effectively as one organized group and develop the cohousing project in a positive direction (ibid.). This includes the responsibility of ensuring a constant and active participation by all members (Flint, 2013).

Sanguinetti (2014) refers to the self-expansion model which includes others in the notion of the self in order to conceptualize the connectedness of an individual to a whole community. The community must become part of the self through practices that promote close relationships and collective values. The self-expansion model can even be broadened to describe the relationship of individuals to nature (ibid.). The share of basic values, like environmentalism and sustainability, is essential to define the housing project, so the residents see themselves as a group and not as individuals (Mullins & Moore, 2018). Hence, the collective idea of sustainability is highly linked to the commons and collective action inside the commons.

After creating the cohousing community, there is the need to maintain social relations and assure a continued commitment of old and new residents and an ongoing commonality through collective intentions as these could minimize over time (Butot, 2017; Sargisson, 2012; Tummers, 2016). Solidarity between residents is not a given and must be nurtured and made explicit (Tummers, 2016). This includes shared efforts in internal discussions and decision-making processes to balance individual interests with the ones of the group as collective ownership creates opportunities for disputes (Butot, 2017; Sargisson, 2012). Consensus systems create a dialogue between residents which can have a substantial influence on the social cohesiveness (Ruiu, 2015). During the management of common resources between the residents, tensions can develop which might lead to an overuse of the common goods, which is referred to as tragedy of the commons (Hardin, 1994; Olson, 1965). This overconsumption of common goods can destroy the collective values, like sustainability, that were established to maintain the common resources collaboratively. Additionally, if the capacity of residents’ commitment and voluntary efforts are low, fewer ideas will be realized in the project. Therefore, the planning phase and the control over the design is a key element to avoid a tragedy of the commons, as residents feel more connected to something they created themselves which is also a key motivation for participating (Butot, 2017). Lietaert (2010) describes cohousers as the driving force in internal and external processes.

3.3.2. Community as shared practice

The term community is highly contested and its definition has been repeatedly reassessed throughout history (Blokland, 2017). Early community studies defined the term as “social coherence, locality and community sentiment” (Blokland, 2017, p. 10; see Frankenberg, 1957). More recent studies suggested community as an accumulation of social capital (Forrest & Kearns 2001; Souza Briggs 1998; Temkin & Rohe 1998; see Blokland, 2017, p. 33) and later as a form of elective belonging (Savage et al. 2005; Watt 2009; see Blokland 2017, p. 11). Communities can take varying forms with different characteristics, purposes and traditions of interaction, and activities, membership and ways of interaction within communities can change over time (Douglas, 2010).

In her definition of community, Blokland (2017) introduces a new dimension, criticizing the over-romanticized view on community as the simple translation into something good and the strength of social ties. For Blokland (2017), community does not necessarily describe cohesion or processes of inclusion or exclusion. She defines community as shared practice where factors like cohesion and social ties are highly present but not the defining element. People form a community by performing ongoing practices which leads to the sharing of symbols and understanding that are unstable and define the community as not fixed (ibid.). Douglas (2010) demonstrates through the terms “creating community” and “building community” that community can be considered as a “practice of engaging and connecting” (p. 539). Thus, community must be maintained by continuous interactions and practices between individuals that define the level of social cohesion and the sense of connectedness inside a group of people (Blokland, 2017). This relational dynamics are constructed through meanings and actions in social contexts within the community (Healey et al., 2009). Butot (2017) explains cohousing as a “container of connected practices” (p. 31) that “together cultivates solidarity and shared endeavor” (Jarvis, 2011, p. 562). Additionally, different practices can lead to distinct outcomes in the group, so the kinds of practices that are completed are of important nature for the development of the group. The definition of Blokland (2017) relates to the concept of communities of practice which are “groups of people who share a concern or a passion for something they do and learn how to do it better as they interact regularly” (Wenger, 2011, p. 1). Wenger (2011) defines members of a community of practice as “practitioners” (p. 2) who collectively develop a shared repertoire of resources like experiences, stories, tools to which she refers to as shared practice. Jarvis (2011) refers to different temporal scales that are created through self-governing practices and reflexive learning processes. Participatory practices create a public time of collective engagement, e.g. through weekly cooking sessions, cleaning duties or garden activities that produce a new timeframe for residents (cycles, seasons (ecological time), rhythms, etc.). Furthermore, the creation of an own timeframe leads to the self-reliance of deciding what is important to maintain and practice

in this community (Flint, 2013). Additionally, the factor of age plays a significant role in the longevity of cohousing projects as they aim for a sustainable and permanent environment. The demographic trends inside the community need to be taken into account to ensure an ongoing active contribution and a societal balance of the residents (Flint, 2013; Jarvis, 2015; Kaplan et al. 2017).

The introduced practices can also lead to a change of behavior which is influenced by everyday interactions and performances (Butot, 2017). Sanguinetti (2014) as well as Videras and colleagues (2012) showed in their research that social relations and interpersonal closeness can be related to the change of individual behavior. Manley and colleagues (2012) explain this by the introduction of positive role models which other residents will try to copy. As the residents share certain similar characteristics, like a pro-environmental behavior, a correlated effect happens that leads to similar behavior (ibid.). Additionally, Bouma and Voorbij (2009) mention rules and codes inside the community as possible influence in the change of individual behavior.

Blokland (2017) also refers to the accessibility of space as the possibility to complete practices and therefore build up a higher share of symbols and trust. The share of space with neighbors “produces a positive social dynamic, positive material outcomes and individual and collective well-being” (Sargisson, 2012, p. 42). Residents develop a new sense of spatial understanding where place functions as “congelation of meanings and experiences which accumulate around locales through daily life experience” (Healey et al., 2009, p. 62). The neighborhood can even develop a meaning as socio-economic status symbol (Ruiu, 2015). Cohousing communities can be experienced as places where new agendas and practices are being evolved and contested (ibid.) and an “infrastructure of daily life” (Jarvis, 2011, p. 573) can be developed in circuits of “learning, doing, being and becoming” (ibid., p. 568). A possibility of daily collaboration within particular places in specific social networks differs cohousing from other social movements as residents can reinvent their individual life paths by connecting them with their neighbors (ibid.).

3.3.3. Sense of community

Daily collaborations in the form of shared urban practices are highly interrelated to the creation of a sense of community which Mannarini et al. (2017) see as a multidimensional construct including the sense of belonging to a collective group, the fulfillment of their needs by this community as well as the feeling of an active contribution of the social system. The authors claim that a sense of community is associated with positive outcomes like a higher engagement, well-being and life satisfaction.

A sense of community can be created or shaped in different ways through different factors and practices, either through intentional processes or accidentally (Douglas, 2010). In the case of

cohousing, a sense of community can be established through the value of urban self-organization (Hasanov & Beaumont, 2016), the organization of dwellings and the urban environment (Mannarini et al., 2017; Lietaert, 2010), collective activities (Evans, 2009), and a common value like pro-environmental behavior and sustainability (Videras et al., 2012). McCamant and Durrett (1988) explain in their famous work about cohousing: “Things that people once took for granted - family, community, sense of belonging - must now be actively sought out “(p. 9). As cities create an atmosphere of anonymity and isolation, people seek for an integrating community where they are able to feel secure and supported as well as to share the same values and more social interaction with their neighbors (Sargisson, 2012). Cohousing initiatives give residents the chance to recreate a sense of community “while preserving individual privacy” (Lietaert, 2010, p. 576). Sanguinetti (2014) adds that a sense of connectedness, when established, is able to create new forms of social and ecological relations. This development in relations is referred to as the “praxis of commoning” (Butot, 2017, p. 62) which could be also related to the concept of shared urban practice (Blokland, 2017) as it is constantly produced and reproduced (Bruun, 2015). This praxis can be executed through different collective activities, practices and social interactions inside a community which enables individuals to work together and achieve a defined common purpose (Evans, 2009; Mullins & Moore, 2018). Cohousing communities offer the space for residents to share their daily life activities in a setting that was specifically developed to create an “egalitarian togetherness where hierarchies and social and economic differences and power relations are left aside” (Bruuns, 2015, p. 163). The founded neighborhood boards specifically play an important role in sustaining a strong spirit of community which is not necessarily found in neighborhoods without formal institutional status (Foster, 2011).

In regards to the mix of tenure and the integration of new residents, constant social interaction and responsibility need to be learned (Butot, 2017) and boundaries of everyday life and practices must be set and adjusted over time (Jarvis, 2011). Additionally, a sense of community must be introduced through practices as it is the main component for a functioning cohousing community and needs to be actively created and maintained through different practices and characteristics of the cohousing initiative. Ruijter (2015) states that the influence of external developers in choosing members through a top-down approach could lead to a loss of sense of community. Bouma and Voorbij (2009) even claim that residents should select and recruit new members themselves to make sure that potential residents share the same values and intentions.

3.4. Conclusion of the examined literature

Multiple theories have been examined regarding the concepts and characteristics that allow for the conception, development and successful continuance of sustainable community living spaces. In order to analyze this present research in a thorough manner, the previously discussed literature has been condensed into three overarching themes: values and organizational structure, place and space, and time. The first theme, values and organizational structure, incorporates the notions of community as shared urban practice, collective action, common resource management and sustainability to investigate how these work to build a successful cohousing project. The second theme of place and space is essential as the physical infrastructure and residents' perception and use of common areas and private space play a significant role in the creation of a sustainable community (Butot, 2017; Sargisson, 2012). Finally, as the development of a cohousing project is longitudinal, time will be the third theme investigated.

Together, these three themes construct the theoretical framework that will be applied to this current research. Each will be examined independently and in combination in order to define the factors that contribute to a successful sustainable community.

4. Methodology and data collection

This case study will provide detailed data about one object of interest, the cohousing project *De Kersentuin* in Utrecht, using qualitative methods (Bryman, 2008). This cohousing project consists of 94 residencies, of which 28 are social housing and 66 are homeowner houses (Bryman, 2008; Janssen-Jansen, 2009). As qualitative methods are able to provide me with personal insights and subjective perceptions of the participants' experience living in a unique environment, these methods were deemed as appropriate for this given work. This research was executed as an ethnographic study combining different qualitative methods. To ensure objectivity, reliability and validity, I documented every step of my inquiry and reflected regularly on my work (Boeije, 2010).

The information used within this research derived from primary data and includes semi-structured interviews (see Appendix) with a number of 18 residents of *De Kersentuin*, and participant observation. The questions and their order were partly changed during the research phase to set the focus on information that couldn't be derived through the former questionnaire. Through interviews, I was able to understand subjective interpretations, experiences and spatial relations of the interviewees' social life (Dowling et al., 2016). A semi-structured interview guide was used to allow flexibility in the questionnaire while being able to lead the interview in the desired direction (Bryman, 2008). All recorded interviews were transcribed and the results of non-recorded interviews were written down as best as possible immediately after. The interview transcripts and field notes were coded with the help of the computer based program "QDA Miner Lite" to create categories and collate the different statements. The codes developed from very general categories (*social interaction, participation, sustainability, history, etc.*) to more abstract ideas emerging into the final three themes of time, place and space and values and inner structure. The research incorporates a deductive as well as inductive character, as the codes were created deductively through the examined literature but developed further inductively throughout the analysis of the results of the interviews and observations.

The participant observation was partly ethnographic in nature as I took part in several activities of the cohousing community, including organizational meetings and different events, and tried to bond with the residents to get a deeper insight regarding their ideas. Participant observation was also executed by the observation of people's interactions during the day inside the community, e.g. in the community garden. This allowed a natural view of everyday situations occurring inside the project. Own ideas and impressions were written down during this phase of data collection and used in the analysis of the research (Boeije, 2010). Additionally, a third method was used which is concerning the

spatial structure of the community project and what role nature and the environment as common resource play in the engagement of residents. As the physical appearance of the cohousing community plays a role in everyday interactions (Bouma & Voorbij, 2009; Shaw, 2012), I executed a spatial analysis of the building structure and its impact on social cohesion by receiving a guided tour, walking through the neighborhood by myself and analyzing the positioning of buildings in photos.

The different methodological approaches allow for different levels of analysis regarding the cohousing project and provided me with different interpretations of the data as well as set the stage for new research directions (Boeije, 2010). Interviews gave an insight of the subjective ideas of the residents, whereas the participant observation added my own personal experience and gave me a form to learn about the behavior of individuals and the community and how it was being practiced. Additionally, the spatial analysis helped to link several characteristics of *De Kersentuin* to the physical structure of the neighborhood. Data was collected throughout March to June 2018.

This research utilized snowball sampling and convenience sampling. Through the use of snowball sampling, I was able to contact new residents through already interviewed participants. In the beginning, I was introduced to the habitants by two residents that helped me to find my way. This support made it easy for me as other residents accepted me more. As there is a high social cohesion in the cohousing project to be expected, residents were able to suggest other neighbors that are willing to have an interview. In contrast, the convenience sampling helped to find possible interviewees during activities and events as well as during the participant observation. These interviews were executed in a spontaneous and convenient environment (Bryman, 2008). To ensure to speak to a variety of residents, I attended irregular events, mostly on the weekend additionally to the regular happening activities like the gardening days and the coffee mornings. Furthermore, I tried to approach residents during the day who passed by the gardens on their way home. Regarding the language, the main communication with the residents happened either in English or in German. The interviews were all held in English and the proficiency of the residents was good enough to allow clear interpretations in their answers.

