

The impact of community gardens on sustainable urban development.

Dutch grassroots initiatives as drivers for a more sustainable society?



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Abstract

Grassroots initiatives spring up all around us; websites and organisations for sharing cars, exchanging tools, guerrilla gardening groups, cooking for each other and groups for gardening together are abundant (Church & Elster, 2002). These initiatives can be characterised as self-organising groups of civilians who aim to solve a social problem in their neighbourhood or community, from the perspective of an ideological, and sometimes environmental idea (Seyfang & Smith, 2007). The self-organisation of our society in this manner can be seen as a way for citizens to take responsibility for their social and physical environment (Bell et al., 2012). These 'sustainable' grassroots initiatives are often assumed as having a positive influence on the social and physical atmospheres of society (Hargreaves et al., 2011; Seyfang & Smith, 2012; Armstrong, 2000), and are named as one of the options to work towards a more sustainable society in the Local Agenda 21 of the United Nations (Bell et al., 2012). *But can urban community gardens, as an illustration of 'sustainable' grassroots initiatives in the Netherlands, be called 'sustainable'; which impacts do they have and how can these be classified in terms of 'sustainability'? Which factors influence these urban community gardens as an illustration of 'sustainable' grassroots initiatives and which policy recommendations can be derived from these results?*

In order to place the development of these 'sustainable' grassroots initiatives in a broader perspective, this paper uses the multilevel perspective of Transition Theory, which is used to contextualise these 'sustainable' grassroots initiatives, as well as the possible 'niche' management that can be applied to it by governmental or societal actors. This larger scale theory is complemented by the use of Practice Theory, which conceptualises 'practice' changes on an everyday life basis, which will be used to determine whether and how the impact of these initiatives can be called 'sustainable'. In order to answer these questions, community gardens are studied as a representative of these 'sustainable' grassroots initiatives, as they are seen as the "icons of local sustainability in urban communities, improving social, economic and environmental conditions" (Stocker & Barnett, 1998, p.180).

A sample of fourteen gardens in the four largest cities of the Netherlands, Amsterdam, The Hague, Rotterdam and Utrecht, have been studied through visits and in-depth semi-structured interviews with their founders/organisers. Furthermore, the impact of these gardens on their visitors/volunteers have been studied by surveying twenty visitors of four of these gardens, asking about their experiences with- and impressions of the garden.

Community gardens have been concluded to influence the everyday life practices of individuals of the community gardens in a 'sustainable' way, even though this concept is differently defined by founders/organisers or visitors volunteers, with the educational aspect of sustainability as their agreement. Community gardens mainly have a direct impact in the *social* atmosphere of the individual- as well as the neighbourhood scale; creating a tighter community in which people feel more connected and more welcome and safe in their neighbourhood. Influencing factors on community gardens have been found to be three groups; process factors, organisational factors and individual factors of which individual factors are a crucial factor mainly for the *internal* development and set-up of a garden, as this person takes the end-responsibility for the garden. The *external* factor deemed most important is one of the three process factors, 'building networks', as this increases the chance that there are people or other sources which can help the community garden when there is a problem with for example the local government. Three main recommendations for policy makers concerning 'sustainable' grassroots initiatives in the form of community gardens have been made; first, to formulate a framework agreement for garden initiatives within which they are safe to go, second, to open up a support platform for initiatives, either organised by a governmental organisation or by the initiatives themselves, to exchange information for possible problems possibly accompanied by being connected to the municipality or city district by a window or designated official and third, to give an initiative the chance to prove itself and to keep in mind that expectations should not be too high, such an initiative has different functions, not just the one.