The ethnographic research allowed me to become part of the community and meet several residents on a personal basis. During the research, I was able to get to know the residents by spending time with them, having coffee and lunch together and supporting them, e.g. in the gardening event. Through these processes, the residents appreciated my participation and support and I was able to integrate and encounter the residents on a more equal level. This also led to a more open contact with the residents and a higher level of trust which resulted in more information they were willing to

share with me. By late April, I was already so integrated that residents greeted me by name and I was recognized by others that I hadn't met before. The residents were generally very open for interviews and often opted for an interview before being prompted. The data collection regarding the participant observation was also easy to execute as the participation in events and activities gave me the chance to observe all kinds of situations between the residents. In the end, I was so integrated that I was invited to host my own "passion night" to present my research to the residents and have an open discussion about the results. During the time of the research, I was also traversing a self-learning process in which my idea of this form of housing changed from a seemingly far-fetched ideal to a realistic and pragmatic process of organization. Additionally, I was able to meet a variety of interesting residents and gain important professional, academic and personal skills.

“While my talk with a resident, we are sitting on a self-built bench, in the sunshine, looking at the garden we were working on the last hours and what we have created. We are watching the remaining neighbors engaging in the garden, interacting, laughing and having fun. A slight feeling of satisfaction spreads out through my body. Is this the ideal situation residents are aiming for in this community?” (07.04.2018, own field notes)

5. Values and inner structure

In this chapter, the values and inner structure of the project will be examined. For this purpose, the literature of cohousing (3.1) and common resource management and collective action (3.3.1) will be mostly used to compare my results with. One important component of Lietart's (2010) six fundamental characteristics of cohousing includes a complete management of the cohousing project by its residents. This management consists of several processes ranging from the design of the neighborhood to the share of common facilities as well as a decision-making process (Lietart, 2010; Ruijter, 2015). A functioning organizational structure is essential to create equality and a sense of community among residents, so everyone feels that his or her voice can be heard (Bruuns, 2015; Mannarini et al. 2017). Additionally, an active self-management helps to determine the independent ideal of the community (Butot, 2017; Foster, 2011; Jarvis, 2011). This sets the basis for rules, guidelines and a decision-making system that supports these values. Through the inner structure of the community, residents are able to detect common values and shared interest and practice them actively which support the community-building and the feeling of togetherness (Bruuns, 2015; Hasanov & Beaumont, 2016, Mannarini et al., 2017).

5.1. Organizational structure, rules and compromises

In the cohousing project of *De Kersentuin*, three structural elements (see figure 3.) define the formal organization of a self-managing process. The first element consists of the association of homeowners ("VvE"). Every homeowner is part of this association, including a member of the housing corporation which is renting out the rest of apartments and houses that aren't privately owned. All members contribute a monthly amount to a commonly managed budget depending on their size of space that is mostly used for the maintenance of the building structure. One important component in this association is the ownership status of the buildings as residents are only owners of the inside of their houses. The outside is commonly managed by the association which concerns, for example, the installation of new sun blinds or the outside painting of the houses. The interviewed residents have mixed feelings about that as some see a lack of opportunity for individualization, while others have no problem with it. Whether residents like it or not, it serves the purpose of community formation by collective decision-making leading to meetings, discussions and interactions about changes on the outside (e.g. painting, sunscreen, etc.). The second element is the association of residents ("ALV") in which every resident is automatically a member. The association of residents is concerned with all tasks apart from maintenance. It is mainly responsible for running the neighborhood, which includes the resolution of inner conflicts, the parking situation, dealing with arising debates as well as the

organization and management of activities and events. According to the residents, the created management structure of owner's and resident's association creates the basis for an equal treatment of both renters and owners. In these two associations, several working groups were formed which overlap between associations. The working groups are able to manage different topics separately and more efficiently. At least one person of each household must take part in a working group. Additionally to the two associations, a foundation was created that is concerned with the financial management of the project house and the parking spaces. The juridical structure in this foundation prevents the residents from any financial damage in case of bigger unforeseen incidents. Each of the three structural elements contains a board, and general meetings and assemblies are held regularly during the year to discuss and decide on upcoming topics. Furthermore, general guidelines were created in the planning phase to determine general ecological and social rules inside the community to ensure collective agreeance over the life and management of the community.

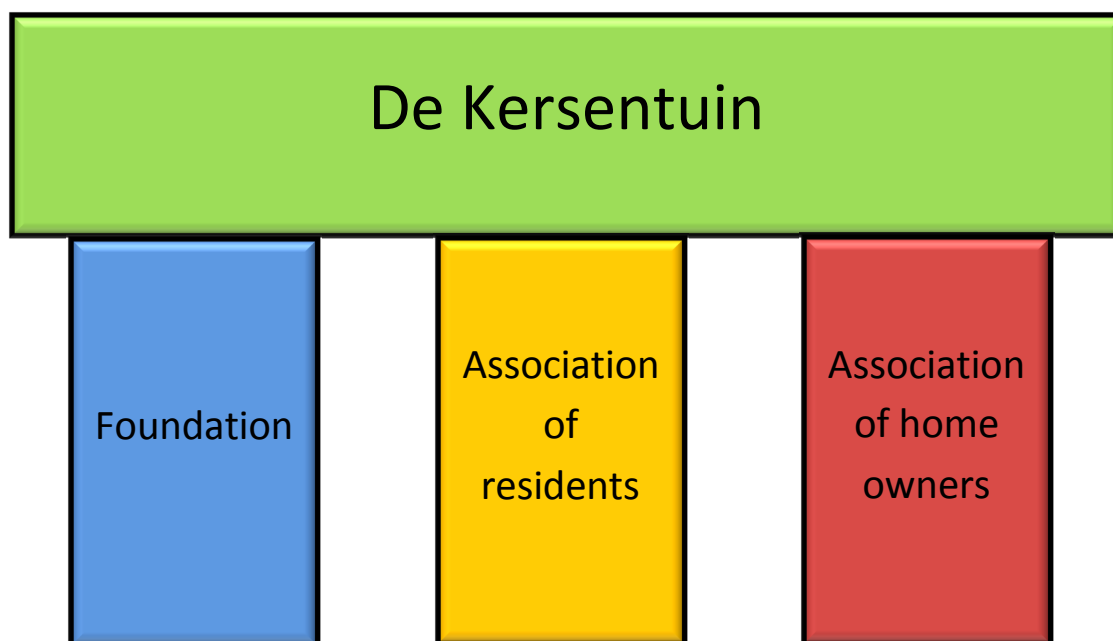


Figure 3: The three pillars of organization (own creation).

Generally speaking, the residents are happy with this structure as a lot of responsibility is taken off their shoulders by giving up obligation and leaving it to the associations and a shared collective management. Similar to Foster (2011), the residents acknowledge the importance of these associations in sustaining a strong communal spirit.

The opportunity given to the residents by the municipality of Utrecht to design and manage their own neighborhood entails a special relation to the local government (Foster & Iaione, 2016). A very

prominent example is the management of the garden. The municipality pays the cohousing community to take care of the municipality owned property outside the project (see figure 4).



Figure 4: Area owned by the municipality (De Kersentuin, 2018c, changed by author).

Additionally, the municipality contributes a certain amount of money towards the development of the community gardens and the maintenance of the walking paths as these are considered semi-public areas. Moreover, the municipality agrees to pick up the garden waste after every gardening day. An active communication between the cohousing project and the municipality is essential in ensuring continuous support of the project. Another advantage of an empowerment by the city to create and manage the own cohousing project is the development of an idea of higher self-reliance, individualization and self-governance inside the community (Butot, 2017; Foster, 2011; Jarvis, 2011). A statement of a resident clearly reflects this idea:

"[...] we put it on our website, we said "it shows that you can leave a lot more to citizens than many municipalities think you can leave to them". And we've done it, we've built a neighborhood and we're maintaining it, and we're already doing that for 15 years. So the power of the citizens is much larger than many municipalities dare to believe [...] or don't want to believe."

Residents demonstrate initiative both inside and outside the community. Lietaert (2010) refers to this as a driving force in internal and external processes. Another statement of a resident illustrates how relentless the residents were in order to create their own community.

"To persevere because we had all kinds of ideas [...] but local governments also had other ideas and what I think De Kersentuin did was go on, go on, go on and the local government was already, that shifted jobs, there were other people and we just went on and on and on and then it worked, we get what we wanted, so that's a mentality, [...] on the whole I think we have here a lot of people [...]who

stand up for themselves [...]who have skills to work on it, to achieve those ideas[...]with big mouth and a lot of ideas [...].”

The management structure in *De Kersentuin* requires residents to participate in the different working groups available to create a space of social and physical value. These working groups cover different themes and topics, so every resident can contribute various strengths and share these with other residents, e.g. technical repairs, gardening, sustainable innovation, event planning. The working groups are able to create motivation between the residents to practice what they like. Nonetheless, certain residents repeatedly appear as very active in the management of the community. It seems there is a specific core group that is often overtaking unclaimed management tasks to ensure the completion of projects and avoid participation decline. This core group is surrounded by residents who are regularly engaging and participating followed by those less active and non-active residents (see figure 5). However, it is hard to separate these groups into exact numbers of residents. It seems like there is the need for a certain balance in this positioning of residents. Residents mentioned that it's only possible to have a certain amount of non-active residents that the project can absorb and carry. As long as the this number is not too high and the core group and active group of residents is strong enough, the balance is given and practices can be performed as regular with an adequate degree of participation.

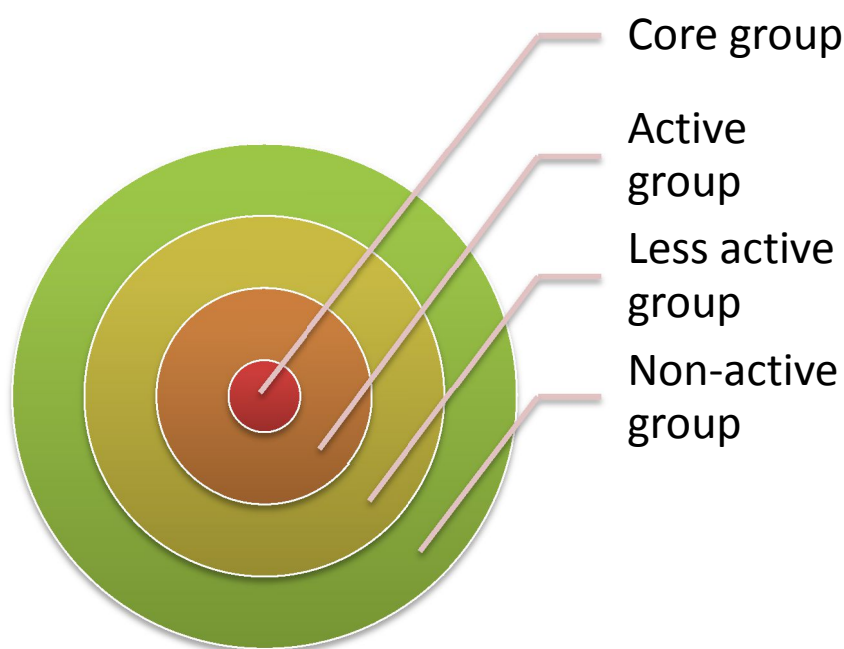


Figure 5: Position of engagement of residents in De Kersentuin (own creation).

Another important part in the management of the project is the decision-making system. In the community of *De Kersentuin*, a consensus system is used as proposed by Ruijter (2015) to also strengthen the social cohesion. The interviewed residents often referred to compromises that had to be made to placate everyone in the project. Individual interests need to be balanced out to compromise for a greater cause of the community (Butot, 2017; Sargisson, 2012). A resident describes it as “taking the whole package, the pros and cons”. These agreements are achieved by an active communication in the meetings and the implemented consensus system (Flint, 2013). A resident of the early beginning explains the system using the association of residents as an example:

“The system is used same as when [we] developed the project. Well we make a proposal, it's being discussed and then the proposal is adjusted or not and it's being forwarded.[...] What we do is we have discussions with the people living around, nearby, so [we] make a plan and then when there is kind of consensus on that, we present it to the general assembly [...]and then there is a decision and then we implement.”

The residents seem to be happy with this system. However, a few residents mentioned during the interviews that this structure is often very time-consuming as every little detail is discussed which goes too far for some of the residents. Furthermore, several residents mention a slight aversion for the meetings and general assemblies. They are considered too conservative and controlling. Nevertheless, the system has proven its success over the last 15 years by resisting several disruptions like discontent neighbors or a decline in organizational engagement.

As residents can hinder the decision-making processes by not compromising (Butot, 2017), other tensions and disputes can also arise through the over usage of the common property (Hardin, 1994; Olson, 1965). In *De Kersentuin*, over-usage is usually not the reason for disputes. Often residents are just not happy with the rules and agreements in the community. In the planning phase, several guidelines were created to ensure the sustainable and social character of the community. These guidelines were set by a core group of about ten households in the beginning and are nonnegotiable to avoid a time-consuming discussion about the principles. Examples of these guidelines are the monthly fee for a carpark or the abdication to the right to build a wooden fence around one's garden. Guidelines like this led to disputes with several residents that weren't in accordance, or in some cases, weren't entirely informed about the rules. In one example, a resident even went to court to challenge his right to build a fence, and lost. Residents who aren't able to compromise for the greater community or cannot agree on the formulated guidelines put the whole community and its success at risk. A resident describes the importance of understanding the rules of the community:

"I lived in other communities and the problem is everywhere the same, if you have rules without understanding, then it's the finish of your project. You should create a climate where people understand why we do together in the way as it goes. And you need to be flexible to change your own structure; otherwise you become a massive project with "we do it in this way and no other way". And you see that the people who can't flow with, they must leave, because they don't feel good anymore."