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1. Introduction

Urban areas are constantly expanding; the percentage of population worldwide living in urban areas is increasing (UNDP, 2008). Living in cities has many advantages; as people live together on a relatively small surface of earth, it means that society can do things collectively, such as arranging food, arranging work, and arranging facilities such as electricity, clean water and the processing of garbage. Unfortunately, living in cities also has negative effects, such as pollution, problems with rainwater runoff, the city 'heat island' effect and the like (Smit, 1992). Having fewer green areas in the city exacerbates these problems; it can cause a decrease in the interception of rainwater by trees and other plants and lessens their transpiration within the city, leading to an increased temperature and decreased air humidity (Berndtsson, 2010). These environmental problems caused by living in dense cities connect to the larger problem of the depletion of the resources of this earth; resources are often not used sustainably, and ultimately pollute our environment, whether directly or indirectly. The system of cities we live in currently contributes to the concentration of pollution in a small space as well as to the bigger problem of the environment and the depletion of its resources.

In what ways can these problems be dealt with and on which scales can governance become effective? The current situation is that these problems are addressed already on multiple levels. For example, on a global scale though large international institutions like United Nations Environmental Programme handle these types of issues. However, even these are often fragmented and not coordinated with one another, but rather set their own standards and make their own policy (Biermann, 2009). The International Council for Local Environmental Initiatives (ICLEI) is another of these institutions, but is focussing on the Rio Local Agenda 21 to support the *local* government, in co-operation with local organisations and communities and local government networks within individual countries (Buckingham and Theobald, 2003, p.75). On a European scale, the European Union (EU) also issues policies and norms for "a healthy and sustainable environment for future generations" in the report the EU explained: environment (European Union, 2013). On a national scale, governments also create policies to deal with their own economies and countries to steer towards cleaner economy for society, for example in 2011, the Netherlands Environmental Assessment Agency (Planbureau voor de Leefomgeving) published a report, "The Energetic Society", with a "steering philosophy for a cleaner economy" (Hajer, 2011). But besides governance on national, international or even a global scale, it is also possible to start at the (local) micro scale of individual people.

1.1 'Sustainable' grassroots initiatives, an upcoming trend?

In agreement with this idea of starting on a micro scale, in order to start to change the larger (environmental) problems mentioned earlier, the groups of people researched in this thesis try to change things at a micro scale: they start a grassroots initiative in their neighbourhood in the city with the goal of teaching, learning and helping each other to live in a more sustainable way. These groups can be conceptualised as 'grassroots initiatives', and are according to Seyfang and Smith (2007) "innovative networks of activists and organisations that lead *bottom-up solutions* for sustainable development; solutions that *respond to the local situation* and the *interests and values of the communities involved*. Grassroots initiatives tend to operate in *civil society* arenas and involve committed activists who experiment with *social innovations* as well as using *greener technologies and techniques*" (page 585, emphasis added). Hargreaves et al. (2011) describe the civil society of these grassroots initiatives as "an arena that encompasses the collective activities by which associations of people develop and assert shared values, identities and interests, without direct recourse to market transactions or the authority of the state in the first instance" (p.4, emphasis added). The grassroots part of civil society seems to be focussing on both a social goal such as the improvement of a neighbourhood as well as a broader *sustainability* goal: a more sustainable living pattern, through for example the re-use of materials of old furniture. Different examples of grassroots initiatives can be summed up: groups for sharing technical tools through websites, groups who recycle and repair old furniture that has been discarded, groups who create a social investment 'time bank', groups who focus on the air pollution in their city, groups who set up initiatives to plant trees and flowers secretly throughout the city, groups who organise to share cars, groups who set up a vegetable garden, groups who share chickens and their produce and so on and so on (Church & Elster, 2002; Seyfang & Haxeltine, 2010). These groups are not just focussing on the local scale of their neighbourhood or community, but take into account the larger effects their efforts may have.

Grassroots initiatives are an older phenomenon: individuals of a neighbourhood or a community organising themselves in groups and taking action have existed already for a long time (Hajer, 2011). However, a renewed attention for these kinds of local sustainability solutions seems to be happening; citizens have become *once again* aware of their possibilities to form groups and assert influence over their (direct) surroundings (Bell & Cerulli, 2012). Grassroots initiatives seem to have become *more* abundant in our (western) societies, and are contributing to a part of Local Agenda 21 of the United Nations, possibly driving a transformation to a more sustainable society (Armstrong, 2000; Kurtz, 2001; SCP, 2012, p. 255). The observation of the growing attention for this phenomenon of self-organisation of citizens for a more sustainable environment is also voiced by Hajer (2011) in his report 'The Energetic Society' about the Dutch society. The report states that "the modern society is an energetic society, it produces independent, aware citizens and innovative businesses" (Hajer, 2011, p.8). This 'energetic society' is in his observation actively engaging with its direct and indirect environment and is organising itself through grassroots initiatives that aim to solve social problems. These initiatives often pursue an environmental idea such as better air quality in the neighbourhood parallel to the social problem (Seyfang & Smith, 2007). For example, "since 1992, over 400 local authorities in the UK produced Local Agenda 21 strategies, alongside growth of independent, community-based work on 'local sustainability'" (Seyfang and Smith, 2007, p.585).

Notwithstanding, even though it is a trend that *seems* to be apparent, there is little explicit research to prove it. In a report from the Netherlands Institute for Social Research (Sociaal Cultureel Planbureau) called 'an appeal to the citizen' in 2012, the grassroots initiatives trend was noticed and researched, but it is concluded that 'it is apparent that grassroots initiatives can activate and bring citizens together, which is a reason to keep stimulating these initiatives. However, whether these initiatives can survive on their own without or with only little assistance of the municipality is not yet proven. There are some local successes, but they need much investments and it is unsure if they lead to bigger, sustainable changes in general' (SCP, 2012, p.271). Therefore, this thesis will contribute to the explicit research into the 'sustainable' grassroots phenomenon in the Dutch society.

In the light of the environmental and social challenges and the possible sustainability effects of these grassroots initiatives, this paper focuses on community gardens as the ultimate example of a 'sustainable' grassroots initiative. Community gardens are "often portrayed as *icons of local sustainability* in urban communities, improving social, economic and environmental conditions (Stocker & Barnett, 1998 in Bell et al., 2012, p. 34, emphasis added). The second reason for choosing the community garden as a representative of grassroots initiatives is that more interest in urban food production traditionally has been associated with times of economic, political and ecological crisis (Irvine et al., 1999), such as the large problems described at the start of this chapter. Therefore, Bell and Cerulli (2012) state that it is not surprising that interest in urban agriculture and community gardens has again been building over the last 3-5 years, as citizen concerns about global problems like climate change, the global financial crisis and rising food prices have converged. Other reasons and a more specific definition of the effects of community gardens will be discussed later in this chapter.

1.2 Transition Theory and Practice Theory for theoretical embedding

The energetic society as perceived by Hajer (2011), needs a larger perspective, through which the motivations and developments of the trend of sustainable grassroots initiatives can be understood. This larger perspective will be provided by Transition Theory. Therefore, the first aim of this thesis is to understand community gardens as an illustration of 'sustainable' grassroots initiatives as a *niche* of Transition theory, and to discuss if the initiatives and the trend studied in this thesis indeed 'fit' with the niches of Transition theory. By comparing the research of this thesis I aim to contribute to the practical body of research that uses Transition Theory, Rotmans (2012) as well as Kemp et al. (1998), state that it is needed to come to an empirical application of Transition Theory. Transition Theory and its three main concepts will be discussed shortly, and later more thoroughly in chapter two.

Transition Theory theorises that the road to a more sustainable society, is through transitions started by 'niches'. Niches can create alternatives to the mainstream, the 'regime' in society, with the 'landscape' being the societal context that can drive these transitions (Voß, Smith, & Grin, 2009; Kemp & Loorbach, 2007; Avelino & Rotmans, 2009). Niches in this Theory are defined as "protected spaces where *new social and technical practices* can develop" (Seyfang & Haxeltine, 2010, p.5, emphasis added). The community gardens that represent the 'sustainable' grassroots initiatives which are the focus of this paper can be conceptualised as 'niche-experiments'

that aim for a sustainability transition in society, in a step-by-step fashion (Seyfang & Haxeltine, 2010). Transition Theory will therefore be used to grasp the grassroots initiatives, and generate more insight in the interaction of the 'niche', the sustainable grassroots initiative, - in this case the community garden -, with the 'regime', the dominant perspective in mainstream society, -in this case for example food being bought in the supermarket as opposed to growing it yourself in the garden-. The third concept of Transition Theory is the 'landscape', which can be described as the larger context of social and physical factors at a macro-level. The landscape influences both regime and niches. In other words 'landscape' can be described as the tide of the times, the context of an economic crises, as well as the societal trend of paying more attention to the environment. Transition Theory will be used to offer the Theory of the development of the 'niche', (the sustainable grassroots initiative in the form of a community garden) which is the object of study of this thesis.