The case study of *De Kersentuin* shows that the non-communication of rules and values can lead to serious disruptions inside a community. Rules and codes are an essential part in most cohousing communities as they define internal communications and interactions (Bouma & Voorbij, 2009; Sargisson, 2012). A resident explains his thoughts about the rules in the community:

"I don't say that all the rules are perfect, but one of the good things that has been done in those seven years [...] is that they made quite a lot of rules. You need limits, you need rules, you need regulations, so if you signed for certain regulation you cannot easily say just say "who the hell", that might give some tensions, sometimes. But I think that it's good that those rules are. And if you signed for them you are responsible for that signature."

To ensure an acceptance of the guidelines and rules, a system of waiting lists was created to list people that are interested in living in *De Kersentuin*. There exist two waiting lists, one created by the residents and one by the housing corporation that rents out the apartments. Future residents need to be on both lists to show their dedication to the project. However, this system of waiting lists only accounts for a third of the dwellings, the rental ones. Regarding the privately owned houses, usually the highest bid decides for the new owner. This usually prevents residents from deciding for new arrivals that might fit the project better than others and can have a significant impact on the acceptance of new residents within the community. The co-operation with an outside corporation is of high importance as involvement of outsiders, either the housing corporation or the municipality, is still needed in the organizational structure to stabilize this construct of the community.

Altogether, residents are happy with their rules and acknowledge their importance for the project because it creates clarity and a structure to orient on. However, there were a few comments that referred to the rules as mildly too strict, and some that pointed out residents do regularly challenge the rules to some extent.

Several authors in the examined literature came to different conclusions in their research on mixed-tenure and socially mixed neighborhoods and whether these are enhancing or diminishing social cohesion and sense of community (Arthuson, 2013; Evans, 2009; Manley et al., 2012; Shaw, 2012). Confirming Sargisson's (2012) statement, the project of *De Kersentuin*, by request of the municipality,

established a mixed tenure to create a balanced socioeconomic mix of residents. They aimed to create a diverse neighborhood consisting of different social and cultural backgrounds. The building structure was used to enhance a social mix by establishing two different tenure types, namely renters and home owners. These mixed tenures are specifically placed within the building structure, as to not identify which residents are of which tenure. This seems to create a form of equality which is confirmed by a large number of interviewees not knowing, and especially not caring, of which tenure type their neighbors are as they don't see a difference between the two. Some residents mention that owners might feel more responsible for the community as they can be sure to be in the neighborhood for a long time and care more about the structure. A resident who lived in the community as renter as well as owner explains:

"[...] nothing really changed. It's not that you are being taken more seriously if you're a buyer than if you're a renter, you know, I don't think that's true. [...] I like it, I like [the social mix], that was one of the starting points of De Kersentuin, to have social diversity, you know. [...] I think that most of the active people are owners. [...] I have the idea, sure it's just an idea that owners [...] take more initiative than renters. On different levels of course. But still, I think renters are a bit more like me, to go along with the flow, you know. And owners are little bit more people who want to take things under control."

Altogether, residents don't really see a difference between renters and owners, neither in the building structure nor in the degree of social cohesion. During the research, I met several renters that have lived in the community for years and are highly integrated and part of the decision-making process. Additionally, a resident states that there is no difference in the amount of input and ideas between the two tenures. Therefore, as Arthuson (2013) pointed out in his research, there is no negative stigma towards renters detected.

5.2. Common values and shared intentionality

Residents participate in the activities where they possess a certain amount of intentionality (Hasanov & Beaumont, 2016). These intentions and collective values are shared with residents with a similar interest. Additionally, residents need to be open to share their interests with others and let other residents take part in (Sanguinetti, 2014). There seemed to be a relative space of privacy where residents develop a certain form of trust that is deep enough to develop a sense of community while still allowing residents their private space. In response to the question *what makes De Kersentuin special?* a resident describes the collective identity of the community:

"The thing that you know your neighbors, that you have shared interests, shared activities and most people have the same idea of how they want to live, respect for the environment, respect for social

cohesion and what I like very much is that you have your own house and still you live together with other people so you have your freedom but you're not alone."

Mutual support and friendships are components of an overall sense of community (Mannarini et al., 2017) and a form of equality (Bruuns, 2015) inside the cohousing project. Residents feel safe and protected within the boundaries of the neighborhood. This is confirmed by a situation that happened during the lunch break of the gardening event when two young girls, about three and seven years old, joined the table without their parents present. The residents know and trust each other and trust that the children are safe within the community. Parents with children of a similar age have particularly close relationships as they interact almost daily through activities with their children, such as walking to school or going to swimming lessons together.

Many residents mentioned the working groups as a possibility to share their interests and do something they enjoy contributing to the community. In some cases, residents were even surprised how long certain activities survived, including some over a decade. The residents seem to be able to discover new topics and passions that they have in common and want to share with their neighbors. As *De Kersentuin* includes almost 100 households, it offers the social capacity to find somebody for almost every interest. A resident referred to it as "threshold of participation" so that the social characteristic of the neighborhood won't be at risk as it ensures enough resident participation and the guarantee that there will be always residents present during activities and events.

As practices are constantly produced and reproduced (Bruun, 2015), they are created to promote a sense of community between the residents (Evans, 2009; Mullins & Moore, 2018). Butot's (2017) "praxis of commoning" (p.62) happens in *De Kersentuin* in all different activities. Groups of people develop responsibility for different activities and events. The elderly feel responsible to cook for the residents as technical schooled residents contribute by maintaining the buildings. All practices are still free for everybody to join and develop a sense of common interests. Residents look to gardening activities, concerts and other activities as a way to keep in touch and get to know their neighbors. The regular activities and events seem to be the ingredient that makes *De Kersentuin* special for the residents. Solidarity, social interaction and a sense of community can be nurtured through practices by the residents and events and activities should be used to foster these feelings of togetherness (Butot, 2017; Jarvis, 2011; Tummers, 2016). Most of the interviewed neighbors consider the activities and events a very essential component to foster a sense of community. That said, residents constantly mentioned that participation depends on the individual preferences and that nobody can be forced to participate in activities. There are residents that regularly take initiative and organize event and activities and there are residents that require prompting to participate. Also, not all residents attribute the same importance to these practices, as one resident explains:

"[...]For me, De Kersentuïn is a community, but like I said, it's also good if there's nothing, then it would be also okay, because [...] one of the parts of De Kersentuïn is to be social with each other, but that's not really depending on activities, I know people who never go to activities [...] but they're very social people, [...]they don't like groups, they like to have one on one things, and [...] that's also good for me. It's very easy here to organize something 'cause all the facilities are there and [...] I do the things I like to do and [...] I would like others to do the same, so that everybody just does what he or she likes and sometimes you feel kind of pressure. [...] I think if there's not enough enthusiasm for it, just don't do it."

As mentioned in the theoretical framework (Butot, 2017; Hasanov & Beaumont, 2016; Jarvis, 2011; Sanguinetti, 2014; Tummers, 2016), common and shared values are essential for a community to be practiced regularly in any kind of interactions. *De Kersentuïn* gives the residents the chance to do this through the organization of events and activities and through organizational tools like the working groups. Participation must be maintained and the amount of available activities allows the maintenance of a certain level of participation.

5.3. Conclusive thoughts on values and the inner structure

The research showed that residents acknowledge the organizational structure and the rules as essential for the survival of the community. Even though not everyone is always happy with the system, residents realize that compromises need to be made in order to upkeep the positive development of the community. The organizational structure gives residents the chance to share common values and interact on a basis of shared interests. Together with a strong sense of commitment and a do-it-yourself mentality of the members to invest time and effort, as well as their own values and intentions, the community is successfully managed on a basis of equality and self-reliance that allows individualization and community-building at the same time (Butot, 2017; Foster, 2011; Tummers, 2016). In comparison to previous literature, these results show a clearer connection between the organizational structure and its role in enhancing the sharing of common values among residents, which combines the theories of cohousing and common resource management and collective action. In the literature, the sharing of values (Butot, 2017; Hasanov & Beaumont, 2016; Jarvis, 2011; Sanguinetti, 2014; Tummers, 2016) and the organizational structure (Flint, 2013; Foster, 2011; Foster & Ioaine, 2016; Ruijter, 2015) were mostly examined individually whereas this research shows that the organizational structure is able to create a supporting fundament for the sharing of values.

6. The influence of place and space on the life in the community

This chapter is concerned with the built infrastructure and its contribution to a sustainable community-building. Therefore, the cohousing (3.1.) literature concerning the physical appearance of cohousing project is applied. Additionally, the theories of sustainability (3.2) and community as shared practice (3.3.2) help to understand the meanings behind the physical structure of *De Kersentuin*. The organization and usage of space is defined in different ways in the cohousing project of *De Kersentuin* and the lines between private and public space are often blurred. The four sub-chapters will examine these characteristics and define their added value to a sustainable community.

6.1. The built infrastructure and the blurry boundaries between private and public

The project of *De Kersentuin* was built during the creation of the area of Leidsche Rijn where municipality of Utrecht already created a city development plan which defined that the houses had to be built in a row from east to west. Allowing an open view through the gardens from one end to another, residents weren't able to orient their dwellings around a common open area (Bouma & Voorbij, 2009). Additionally, the approximate number of residents was also pre-defined by the municipality. With this requirement in mind, about eight different kinds of dwellings were developed to enhance a social mix of new residents, including young, old, singles, couples or families (see figure 6).

Social tenure composition in <i>De Kersentuin</i> in 2016 (in %)		
Tenure composition	<i>De Kersentuin</i>	The Netherlands
Single	29	33
Single parent family	15	10
Two-parent family	44	29
Couples without children	12	28

Figure 6: Social tenure composition in De Kersentuin in 2016 (numbers provided by De Kersentuin).

Building types vary from small towers which accommodate apartments to row houses that are partly built over each other so that a number of residents share a roof (see figure 7). Additionally, many residents have small “semi-public” gardens as the residents call it which are partly facing to the common garden area and partly not. The size of the private gardens was defined smaller than usual in order to provide a bigger shared community garden. Thus, the residents resigned their private space for a bigger community space (Sanguinetti, 2014). The parking garage is hidden under one

building and a common garden and a few parking spaces are available in the entrance area of the neighborhood which can be enlarged by sacrificing green space if needed.



Figure 7: Building types of De Kersentuin seen from above (De Kersentuin, 2018b).

The installed technical innovations in the beginning created an advantage to influence residents in their environmental behavior and energy consumption (see figure 8). An elderly resident answers to the question of a possible change of environmental behavior: *“No, I’m not more conscious but it’s now so that that’s more available. You can now do more because the facilities are more reachable for everyone.”* The technical innovations from the beginning gave clear instructions to the residents to behave in a more environmentally conscious manner, avoiding overconsumption and excess energy usage, which leads to a reduction of emissions in the community (Bamford, 2001; Lietaert, 2010). Examples are the share of electronic power tools and the common purchase of solar panels. Another function of these technical innovations is the creation of a sustainable agenda for the community in the planning phase, which served as a starting point for residents to develop on and create this community.

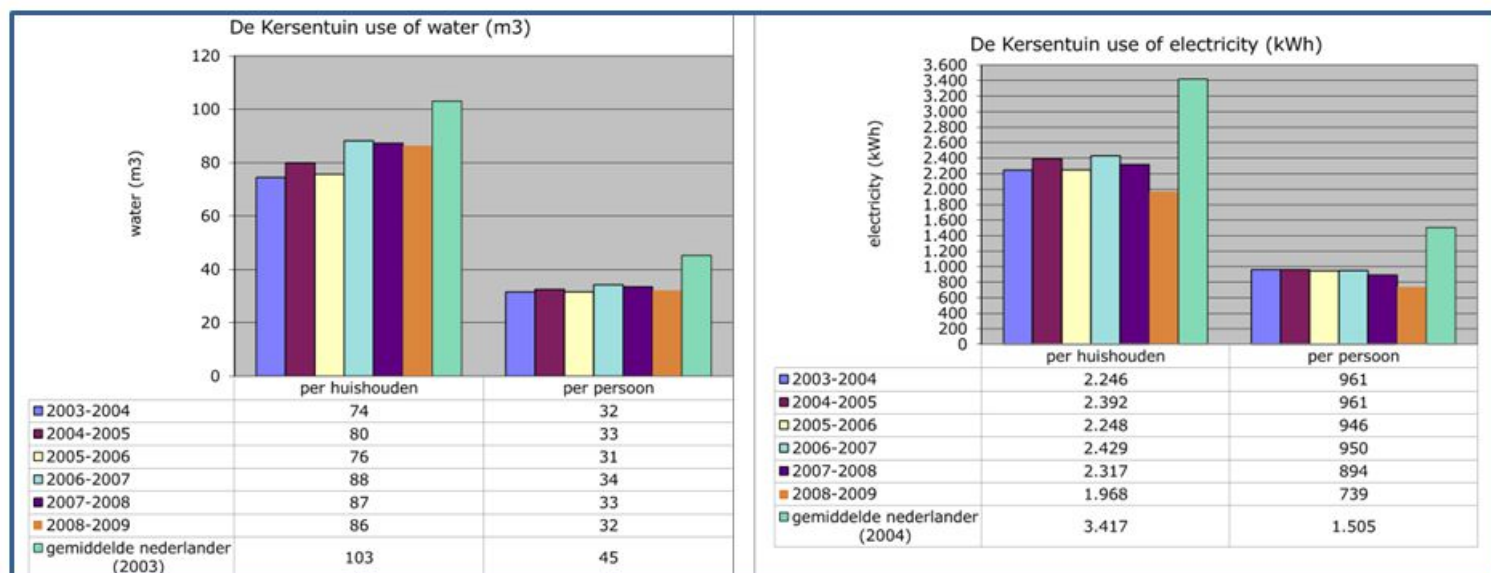


Figure 8: Usage of water and electricity per household and person (2003 – 2009) in comparison to the Dutch average (numbers and table provided by De Kersentuin).