The second aim is to study the impact of urban community gardens as an illustration of 'sustainable' grassroots initiatives on their environment and their members in terms of 'sustainability' using Practice Theory. Practice Theory describes and conceptualises the everyday life 'practices' of people. A 'practice' can be defined as "clusters of activities where coordination and interdependence make it meaningful to conceive of them as entities" (Ropke, 2009). Put in other words, sets of actions that have become routines. So, if new or changed practices can be developed and adopted that are *more sustainable* through contact with these grassroots initiatives, then this can impact -in an aggregate form- the transition to a more sustainable society. Therefore, practice Theory will be used to study the 'sustainability' impact that grassroots initiatives have in the daily life practices of their members. This impact will be measured by whether and in what way the every day life the sustainability ideas and practices of these members *change* or have changed due to contact with the grassroots initiative. Or, in other words, the sustainability impact of niche practices on the regime (the everyday life practices).

The word 'sustainability' has been put between quotes up until now, because the concept of 'sustainability' is -or has become- hard to define, even for academics. Therefore, the first part of this aim is to understand what sustainability is for the people involved in 'sustainable' grassroots initiatives such as a community garden, by asking them to define the word and discuss their associations with the word. The second part is to understand if there are any impacts and if so, how 'sustainable' they are. As described by Church and Elster (2002) the (sustainability) impacts of such initiatives can be small, but can lead in an aggregate form to bigger changes, driving the transition to a more sustainable society in accordance with Transition Theory. Seyfang and Haxeltine (2010) agree with this statement, they state that new social and technical *practices* have *small* sustainability impacts, they can be significant enough if they are applied by many grassroots initiatives throughout society. In order to study these impacts, which occur on an individual level, a smaller scale is required than the one used for Transition Theory. As suggested by several authors, Practice Theory has been used to complement Transition Theory in this way (see Seyfang and Haxeltine, 2010; Hargreaves et al., 2011; Shove and Walker 2010). Practice Theory will be used to theorise these smaller scale impacts of sustainable grassroots initiatives.

The third aim is to reveal influencing factors for the urban community garden as an illustration of 'sustainable' grassroots initiatives and to formulate policy recommendations for a possibly better facilitation of the development these initiatives. *If* grassroots initiatives have a substantial 'sustainability' impact on society, and therefore generate energy to make a transition to a more sustainable society as Hajer (2011) suggests, it can be beneficial to both the government, other possible societal players in general, but most importantly to *society itself*, to support these initiatives to grow bigger (Young, 1997 in Seyfang & Smith, 2007, emphasis added). In the context of Transition Theory, several influencing factors are mentioned for niches; it is said that niches should or mostly develop in a *more or less protected* environment, that gives them the time to grow and develop as an alternative culture or norm (Bell & Cerulli, 2012, emphasis added). When aiming to manage a niche three main processes are named; managing expectations, the learning process, and building networks (Seyfang and Haxeltine, 2012), as well as individual factors and organisational factors. The study of these factors will generate policy recommendations for governments. Both Hajer (2011) as well as Kemp et al. (1998), recommends the different levels of government to step in and help these initiatives where they can. In the context of our current society, it is suggested that relatively little top-down influence of the levels of government is needed (SCP, 2012), instead the role of a facilitator is called for: "a new role for public policy-makers, that of an *enabling actor and catalyst* rather than a regulator or technology sponsor (Kemp et al., 1998, emphasis added). These recommendations could include, for example how governments or other public players in society interact with these initiatives, and what could go better in this

interaction, and to study if indeed protection for these 'niches' is needed or other kinds of support are more wished for.