Another point is the positioning of the accommodations which is able to influence the likelihood of social contact among residents. One example is an elderly resident who lives in one of the towers with her balcony facing to the outside of the neighborhood. Only one window is directed to the common neighborhood area and gives her the chance to partly take part in the social life when she is in her apartment. Another example is the row houses in the south of neighborhood with their private gardens facing south and not in the common garden area (see figure 9). When asked if this physical element prevented social interaction and participation, a resident who is living there answers:

"I like it, because now I have a choice to be on my own and when I would have the garden over there, it's much more hard just to isolate myself from the community things, so I'm happy that I have my garden here, yes. Otherwise, people come [...] and when I want I can go there, I have more free choice."



Figure 9: Southern gardens of De Kersentuin (De Kersentuin, 2018c).

Even though residents might be restricted from social interaction through the building structure, they often prefer to have a choice of being alone or being seen and available for neighbors. Therefore, a sense of community can be created and maintained *“while preserving individual privacy”* (Lietaert, 2010, p. 576). Regarding the row houses on the ground, many of them feature big windows which make it easy to look inside as the pathways are very close to the houses. While helping a resident prepare lunch, several neighbors walked by and greeted her through the window which appeared somewhat strange to me at first. However, for the residents it became normal and they enjoy their open windows for more social contact. A resident explained that if she wants her privacy, she uses her curtains. The need for privacy also concerns the creation of barriers. There are only green barriers allowed to separate the private gardens if wished. This is for several reasons, as a resident explains:

“[...] we want to physically also enlarge the area, because, well, if you see the area, it's not very wide. It's about maybe between 20 and 25 meters wide, but if you don't put a hard barrier, [...] it looks and feels much wider and it's also better for birds and small animals.”

He also adds that often residents have to get used to this rule as it challenges their understanding of public and private (Butot, 2017) and that new residents from the outside are often used to putting up fences for their privacy. An example is the consideration of the small private gardens as “semi-public”

which confirms the distribution of encroachment zones and the sharing of space inside the community as other residents are able to use it while interacting with their neighbors (Urhahn, 2018). Flexible physicality is a key characteristic of this cohousing project where boundaries of private and public can be shifted (e.g. by using a curtain) and blurred. This is illustrated by a portable bench that was created as the permanently installed benches in one common garden were overused by noisier children from the outside neighborhood that disrupted the residents. In order to not give up a bench in the garden, the residents designed a bench that can be moved wherever it is needed (see figure 10). This bench is used as a tool to modify the boundaries of private and public space inside the community depending on where it is placed.



Figure 10: Self-built movable bench (De Kersentuin, 2018d).

From the interviews, it can be said that residents are generally happy with the building design apart from some minor flaws. The residents are willing to make compromises so everyone is content with the living situation. One elderly neighbor explains:

“[...] I highly appreciate the architecture. I think that's also a very important element. That they found the right architect, [...] there was good interaction with the architect, the colors are bright, it gives good atmosphere and that's quite facilitating also for a good, more social environment.”

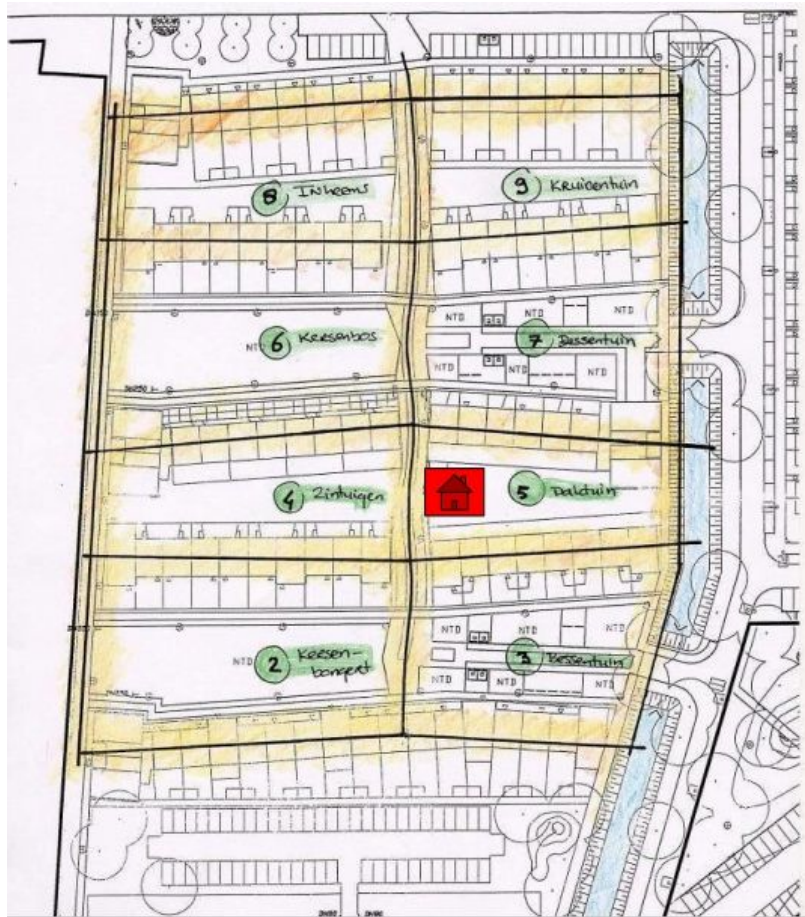
Even though the physical appearance of the project is appreciated, interviewees didn't find the building structure that important. If you want to have contact with your neighbors and be social, you can choose to, even if you're building type or apartment is partly restricting you. Most interactions seem to happen outside the private space, so residents need to leave their home to interact with others. Additionally, the building structure did not necessarily define their social contacts and close relations. Most interviewed residents have their closest relations distributed all over the neighborhood and not necessarily close to each other. However, the physical characteristic of the

community aids in molding the boundaries between private and public space, which in turn enhances social interaction and cohesion among residents.

6.2. The importance of interaction space

Daily and regular interactions inside the community happen mainly in the common space, like the gardens or the project house, and constitute an essential part of this research in defining community as shared practice by Blokland (2017). The spatial and social proximity of residents in *De Kersentuin* enhances an ongoing interaction, thus confirming Fennell's (2004) "interaction space" (Hasanov & Beaumont, 2016; Löw, 2015). Accessibility and sharing of space provide the possibility to complete practices and create a positive social dynamic (Blokland, 2017; Sargisson, 2012). The spatial characteristics enhance regular contact between the residents during their daily activities which creates a sense of community and deeper informational exchanges as well as a more pro-social behavior between the residents (Blokland, 2017; Foster, 2011; Hasanov & Beaumont, 2016; Sanguinetti, 2014). This was observed during the interviews that were held outdoors near common areas as they were regularly interrupted by residents passing by, saying hello and sometimes having short talks. Other examples observed were residents asking others for help with their sun blinds as well as spontaneous gatherings of several people in the garden area.

The fact that social interaction can be impacted by the building structure and its physical attributes (Butot, 2017; Hasanov & Beaumont, 2016) is a key finding in this research. The two main public spaces of interaction identified by residents are the common garden areas and the project house. The common gardens are mainly used for spontaneous gatherings, outdoor events and specifically the communal gardening activities, whereas the project house hosts several indoor events in the evenings, but also coffee mornings once a week as well as lunch breaks.



Project house

Figure 11: Position of the project house (picture provided by De Kersentuin).

The project house which lies in the middle of the neighborhood (see figure 11) plays an important role as it functions as a meeting and interaction space for the residents indoors. It is used for hobbies of the residents outside their personal space, like playing the piano, and also provides the space for group activities like formal meetings, coffee mornings, lunch after the gardening activities, and other events organized by the residents, e.g. “passion nights” where residents choose a passion (e.g. fair trade, painting, etc.) to present to other residents a few times a year. Additionally, it provides space for outside groups who are able to rent it for different activities. The availability of this common space makes it easier for residents to take the initiative and create social contact and interaction through spontaneous meetings, planned events and regular activities.

The garden and its essential contribution to social development are identified as very important by the residents. As I began the research with my first visit in December, residents weren’t able to use the garden a lot due to the bad weather conditions. However, already at this time, I felt excited to come back in spring and summer to see how its potential can be used to create social interaction all over the neighborhood in warmer seasons. This was confirmed as I came back in March and April and saw children playing outdoors as soon as the weather started to get warmer. The social interactions seemed to grow week by week as more neighbors were sitting outside in the common

garden, talking, having drinks together and simply enjoying the good weather. At some point residents preferred to be interviewed outside in the gardens where we were included in continuous interactions of residents. One resident, who is also part of a working group that organizes guided tours for interested groups, describes this as the following:

“One of my neighbors describes it as the camping feeling, because the gardens [...] aren't closed off, you see each other more, and you at least greet each other while passing [...]. We also have [...] created these places where you can sit together so one person comes out with a beer and another thinks "oh that's a good idea" and he joins and the next one joins and then maybe in our App group we will have [a text] [...] like "come and join us, we're having a beer in the garden", and then some more people will come.”

As practices can play an important part in the creation of a sense of community (Blokland, 2017), environmental practices in the community of *De Kersentuin* are of essential meaning for the residents. The gardening activities in the common garden are of particularly important significance for the residents, as one core member of the garden working group explains in response to questioning the importance of practices and activities:

“Very important, very important. I think one of the most bonding activities is the gardening, because it's a big group that gardens and you see the results immediately, so you get proud and happy when you see how nice the gardens are and other people appreciate it, too, people that don't like gardening but like the gardens. I think it's very bonding.”



Figure 12: Residents working in the garden (De Kersentuin, 2018c).

Due to a shared interest in gardening and protection of natural resources (Flint, 2013; Videras et al., 2012), a working group of about 15 people was founded in the beginning that is in charge of the maintenance of the common garden.

One resident finds the garden activities most important in maintaining social relations as it “makes people meet, stop and talk and laugh”. Additionally, people take care of each other’s property which includes little private gardens in front of the residents’ houses.

The garden is used for different practices fulfilling several functions. First, for residents with a strong interest in gardening, they are able to adopt parts of the garden to work on in their free time, aside from the big gardening days. Second, it serves an educational function. While I was helping in the garden, a little girl about ten years old joined the activities to learn about the plants and how to garden. Participation in these practices can strengthen the children’s’ connection to nature (Sanguinetti, 2014). This educational function can also be described as a self-learning effect for the residents where they learn about gardening skills and the different natural environments. This includes myself, as I learned about native plants and improved my gardening techniques. Third, it can be used as a meeting point for interaction (Fennell, 2004) where residents meet, relax and where children can play. Residents automatically spend a certain time in their garden and put a certain amount of effort towards its maintenance. However, the environmental activities and practices can be enriching for every single resident in addition to their other duties (Jarvis, 2011).



Figure 13: Walking path through a common garden (De Kersentuin, 2018b).

The residents of *De Kersentuin* are visibly proud of their garden as they fought for it against the municipal urban development office to make it different than the usual municipal design. Thus, it acts as a status symbol for the residents (Ruij, 2015). Before the start of a gardening event, three residents were very eager to show me the differences between a city-owned property garden and theirs, so we walked a few hundred meters to look at a perfectly mowed meadow with three trees before getting back to the garden of *De Kersentuin*, which in contrast provides a full variety of native plants, bushes (partly with edible berries) and trees, as well as different themes for every part, including a herbal garden, a bird garden and the like (see figure 13). Residents feel proud and empowered by their environmental behavior as described by Bamford (2001) and Jarvis (2011) and are happy to share this feeling with others as they are constantly working on it and wanting to improve it. A resident who was involved from the beginning proudly refers to the multiple functions of the garden:

“[...] one of the things we [...] proof is how much you can do in a very small area, because we have playgrounds, we have meeting places, we have places to relax, we have places which are really maintained with meadows and with mowing every week but we have also a kind of wild nature where the nature goes its way and the only intervention is only limited. We have [...] theatre, we have even a small forest, we have a lot of small and bigger fruits, so that there is so much variety, multifunctionality possible in a very small area which I think is proven very well here. “

The privately owned space is also mentioned as an interaction space but it's mostly used for smaller rounds and meetings with closer friends, e.g. dinner clubs or barbecue evenings. Additionally, residents of *De Kersentuin* sacrificed more of their private space and reduced the size of their private gardens in favor of a bigger common garden area which confirms former results of the literature (Bamford, 2001; Ruij, 2015). One resident confirms that “central places” are more important “than where your entrance is or where your garden is.”

Informal interactions are specifically connected to the public spaces and the proximity of the neighbors (Fennell, 2004; Hasanov & Beaumont 2016; Jarvis, 2011; Löw, 2015). The common spaces enable people to spontaneously meet while walking through the neighborhood and establish a regular contact between each other through these informal meetings. However, informal as well as formal meetings are encouraged and given the space to happen through the interaction spaces inside the community, namely the gardens and the project house. If there are bigger events happening like the annual “summer fest”, interaction can also be combined with activities happening in all spaces at the same time.

6.3. The creation of symbolic spaces through shared interests

Social cohesion can occur outside the boundaries of physical space. Space can be actively created through the different offers of activities, events and practices. Shared interest and the initiative of the residents can lead to a common event or activity that provides a newly create space for exchange. I call this space symbolic space as it represents the shared interests of the residents, e.g. the enjoyment of music in the amphitheater during a Sunday morning concert (see figure 14). Through these shared interests the interaction space, e.g. the project house, is given a new meaning and role.

Residents participate in the activities where they possess a certain amount of intentionality and where they can share these with other residents (Hasanov & Beaumont, 2016). Additionally, residents need to be open to share their interests with others and let other residents take part (Sanguinetti, 2014).

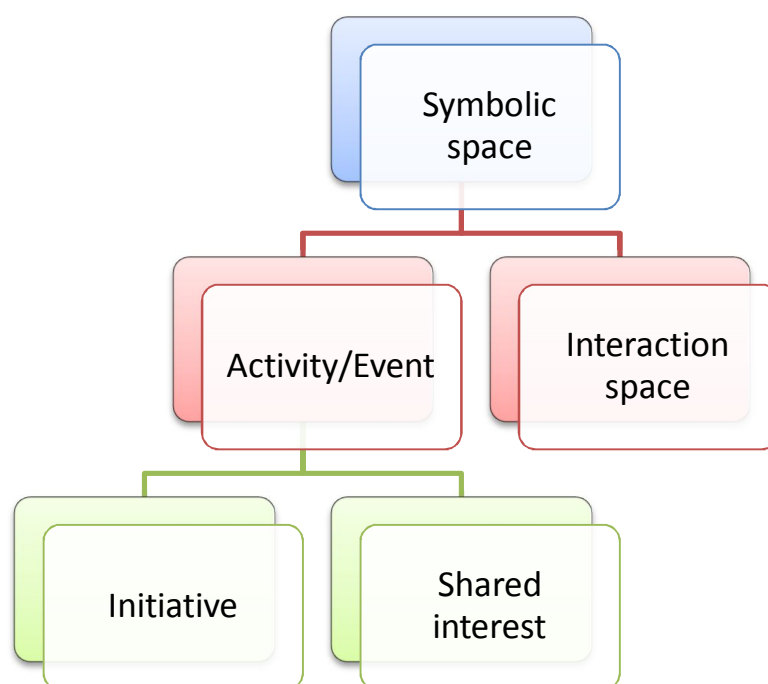


Figure 14: The creation of symbolic space (own creation).

The variety in community-based activities and practices leads to a higher well-being among residents as they are able to find the practices they enjoy and which they can share with their neighbors (Blokland, 2017; Hasanov & Beaumont, 2016), as a resident explains:

“I think that really keeps the community together and the fact that there are different kinds of activities also show, also gives an opportunity for people with different interests. Because not everybody is interested in gardening or not everybody is interested in music, sometimes they have something with books or something like that, so the variety makes that people can participate in the things they like, they can choose.”

Furthermore, all activities and events not only enable people to practice what they like but also provide the space for interaction and exchange. This could be observed at one of the passion night's on a Friday evening. Before, after and during the break of the program, the residents were highly interactive with each other. It often seemed like they could not wait for the break to get up and talk to their neighbors and exchange their stories, especially with residents that they haven't seen in a while. The events and activities give residents the chance to interact with neighbors that aren't that active in other activities and rather only visit specific types of events.

Nevertheless, activities and events are also able to establish a separation between the groups of residents as the activities and its symbolic spaces often attract the same group of residents which develops a closer social cohesion in itself than to the outside. A resident explains these concerns:

“I guess there's like this core group who [...] really want to keep the rules and try to judge others. That's something I don't like and that's also a reason I'm not often at the coffee group because they sometimes talk about other people when they're not there. Sometimes people are in my view a bit too willing to talk about people who are not there and I don't think that's a good idea.”

Residents need to be aware that events and activities are capable of separating different groups that might develop closer interrelationship towards themselves and more skepticism towards outsiders. This inner segregation must be controlled and counter-acted over time to ensure the inclusion of non-participants or less active residents and promote solidarity inside the whole community.

6.4. Sharing space with the outside

As the creation and building of a community mainly happens inside the project (Douglas, 2010), the space of the cohousing initiative is also open for outsiders and non-residents. This is evident as the pathways and common gardens through the project are public space and usable by every person, resident or not. By inviting neighbors and outsiders to their events, the residents are engaging them in their practices, their usage of space as well as build connections to the outside of the community (ibid.). Through visiting several events in the evening, e.g. a passion night or a remembrance evening, I was able to see the interaction of residents with outsiders that are visiting the project. Residents aim to inform outsiders about their project and show them how their community works. This is also

evident through the guided tours by a few residents that show interested groups and people around. The residents are proud of their project and want to share it with the neighborhood around the project and other interested citizens. At some events, more than 50% of visitors were non-residents. One visitor explains that he regularly uses the pathways through the project and already knows a few people inside. Through the open blackboard outside the project house he finds out about the specific events and knows that the residents would welcome him. During the events, the residents seemed excited to see new faces and didn't hesitate to introduce themselves and become social. During the interviews, residents often mentioned that they fear to become too isolated from the surrounding neighborhood around the project and are always aiming to invite outsiders. There exists a mailing list for non-residents so they can be regularly invited to events and activities. An elderly resident explains how the relation to the outside neighborhood began and developed over the years:

“Well, we tried to influence the surrounding streets, we always invite them if there's something happening here, [...] like a concert or whatever. But in the beginning, [...] I had the idea that we more pushed the people away than they were influenced by us. They found us holy and arrogant, I think. But we tried not to, but yes, the general attitude when you see someone who says you shouldn't do that for instance, that can be awkward for the other one, so I don't know if we are accepted now but I don't think that they are very frightened of us in the surrounding areas, I don't know.”

This statement illustrates that residents are still not entirely sure how they should handle the relationship with the surrounding neighborhood and if they are fully accepted by them. *De Kersentuin* represents a special and innovative project and some outside neighbors might have mixed thoughts about it. However, most of the residents are trying to be open to non-residents and make them feel welcome in the community as to not be seen as an isolated or ignorant group that rather remain enclosed. Regarding integrated outsiders, I was able to meet non-residents that are regularly welcomed at the project and seemed already highly integrated without living in the community themselves. There are the two gardeners of the hired garden company that help the residents for about 15 years already. They are present almost every gardening day and advise the residents in gardening design decisions. Another example is an elderly neighbor who also comes every gardening day as he enjoys the practice of gardening so much, where he is already noted on the attendance list of the gardening day. These integrated members show that if you are open towards the community, they are happy to welcome you in their project even if you do not reside within the project itself.

Contact with the outside allows a shift of focus from the immediate community to a larger scale perspective. It is important for residents to remain open minded towards outsiders as they are able to bring in new ideas and input residents can learn from.

6.5. Conclusive thoughts on the importance of place and space

The satisfaction regarding facilities and buildings contributes to a better social well-being as well as a possible higher degree in participation (Mannarini et al. 2017). However, the building structure does not appear to be a key element to produce a sense of community as Ruiu (2015) proposes. The interaction space and the creation of symbolic space give residents the chance to use these spaces in specific ways so that they are able to share their interests with other neighbors and outsiders. In this way, the space of *De Kersentuin* incorporates the common values and practices of the community. Additionally, sharing the own created space with people from the outside is important for the residents to prevent isolation from the outside world. As the literature was unclear about the specific importance of the physical infrastructure of cohousing communities (Bamford, 2001; Bouma & Voorbij, 2009; Butot, 2017; Hasanov & Beaumont, 2016; Ruiu, 2015; Sargisson, 2012), this research sheds light on its actual importance and the relevance of the physical appearance of cohousing projects by defining the terms of interaction space and symbolic space and emphasize the blurred nature of these spatial boundaries as well as the need to share the space with outsiders.

7. Time and its relevance to a sustainable community

The relevance of time and temporal perception in sustainable communities has been very little researched in comparison to other prominent themes. Only Jarvis (2011) referred to a relevance of time scope in community projects. While the theme of time did not seem extremely relevant at first, it was recurring as the project continued and it eventually became evident that time is in fact a prominent theme in this project. The effects of time and its role within a sustainable community were examined with the notions of sustainability (3.2), community as shared practice (3.3.2) and sense of community (3.3.3) described in the theoretical framework in mind.

7.1. Environmental and societal sustainability

Previous research links the idea of sustainability and environmental awareness with the social development in a community (Butot, 2017). During the research in the community, residents often referred to an environmental and a social dimension of sustainability. When the first residents-to-be met in 1996, there existed two groups of citizens which were brought together by the municipality to create a housing project together. One group focused on a social living space together and the creation of a supporting community, while the other focused on creating a community that promotes environmentally friendly behavior. For both these dimensions, sustainability plays a role in the forms of environmental sustainability and societal sustainability (Kaplan et al., 2017; WCED, 1987). These two dimensions overlapped as residents from the social group brought in already existing environmental awareness whereas the sustainable group also wanted to form a community with a more social characteristic. During the interviews, most interviewees stated that environmental sustainability was very important in the beginning as the buildings were designed to ensure energy efficiency. As this dates back 15 years, residents nowadays put more emphasis towards the social dimension, but refer to the idea of environmentally friendly behavior as a “nice addition”. A resident that came here for social reasons states this as such:

“[...] well to be honest, when we looked at houses, we didn't really take that [environmental sustainability aspect] into account [...]. I think it's very nice that we do have it. It makes me feel good and we do something for our environment, but for me personally, it's less important than the social part.”

Many interviewed residents made similar statements. Residents feel environmental sustainability is stable in the community as all the technical innovations were installed, while the societal sustainability requires active, ongoing maintenance. Although they didn't actively choose for an environmentally sustainable agenda in their neighborhood, they are accepting it as they behave generally environmentally conscious and try to live as environmentally friendly as possible.

Therefore, Flint's (2013) argument that the creation of a sustainable community is purposely designed around an "eco-centric" (p. 60) ideal can't be fully confirmed through the statements of the residents.

Regarding societal sustainability, the residents demanded a more social environment (Mullins & Moore, 2018) which combines the key concepts of interdependence, equity, cohesion, age-integration and well-being (Kaplan et al., 2017). *De Kersentuin* is able to fulfill these needs and to create Tummer's (2016) idea of a laboratory of social interaction to practice the social relations the residents want. For them, the social cohesion and its ties are very important to their idea of living in this community as one resident explains:

"[...] It feels safe and it feels like a family I think, [...] you have so many social contacts here, [...] you can find everything here in our two streets and for me that's great, because it's difficult when you don't have a car, it's difficult to drive to friends [...]. So my family, I don't see so many times because they live too far away, but it's okay because I have my second family right here."

People with less family ties particularly enjoy the family-like atmosphere inside the community. Residents explained how they like to make connections with neighbors and one resident explains the varying depths of relationships:

"[...] If I had to be friends with 200 people or a hundred people I would have become mad. For me, that wouldn't work, [...] that's impossible. What I like here is that you that you have the opportunity to have connections on different levels. So some people [...] have become like friends, others occasionally, you have something together, a feeling of connectedness, others you almost never see or you're not really interested in , [...] it's those different levels. There is not an obligation to be friends with everybody."

Due to the size of the project, residents are able to choose with whom they become close friends with which most of the interviewed residents see as advantage. Some residents feel it's impossible to be friends with everyone, as the number of residents makes it difficult to even know everyone's name.



Figure 15: The contribution of societal and environmental sustainability to De Kersentuin (own creation).

Regarding the interaction of environmental and societal sustainability, both of these dimensions are important in a successful sustainable community project (See figure 15), as one resident explains:

“I think that’s also one of the reasons why our project is very successful, the combination of technical sustainability and social sustainability; those are the two biggest items for this project. And I think in combination, [this] makes us successful. “

Environmental values, the garden activities and other green behavior enhance the social contact and foster interaction. Additionally the garden as a common environmental area provides the space for societal sustainability practiced in this common space. On the other hand, social cohesion is needed to execute environmental task, like the installation of technical innovations or the gardening. Without social interaction and collective action, environmental practices wouldn’t be maintained and the community risks degradation.

7.2. Created Timescales

Time plays a significant role in the organization of living in *De Kersentuin*. There exist four key types of created timescales: Regularity, daily practices, individual time scopes and seasons.

Regularity describes events, activities and practices that happen on a regular basis and are actively planned by the residents. In this context, formal interaction which is actively put in a timeframe to ensure regular social interaction is the used form of interplay. Formal interaction includes all organized and initiated events by the residents as well as private meetings and invitation of smaller friend circles (Lietaert, 2010), like the weekly coffee mornings or the gardening activities. It also can define an effective strategy to engage residents that aren’t that active and need to be triggered to participate in activities.

Regarding specific events and activities, the regular gardening activities are often mentioned by the interviewed residents as a main activity to promote social cohesion which functions as the “social glue” of the community. A resident describes the regularity of this activity as a reason for its high value to social cohesion:

“[...]I think the mornings for gardening are very important in that, because it's regular, it's every 2 to 3 weeks [...], we usually have 14 times with the gardening and you know, a lot of people chat with each other, they meet each other, they, of course come to work also but they come also for the social interaction, and sometimes [...], in the beginning, I was like tell people just to work a little because they are just talking, you know (laughs). Well, actually this is one of the important things of it, it's not only to get the work in the garden done, but also to chat and to talk and to share, [...] there is a lot of personal sharing.”

Regular events can also change and develop over time. An example is the development of the Wednesday coffee morning which is held every Wednesday from 10.30am to 12pm. It was established in the beginning as a former resident started to go to the project house every Wednesday to make coffee. Residents slowly found about that and started to join him as they knew he was in the project house making coffee anyways. After the responsible resident stopped going there on Wednesday mornings, residents wanted to keep this regular meetings and after a lot of misunderstandings and miscommunication a schedule was created about 5 years ago to clearly organize coffee mornings and identify a responsible volunteer each Wednesday to make coffee and assure that at least one person will be present. This example shows how important regular activities are for the residents and that they take initiative to preserve these activities by the creation of schedules and timeframes (Flint, 2013).

Daily practices are defined by spontaneous meetings and interactions of the residents. This also includes the share of goods, tools, knowledge and support (Butot, 2017; Lietaert, 2010; Wenger, 2011). Daily practices help to learn and understand the life inside the community. Residents also referred to learning as growing knowledge together on how the life in *De Kersentuin* works and can be developed. The daily interactions occurring in *De Kersentuin* can be described as informal interactions which can be considered “practices of engaging and connecting” (p.539), as described by Douglas (2010), and are defined as spontaneous meetings and get togethers that aren't planned in any way (Sargisson, 2012). Regarding misunderstandings or disputes under each other, automatic daily interaction can be a chance to actively work out problems among residents as an ignoring and anonymous living next to each other is often not possible in this community. Relations must be constantly maintained between individuals to improve the social cohesion and the sense of connectedness inside the group as residents take actions to resolve problems between each other

(Blokland, 2017; Healey et al., 2009). Daily interactions are specifically important to avoid separation between residents as they are not bonded to activities and shared interests where people are able to develop deeper social links and might exclude others. Additionally, non-active residents have a higher chance in engaging in spontaneous, informal interaction than in planned activities.

Individual time scopes are defined by the time needed for an individual to develop an understanding for processes, functions and characteristics of the place, time and organization (Healey et al., 2009). Jarvis' (2011) "infrastructure of the daily life" (p. 573) evolves over time to establish a fruitful community and coexistence with each other. Constant social interaction must be learnt and individual boundaries must be set (Butot, 2017; Jarvis, 2011). A good example is a residents' story about her interaction with her neighbor and the sharing of a pond in their back garden:

"[...] It works out very well. [...] In the beginning, we happen to have both or the three of us the wish for a pond, so we combined the wished and we learnt to work together and think together and now we're close friends. It took some time, but we wanted to do this. I'm a very different character from my neighbors and it cost some time and trouble to come together but it works."

Another important example is the story of an elderly resident and the development of her relationship with another resident:

"I had a friend here, who separated from her husband [...]. I didn't have any money to help her, she worked a couple of hours and that was [...] too little. So I said: "Well, you can come eat with me for one day with your daughter, and that's the only help I can offer you", but [...] we still do that now, and that's I think eleven years ago or ten years ago or something. So we still eat Friday together, and she doesn't need it anymore but [...] because we are friends."

These two examples demonstrate how relationships can develop and interpersonal boundaries can shift through constant interactions and the connections of individual life paths with your neighbors (Jarvis, 2011).

Seasons play a significant role in the community as in the warmer seasons, as one resident explains: "[...] especially in the summer, when [...] everyone is coming out of their nests [...] and interaction is going on, they're all kind of sitting somewhere together".

Summer offers a larger breadth of practices within the community. During the warmer seasons, the garden is more frequently used for interaction and activities and more possibilities exist to meet and interact with the neighbors. Nevertheless, activities can also take place in winter, e.g. a pub quiz in the project house. As one resident explains, winter is more used to meet with the closer friend circle inside the private home for smaller evenings and events on a more interpersonal basis. However, season does not necessarily refer to times of the year. It can also be linked to self-created seasons like the gardening season which is used by the residents to introduce activities and events that are not happening all year around.

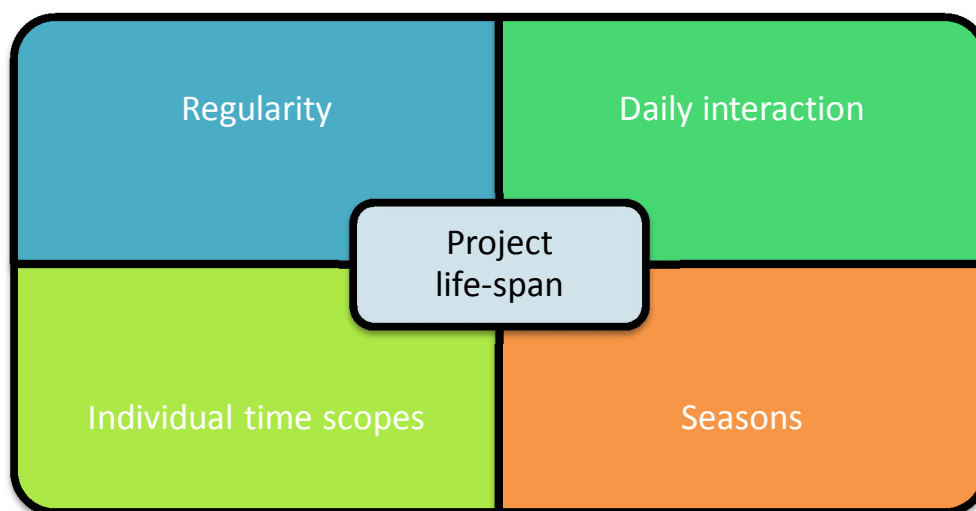


Figure 16: Created timescales in *De Kersentuin* (own creation).

Residents realize that they have to individually develop with the time and accept that activities, members and ways of interaction can or must change to keep the community going and improve or maintain the social cohesion (Douglas, 2010; Wenger, 2011). The different timeframes can influence the outcomes and the development of the social cohesion inside the group (Douglas, 2010). However, the longevity and life-span of the project itself presents the most important temporal scale as it defines the base of other temporalities inside the community, like regular events, cleaning sessions or gardening seasons (See figure 16). The project of *De Kersentuin* created its own life cycle which residents try to keep up, as explained in the next section (Flint, 2013).

7.3. The underestimated factor of age

Regarding the longevity of *De Kersentuin*, the community has a much smaller turnaround rate of dwellings than the rest of the city of Utrecht. This shows that people who like to live in *De Kersentuin* prefer to settle down and demonstrate a long-term commitment inside the project, as they invest more time and effort than an individual would in a usual urban neighborhood. Therefore, the societal

sustainability elements of age-integration, interdependence and equity need to be examined on a temporal scale as they define key elements of cohousing (Kaplan et al., 2017; Lietaert, 2010). Residents in *De Kersentuin* see societal sustainability also in terms of a long-lasting community and realize that a demographic change could threaten the survival of the project. The process of a demographic development appears only in long-lasting communities as the long-term survival becomes a more important topic over time.

Social age structure in <i>De Kersentuin</i> in 2016 (in %)		
Age	<i>De Kersentuin</i>	The Netherlands
0-17	36	30
18-24	5,3	5,2
25-54	44,7	53,7
55-64	10,7	6,1
65+	3,3	5
Total number of inhabitants: 244		

Figure 17: Social age structure in *De Kersentuin* in 2016 (numbers provided by *De Kersentuin*).

While the project of *De Kersentuin* already exists for almost 15 years, the residents are still comparably young with the highest number of residents between 25 and 54 years old (see figure 17). Nevertheless, the residents of *De Kersentuin* are aware of this risk of a future imbalance in the demographic development (see figure 18) and try to find solutions to extend the longevity of the project. A resident stated that the aging factor is considered a serious issue and even though residents are often joking about growing old together, they still don't know how it will turn out and what problems could arise. During the interviews, residents continuously mentioned an ageing demographic development as a possible reason for a declining participation as people get less motivated to organize big events and activities.

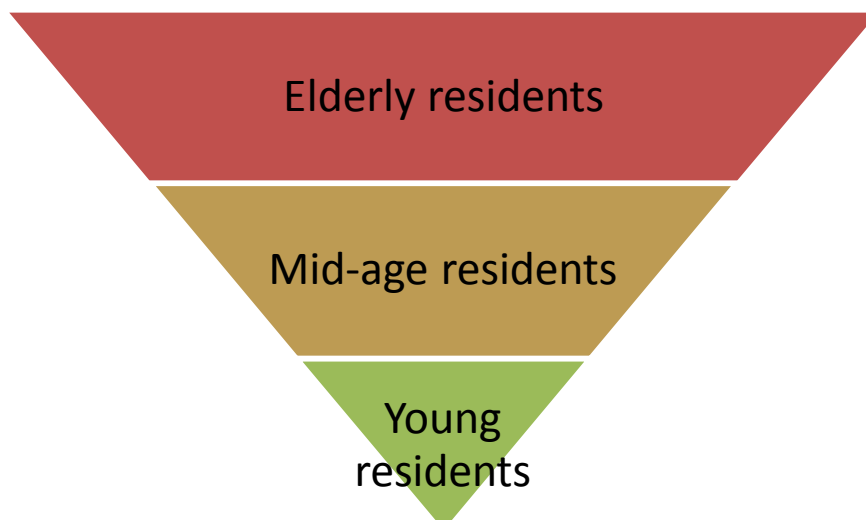


Figure 18: Future projection of the demographic development in *De Kersentuin* (own creation).

As a healthy mix of young and old residents is important for the social cohesion and the key elements of equity and well-being (Flint, 2013), a constant aging community can imbalance the social development. Therefore, an ongoing commitment of old and especially young residents must be assured (Butot, 2017; Sargisson, 2012; Tummers, 2016). Residents regularly mentioned that the elderly generation in the community is needed and that this group is highly appreciated and supported by the younger generation, as one resident explains:

"It's also important that we have old people here. And we take care of one another. Especially if necessary, if people get ill or have problems or can't do their shopping anymore or whatever, all the people start helping. "

The knowledge and experience of elderly people is highly valued in the community and the support for the elderly and disabled residents is very impressive (Hasanov & Beaumont, 2016; Zamora et al. 2016). A confirmation of this is the construction of a pathway that a few residents built to make the balconies handicap-accessible for its residents. Another elderly resident is very appreciative for the support she received from the other residents which disburdens her children. The shared support inside the community is challenging the idea of anonymity and loneliness in urban areas and creates a family-like feeling among the residents (Lietaert, 2010). However, this current described situation of mutual support will be challenged by a growing number of elderly people in the community and more people that will need the help and support of the younger generation in the future.

As several authors (Blokland, 2017; Flint, 2013; Hasanov & Beaumont, 2016) refer to the importance of ongoing practices, the constant share of intentions and an active communication to create a sense of community, the concern arises: what happens if residents become too old to participate or organize events and activities? Elderly people tend to stay in more often and can be less present in the community which results in less participation. For example, an elderly lady coming to the project with mobility restrictions that prevented her from participating illustrates this problematic development. She arrived in *De Kersentuin* and was already too old to interact a lot and integrate good enough to feel at home. She missed the years in project when she could have been highly active and created deeper connections with other residents. As she turned older, she didn't have the friendships needed to ask for help and support. This resulted in her isolation from activities and events and she left the project four years after arriving. In contrast, the current oldest member of 81 years arrived with the first group 15 years ago and had the chance to be active and make deep connections with the other residents. She invested a lot of time and effort in the community and the residents appreciate that now by supporting her however they can. It seems that in the community, a principle of give and take was established and residents feel more comfortable in supporting each other when deeper connections grew over the years and people are more invested in the project.

As for younger residents, a 21 year old student explained that there exists an age gap between people under 25 and the generation of their parents. All her older brothers and sisters moved away as they didn't see their future in the project. *De Kersentuin* can be seen as a place to settle down and younger people have not yet developed this desire. However, by growing up in the project, a mental connection still exists that may influence the younger people to return to the project at some later stages in their lives. It is possible that residents only consider this form of living in a certain stage of their lives, probably around 35 years of age, when they feel ready to settle down.

A resident explains the meaning of longevity for the residents and the need for new families to move in and secure the survival of the project:

"Grow old together. Yes, that's very important, because last year we had quite a number of people changing houses and all the people who came back were older couples or single persons and we were very excited that at this house, next to me a family with four children is coming [...], otherwise we would not have young children anymore and indeed, we will grow old together, so we're happy to have a young family again. "

Residents are responsible to ensure an active participation of every member in the project and maintain social relations through a continuous commitment (Butot, 2017; Flint, 2013 ; Sargisson, 2012; Tummers, 2016). Several activities from the beginning disappeared slowly by time as fewer residents take part. Either way, residents are aware of a fluctuating participation of residents, as one interviewee explains:

"It waxes and wanes. I mean, recently, there were complaints that there is less energy and that, but new people have come with their energy, [...] when there was a gardening day, at least 30 people showed up, and there are new ideas and, it waxes and wanes, and I think I'm quite optimistic about how we can carry this forward."

In order to ensure an active participation and especially a long lasting and sustainable community, two main processes are of high importance in the development of a cohousing project: the planning process which is essential to already create a connection between future residents and the integration of new and non-active residents to fight the demographic development in the community.

The process of planning together defines an essential component of cohousing (Czischke, 2018; Lietaert, 2010; Ruij, 2015). A participatory process in designing the own neighborhood can lead to closer interrelationships, foster solidarity and mutuality as well as more acceptance between future

residents (Mullins & Moore, 2018; Sanguinetti, 2014; Tummers, 2016). Furthermore, a collective physical design process promotes a sense of community and a common idea to follow through the whole process as well as a sense of connectedness towards the project to avoid a tragedy of the commons (Butot, 2017; Olson, 1965; Ruij, 2015). The first group of future residents which started to develop the project consisted of about 15 people and several more joining during the planning process. An inner circle was created that deeply connected the founders of the project as they spend several years meeting up, planning and discussing the project to which one resident referred to as “second job” and that confirms Jarvis’ (2011) idea of a “second shift”. Most of the initiators are still accounting for a big part of the most active residents. Other residents are really thankful towards the initiators group investing their time and effort to develop the project. A resident describes this in her feelings about the neighborhood to the question what she finds special about *De Kersentuin*:

“Well, the fact that the inhabitants built it together, that this is really our, this is our neighborhood, our little village within the city, and because this whole process of planning and what will we do and what can we do and all kinds of groups have been looking at the technical side of things but also the social side of things and how we could communicate together and what will be the rules of De Kersentuin this has created this tightly knit group. [...] They thought about everything.”

The effort invested by the initiators created a sense of connectedness and responsibility for the project amongst them that is able to last for decades as the example of *De Kersentuin* shows. The bonding experience of planning and their developed pride about the self-created motivates themselves as well as other residents to further invest in the project.

Integration is of high significance for the community as especially younger members and young families are important to ensure the longevity and survival of the project. Therefore it is important how new residents are being chosen so they fit in the characteristic of *De Kersentuin* (Arthuson, 2013; Evans, 2009). Additionally, integration does not only concern new members but also the integration and inclusion of other residents, specifically less active and more isolated members, into the active circle of the community. A resident explains this problem:

“I have my neighbor, she lives here, she chose it because of the social contact, but she’s not active, 15 years long. We can have some of those people but not too much, it’s a bit cruel to say but they lived on our energy and they don’t put energy in it, so you can afford some of those people but not too much because then there’s no balance. “

No matter if new or non-active residents, the maintenance of social relations to ensure a constant commitment of the residents is very important in not losing contact between each other over time

(Butot, 2017; Sargisson, 2012; Tummers, 2016). A high participation and constant interaction is a must to keep up the level of social cohesion. A younger resident concludes that the longer a resident is “out”, namely not participating, the harder it is to get back “in” and stay integrated in the community.

As residents realize this problematic development of integrating new residents, they are constantly discussing possible solutions, including a buddy system to create links between residents and new members and regular meetings for new residents to learn about the values of the community and to ensure they can identify with the project. Residents want to avoid an exclusion of non-participants or new residents and try to actively find ways to engage these.

New residents also play another significant role in the development of the project as they bring in new motivation and enthusiasm. There exists a long waiting list for new residents that want to join the community. Through a membership and active participation, the applicants can show that they have a high interest in living in this neighborhood and seek for an integrative community (Sargisson, 2012). This process helps to make applicants understand the value and long-term goal of the community and the commitment and time they have to invest if they want to live in *De Kersentuin* as a basic willing to integrate and socialize is expected. Therefore, new members are usually very eager to integrate and participate in the community. However, a resident explains the risk if new residents are not able to accept the common values of the project:

“If you think it's just a nice house and not too expensive and there's a garden, that's not what we are aiming for. That's not the kind of people we really want here, because if the people, some people here live apart from De Kersentuin, they have a house and that's it and if you have too many of those people you can't have a community, don't work. The work won't be done and the bonding will stop and the thing will disintegrate.”

In the interviews, residents recognized the relevance of motivated new members as they mostly know about the practices and are eager to get involved, take initiative to participate in the project and “lift up the spirit of the whole community”. Residents referred to their idealistic views and a new energy that is brought in and present older residents with good examples to become more engaged and motivated again. One elderly resident describes it as “comforting” to know that new members often have the enthusiasm to create a new atmosphere of excitement. The residents acknowledge the need for new members regarding the age development of the community and those new residents could consist of families with younger children who lower the average of age in the project. New members are especially welcomed if they move into empty homes or replace other residents that weren't very active or less integrated.

The demographic development is an issue researchers are less aware of as it only occurs in long lasting communities. Similar as bigger European countries, like Germany, Denmark or The Netherlands, an aging society can also threaten the function of small scale projects. However, it is important to acknowledge this development and to combat it through different processes like the integration of new residents and the establishment of a mixed and sustainable age structure. Residents are actively working to sustain the community and preserve it for future generations, which was demonstrated by a time capsule the resident buried in one of the common gardens during their annual summer fest to dig it out again in ten years.

7.4. Conclusive thoughts on time and its relevance to a sustainable community

Aside from the notion of sustainability which already incorporates the dimension of time, only Jarvis (2011, 2015) actively acknowledges the importance of temporal scales in the formation of a community. Time and the different temporal dimensions became one of the major themes of this research as these define the boundaries of practices, activities and social interaction. Time thus acts as a factor of organization (created timescales), development (sustainability) and risk (age development) for the cohousing project of *De Kersentuin* and the creation of a sustainable community.

8. Conclusion

8.1. Conclusions and suggestions

This thesis examined the ways in which the characteristics of the sustainable cohousing project *De Kersentuin* in Utrecht were able to create a sustainable community within the last 15 years. The purpose was to examine the characteristics and practices of an established cohousing community in the Netherlands that appear to create a successful and different form of urban living to counter the current developmental trend of anonymity, pollution and excess consumption of space in recent urban development (Lietaert, 2010).

Despite the pre-defined building structure set forth by the municipality, the residents of *De Kersentuin* created a physical appearance that enhances formal and informal interactions as well as a sense of community, as explained by several authors (Lietaert, 2010; Mannarini et al., 2017; Mullins & Moore, 2018; Sanguinetti, 2014; Vestbro; 2010). The building types were wisely chosen to ensure a certain degree of social mixture in the neighborhood. Additionally, the component of a mixed tenure structure and its dissolution in the building structure creates a form of equality among residents and supports the overarching value of egalitarianism in the project (Arthuson, 2013; Shaw, 2012). The two common areas, namely the gardens and the project house, provide the space for all the needed activities and practices and serve as interaction space for residents (Fennell, 2004). The garden area is of high importance in implementing the notion of environmental sustainability within the community (Flint, 2013; Videras et al., 2012). Additionally, the transformation of interaction space into symbolic space allows residents to fill the space with common intentionalities of the community and exchange and share their values through active interaction (Butot, 2017; Hasanov & Beaumon, 2016). This interaction is influenced by the relation between private and public space which remains blurry and hard to concretely define. The common areas were purposely made larger and the small private gardens are considered “semi-public”. The flexible physicality of the cohousing project is a crucial characteristic as the public sphere can be extended until inside the own four walls. This aspect of the project creates a closer link between the residents and a family-like atmosphere of trust in the neighborhood (Bouma & Voorbij, 2009; Lietaert, 2010).

The physical structure of *De Kersentuin* plays a bigger role in influence a sense of community than first expected. Specifically the transformable boundaries between public and private are crucial for the social cohesion in the project. Regarding sustainability, the environmentally sustainable aspect is highly emphasized by the use of the garden and is able to create a sense of sustainable community by combining social interaction and environmentally friendly behavior.

As mentioned earlier, due to the results of this research, the concept of sustainability had to be newly defined into the two terms of environmental sustainability and societal sustainability (Kaplan et al., 2016; WECD, 1987). Environmental sustainability describes the idea of environmentally friendly and energy efficient behavior which is an essential part in most cohousing communities (Bamford, 2001; Lietaert, 2010). I put more emphasize on this dimension of sustainability, but perhaps surprisingly the societal aspect played a much more important role for the project than I expected. This societal dimension includes several key aspects and sets the focus on social cohesion, the formation of a sense of community and longevity (Kaplan et al., 2016). Longevity also includes the factor of age which is highly underrated in current literature concerning cohousing. The demographic development in long lasting cohousing communities can become a factor for the project to collapse when the residents' average age will become too high to participate regularly or care for each other. *De Kersentuin* is actively engaging against this, specifically by integrating new, younger residents, preferably families with children.

Time plays a significant role in the development of a sense of sustainable community (Jarvis, 2011). Sustainability needs to be defined in its dimension (environmental; societal) and also the timescale it refers to. The creation of new timescales is an important result of this research as four main elements could be examined which are underlying the main timeframe of the cohousing community: Regularity, daily interactions, individual time scopes and seasons. The created timescales and the sustainable dimensions help the residents to define their time and understand and plan their own development and aims inside the community.

The three key elements of this research (space, time and inner structure) are able to produce additional value to the existing literature in the field of sustainable community-building, cohousing projects and create a new sense of perception of cohousing by redefining existing concepts and applying them in a new context. The three components can shape a sustainable community for themselves but are the most effective if they are used in combination to successfully manage a cohousing project. In the early examined literature, many authors engaged with the examined dimensions like time (Jarvis, 2011) or place (Bouma & Voorbij, 2009; Hasanov & Beaumont, 2016) individually but overlooked to see them in the bigger picture. This finding creates an added value to the already existing literature on cohousing and sustainable community-building.

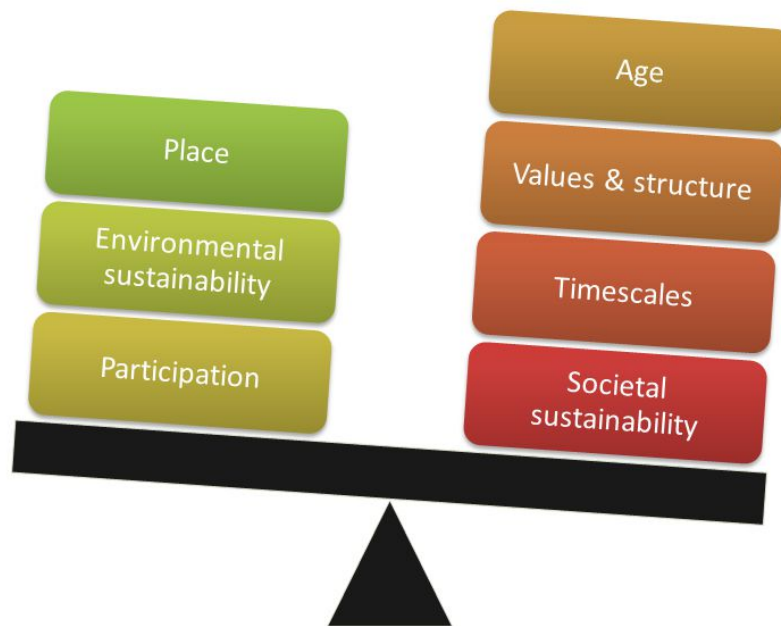


Figure 19: The balance of important characteristics for a sustainable community (own creation).

The capacity of management qualities among residents is a successful factor of this cohousing project (Butot, 2017; Flint, 2013). During the planning phase, the residents were aware of all the upcoming processes and managed to develop the community into a micro-level society. The professional management structure and the composition of the right social mix of residents create the basis for a long lasting development of the community. Other key factors of the success of a cohousing community are communication (Flint, 2013), persistency to the outside, common intentionality (Butot, 2017), general guidelines and rules (Sargisson, 2012) and shared practices (Blokland, 2017).

During the research, the question arose why there are not more cohousing projects like this. The residents of *De Kersentuin* gave and are still giving many guided tours of interested groups from all over Europe. However, no comparable project exists so far. This can be explained with the complexity and balance of all characteristics involved in this process (see figure 19), starting with a big commitment of seven years of planning. All mentioned characteristics in this research create a balanced out project that needs to fit in the specific context of the given environment. As soon as one of these characteristics weakens or is not given anymore, a project is destabilizing and its survival is at risk. This research gives an inside on factors that are needed for a successful community-building process, not only for cohousing project but all urban and innovative living projects that emphasize a more social and environmental living environment.

The residents of *De Kersentuin* created an ideal organizational structure and learnt how to manage the project on the basis of self-reliance, equality and common values (Butot, 2017; Flint, 2013). Additionally, a core of active people that regularly take the initiative to organize and manage is

essential so the degree of practices stays constant during the years and participation of residents is guaranteed. The balance of active and less active residents need to be carefully observed and analyzed to avoid problems in the development as too many people without the skills, the knowledge or the motivation to actively manage the community could put the whole project at risk. The majority of residents is highly educated and acquired a specific skill set of experience in the self-management process of the project. A project like *De Kersentuin* is likely to fail without a group of residents that share the persistence, knowledge, mentality and engagement as the residents do in this project. That's why cohousing project can't be seen as the panacea to all upcoming urban problems. It defines a niche and a small part of a bigger mosaic of solutions for a better urban living environment and can be an alternative for specific groups of people that share the same values and are willing to invest a lot of time and effort to call cohousing their home in the future.

8.2. Limitations and future research

As every cohousing project is different in many ways (organizational structure, location, physical appearance, social mix, size, etc.), it is important to note that these findings may not extend to other cohousing communities worldwide. This research demonstrates that, while different methodological approaches may be considered, an ethnographic research approach is a suitable method that leads to valuable findings and important conclusions. Thus, it would be beneficial for future research to use a similar, ethnographic approach as this provides the researcher with detailed information about the characteristics of cohousing projects. Regarding age, it would be interesting to examine the age structure of the community in regular 5 to 10 year intervals to learn more about the demographic development and the degree of participation of residents. In other words, a longitudinal examination of the cohousing project over several decades would be an extremely valuable addition to current findings.

This thesis put less emphasis on cooperation of residents with other stakeholders like the housing corporation or the municipality. These relations seemed crucial in the planning phase and the development of the project. However, they couldn't be fully examined due to the length of this thesis. It would be interesting to examine this relationship and the relevance of other parties in the development of a cohousing project in the future.

Moreover, the majority of residents were introduced via social community events or through other active residents, which may present a bias as some residents who were not interviewed who are less active may feel differently regarding social participation and the sense of community within the project. In addition, while this research has been extremely informative, quantitative and specific data regarding the residents, such as age, gender, ethnicity and socio-economic status, should be

included in future research as this would allow for better comparisons between researched projects in the future.

9. Bibliography

- Andersson E., Barthel S., Borgström S., Colding J., Elmqvist T., Folke C. & Gren A. (2014). Reconnecting Cities to the Biosphere: Stewardship of Green Infrastructure and Urban Ecosystem Services. *AMBIO*, 43: 445-453.
- Arthuson K. (2013). Mixed tenure communities and the effects on neighbourhood reputation and stigma: Residents' experiences from within. *Cities*, 35: 432 – 438.
- Bamford G. (2001). Bringing Us Home: Cohousing and the Environmental Possibilities of Reuniting People with Neighbourhoods. In: *Situating the Environment at the University of Queensland: Situating the Environment 2001 Conference Proceedings*: 36 - 43.
- Blokland T. (2017). *Community as Urban Practice*. Polity Press. Cambridge, England.
- Boeije, H. (2010). *Analysis in qualitative research*. SAGE. Los Angeles, California.
- Bouma J. and Voorbij L. (2009). Factors in social interaction in cohousing communities. Paper presented at the Proceedings Lifecycle Design of Buildings, Systems and Materials Enschede Conference, the Netherlands, June.
- Bruun M.H. (2015). Communities and the commons: Open access and community ownership of the urban commons. In: Borch C. and Kornberger M. (Ed.): *Urban Commons. Rethinking the City*. Routledge. New York: 153 – 171.
- Bryman, A. (2008). *Social research methods*. Oxford University Press. London, England.
- Buizer M. (2015). *Green Surge*. Utrecht, The Netherlands. Case Study City Portrait; part of a GREEN SURGE study on urban green infrastructure planning and governance in 20 European cities. Wageningen Universiteit (WU), The Netherlands.
- Butot V. (2017). *Doing co-housing. A practice-theoretical perspective on group-based citizen initiatives in housing production in the Netherlands*. Radboud Universiteit Nijmegen.
- Capital Value (2016). *Research. An analysis of the Dutch residential (investment) market 2016*. Capital Value. Residential Real Estate Services.
- CBS (2018). Population; key figures.
<https://opendata.cbs.nl/statline/#/CBS/en/dataset/37296eng/table?ts=1529405043011>
(19.06.2018)
- Czischke D. (2017). Collaborative housing and housing providers: towards an analytical framework of multi-stakeholder collaboration in housing co-production. *International Journal of Housing Policy*.
- De Kersentuin (2018a). Meer Informatie.
<https://kersentuin.nl/index.php/meer-informatie/> (02.07.2018)
- De Kersentuin (2018b). Home.
<https://kersentuin.nl/> (02.07.2018)
- De Kersentuin (2018c). *De Kersentuin* Facebook.
<https://www.facebook.com/Kersentuin030/> (02.07.2018)

De Kersentuin (2018d). Media.

<https://twitter.com/Kersentuin030/media> (02.07.2018)

Douglas H. (2010). Types of Community. In: Anheier H. & Toepler S. (2010): International Encyclopedia of Civil Society: 539 – 544. Springer. New York.

Dowling R., Lloyd K. & Suchet-Pearson S. (2016). Qualitative methods 1: Enriching the interview, Progress in Human Geography 40 (5), 679-686.

Evans S. (2009). 'That lot up there and us down here': social interaction and a sense of community in a mixed tenure UK retirement village. *Ageing & Society*, 29: 199 – 216.

Fennell A. (2004). Common Interest Tragedies. *Northwestern University Law Review*, 98(3): 907 – 992.

Fellini C. (2012). Challenges and way forward in the urban sector Sustainable Development in the 21st century (SD21). UN DESA. New York.

Flint R.W. (2013). Practice of Sustainable Community Development. A Participatory Framework for Change. Springer Science+Business Media, New York.

Forrest R. and Kearns A. (2001). Social Cohesion, Social Capital and the Neighbourhood. *Urban Studies*, 38 (12): 2125 - 2143.

Foster S.R. (2011). Collective Action and the Urban Commons. *Notre Dame Law Review*, 87(1): 57 – 134.

Foster S. and Iaione C. (2016). The City as a Commons. *Yale Law & Policy Review* 34: 281 – 350.

Frankenberg R. (1957). Village on the Border: a Social Study of Religion, Politics and Football in a North Wales Community. Cohen & West. London, England.

Gofen A. (2012). Entrepreneurial exit response to dissatisfaction with public services. *Public Administration*, 90(4): 1088–1106.

Gudeman S. (2001). The Anthropology of Economy: Community, Market, and Culture. Blackwell Publishing. Oxford.

Hansmann R., Mieg H.A. & Frischknecht P. (2012). Principal sustainability components: empirical analysis of synergies between the three pillars of sustainability. *International Journal of Sustainable Development & World Ecology*, 19(5): 451-459.

Hardin G. (1994). The Tragedy of the Unmanaged Commons. *Trends in Ecology & Evolution*, 9 (5): 199 – 199.

Hasanov M. and Beaumont J. (2016). The value of collective intentionality for understanding urban self-organization. *Urban Research & Practice*, 9(3): 231-249.

Healey P., de Magalhaes C., Madanipour A. & Pendlebury J. (2009). Place identity and local politics: analyzing initiatives in deliberative governance : 60 – 87.

- Janssen-Jansen L. (2009). The Kersentuin: environmentally friendly living in Utrecht, the Netherlands. *Sustain Fall/Winter 2009/2010*: 44 – 47.
- Jarvis H. (2011). Towards a deeper understanding of the social architecture of co-housing: Evidence from the UK, USA and Australia. *Urban Research & Practice*, 8(1): 93 - 105.
- Jarvis H. (2015). Saving space, sharing time: Integrated infrastructures of daily life in cohousing. *Environment and Planning*, 43: 560–577.
- Kaplan M., Sanchez M. & Hoffman J. (2016). *Intergenerational Pathways to a Sustainable Society*. Springer. Springer Science and Business Media. Switzerland.
- Kuhnert J. and Leps O. (2017). Die gemeinützigen Woningcorporaties in den Niederlanden. *Neue Wohnungsgemeinnützigkeit*, Springer VS, Wiesbaden: 187 – 212.
- Lietaert M. (2010). Cohousing's relevance to degrowth theories. *Journal of Cleaner Production*, 18: 576-580.
- Löw M. (2015). Managing the urban commons: Public interest and the representation of interconnectedness. In: Borch C. and Kornberger M. (Ed.): *Urban Commons. Rethinking the City*. Routledge. New York: 109 – 127.
- Mannarini T., Talo C., Ntzani E., Kritikou M., Majem L.S., Salvatore S., Warner L.M. & Brandi M.L. (2017). Sense of Community and the Perception of the Socio- Physical Environment: A Comparison Between Urban Centers of Different Sizes Across Europe. *Social Indicators Research*.
- Manley D., van Ham M. & Doherty J. (2012). Social mixing as a cure for negative neighbourhood effects: evidence-based policy or urban myth? In: Bridge G., Butler T. & Lees L. (Eds.): *Mixed communities: gentrification by stealth*. The Policy Press, Bristol.
- McCamant K.M. and Durrett C.R.(1988). *Cohousing: A Contemporary Approach to Housing Ourselves*. Ten Speed Press. University of California.
- Mullins D. and Moore T. (2018). Self-organised and civil society participation in housing provision. *International Journal of Housing Policy*, 18(1): 1 – 14.
- Olson M. (1965). *The Logic of Collective Action. Public Goods and the Theory of Groups*. Harvard University Press. Cambridge, Massachusetts.
- Pittini A. (2011). EXCHANGE: The Place of Inhabitants. Residents' Participation in Creating Sustainable Housing & Neighbourhoods. Special Edition May 2011.
- Ruiu M.L. (2015). The Social Capital of Cohousing Communities. *Sociology*, 50(2): 400 - 415.
- Sanguinetti A. (2014). Transformational practices in cohousing: Enhancing residents' connection to community and nature. *Journal of Environmental Psychology*, 40: 86 – 96.
- Sargisson L. (2012). Second-Wave Cohousing: A Modern Utopia? *Utopian Studies*, 23: 28 – 56.
- Savage M., Bangall G. & Longhurst B. (2005). *Globalization and Belonging*. SAGE. London, England.

- Seto, K.C., Fragkias M., Güneralp B. & Reilly M.K. (2011). A meta-analysis of global urban land expansion. *PLoS ONE* 6: e23777.
- Shaw K. (2012). Beware the Trojan horse: social mix constructions in Melbourne. In: Bridge G., Butler T. & Lees L. (Eds.): *Mixed communities: gentrification by stealth*. The Policy Press, Bristol.
- Slob A., Bolt G. and Kempen R. van (2006). Spatial knock-on effects of area-based urban policies: Practices from Utrecht, the Netherlands. Paper to be presented at the 14th ERS-congress. Volos, Greece.
- de Souza Briggs X. (1998). Brown Kids in White Suburbs. Housing Mobility and the many Faces of Social Capital. *Housing Policy Debate*, 9(1): 177 - 221.
- Temkin K. and Rohe W.M. (1998). Social Capital and Neighbourhood Stability: An Empirical Investigation. *Housing Policy Debate*, 9(1): 61 - 88.
- Tummers L. (2016). The re-emergence of self-managed co-housing in Europe: A critical review of co-housing research. *Urban Studies*, 53(10): 2023 – 2040.
- UrbiStat (2018). Municipality of Utrecht.
<https://ugeo.urbistat.com/AdminStat/en/nl/demografia/dati-sintesi/utrecht/23055682/4>
(19.06.2018)
- Urhahn (2018). Het belang van de encroachment zone, ofwel ‘het stoepje’.
<http://www.urhahn.com/encroachment-zone/> (01.06.2018)
- Vestbro D. (ed.) (2010). *Living Together – Co-housing Ideas and Realities Around the World.*: Royal Institute of Technology Division of Urban Studies in collaboration with Kollektivhus NU.
- Videras J., Owen A.L., Conover E. & Wu S. (2012). The influence of social relationships on pro-environment behaviours. *Journal of Environmental Economics and Management*, 63: 35 – 50.
- Wenger E. (2011). Communities of practice: A brief introduction. STEP Leadership Workshop, University of Oregon.
- Watt P. (2009). Living in an Oasis: Middle-Class Disaffiliation and Selective Belonging in an English Suburb. *Environment and Planning*, 41(12): 2874 - 2892.
- WCED (1987). *Our Common Future*. Brundtland Report for the World Commission on Environment and Development. Oxford University Press. Oxford, England.
- Zamora F.V., Kloseck M., Fitzsimmons D., Zecevic A. & Fleming P. (2016). Optimizing community support for the oldest - Old in age-friendly city development. *The Gerontologist*, 56(3): 163.
- Zareba A., Krzeminska A., Widawski K. & Olesniewicz. P. (2016). Green infrastructure practices- strategies how to sustain life in metropolitan areas. *E3S Web of Conferenes* 10, 00112.

10. Appendix

Questionnaire

Topics	Questions
General information	<p>Can you tell me about you and your story in <i>De Kersentuin</i>? (Why are you living in <i>De Kersentuin</i>? When did you come here? How was it? What did you know about <i>De Kersentuin</i>? Were you selected?)</p> <p>What makes <i>De Kersentuin</i> special?</p>
Social relations	<p>Can you describe your relations to the other residents living in <i>De Kersentuin</i>? (mixed tenure?)</p> <p>What do you think of the participation of others in activities? Do you see some residents more than others? Why?</p> <p>Did the social relations between neighbors change in any kind since you live here?</p>
Sense of community	<p>Can you describe your feelings when you think about this community and the life in <i>De Kersentuin</i>?</p>
Practices	<p>What kind of activities and practices are offered in <i>De Kersentuin</i>?</p> <p>What practices are you performing regularly?</p> <p>What activities and events are you usually take part in?</p> <p>How important do you think daily practices are in this community?</p>
Collective action/Participation	<p>What are the reasons for participating in this community?</p> <p>Did the volume of your participation change over time?</p> <p>Can you describe the management of the property?</p> <p>Does the participation in the community make you feel empowered? And how or why not?</p> <p>Do you think collectivity is important? Why is collectivity so important in this community?</p>
Sustainability	<p>What role plays sustainability and the environment for you?</p> <p>What role plays sustainability and the environment in <i>De Kersentuin</i>?</p> <p>Are there examples of how <i>De Kersentuin</i> can shape your environmental behaviour?</p>

	In what way does the environment create a connection between the residents? (collective value, all agree on sustainability)
Mixed tenure	Can you tell me about the different tenures in this community? Are there any positive or negative effects through the mix of tenures?
Physical appearance	Can you tell me about the building structure and the house/apartment you're living in? What role does the space and the set spatial boundaries of <i>De Kersentuin</i> play?
Integration	Can you tell me how you were integrated when you arrived at <i>De Kersentuin</i> ? How are new members chosen? How are new members integrated? In what way are you integrated in the decision-making process?
Last question	What can <i>De Kersentuin</i> teach outsiders?