1.3 Research questions

In the case that grassroots initiatives can and do contribute to a sustainable society in a variety of ways, and the levels of government want to support their cause, as recommended by Hajer (2011), more knowledge is needed as to *how* these initiatives originate in society, and what the factors are that influence their survival. By learning more about these 'sustainable' grassroots initiatives and the problems they struggle with, and the solutions for these problems they find or seek, it can become clearer what levels of government or other societal actors can do to support them or facilitate their existence. Therefore, the central research questions of this thesis are:

Can urban community gardens, as an illustration of 'sustainable' grassroots initiatives in the Netherlands, be called 'sustainable'; which impacts do they have and how can these be classified in terms of 'sustainability'? Which factors influence these urban community gardens as an illustration of 'sustainable' grassroots initiatives and which policy recommendations can be derived from these results?

To summarise: the first aim of this thesis is to understand community gardens as an illustration of 'sustainable' grassroots initiatives as a *niche* of Transition theory, and to discuss if the initiatives and the trend studied in this thesis indeed 'fit' with the niches of Transition theory. The second aim of this study is to study the impact of urban community gardens as an illustration of 'sustainable' grassroots initiatives on their environment and their members in terms of 'sustainability' using Practice theory. The third aim of this research therefore is to reveal influencing factors for the urban community garden as an illustration of 'sustainable' grassroots initiatives and to formulate policy recommendations for a possibly better facilitation of the development of these initiatives.

1.4 Community gardens as an illustration of 'sustainable' grassroots initiatives

As time and resources are limited for this study, in order to study the 'sustainable' grassroots initiatives the focus will be on community gardens as the *ultimate* representative of these sustainability initiatives, as opposed to studying a variety of 'sustainable' grassroots initiatives. Community gardens are "portrayed as *icons of local sustainability* in urban communities, *improving social, economic and environmental* conditions (Stocker & Barnett, 1998 in Bell et al., 2012, p. 34, emphasis added). Because of the variety of fields that they interact with and because they are located in the public space of a neighbourhood which makes them accessible to anyone, I have chosen the community garden as the representative of the ultimate 'sustainable' grassroots initiative. Another reason for choosing community gardens is that the 'garden' part can link to ideas about producing your own food which connects back to the various crises society is experiencing nowadays, of which a growing suspicion about our food system is one of them. Through its variety of interfaces in social, economic, environmental and other areas urban community gardens *can* have a very broad 'sustainable' impact on urban society and are therefore the most interesting example of a 'sustainable' grassroots initiative.

The following quote sums up the idea of why community gardens can promote sustainability in a variety of ways. The role of community gardens as agents for sustainability is three-fold according to Stocker and Barnett (1998, p. 180-181, emphasis added): "First, the local growth of foods, often organic, can provide people with fresh safe foods which are a fundamental product for *physical* and *ecological* sustainability. Second, the making of such a community place provides an opportunity for *social* and *cultural* interactions; many people join community groups looking for companionship among kindred spirits with a shared goal (Francis & Hester, 1990). Community gardening offers precisely such opportunities. The processes involved, those of encounter, negotiation and embodied engagement with the land, with other group members and with the broader community (Barnett, 1996), may be expected or unexpected in their exact nature. Together, however, they form a basis for the evolution of *sociocultural* sustainability. Third, community gardens can also function as *research*, development, design, *demonstration* and *dissemination* sites for community science, horticultural techniques and innovative technologies in this way they point towards *economic* sustainability. These three roles combine to give community gardens the potential to be very effective change agents for sustainability". These different sustainability fields mentioned by Stocker and Barnett (1998), will be used to categorise the 'sustainability' of community gardens as described by the involved *individuals* of the garden. In this thesis the explicit choice is made to ask for the ideas and opinions of

involved individuals of the garden on what the 'sustainability' of the garden means, both to them and the influence that it has had on their lives. Their answers will be classified afterwards in the sustainability fields just mentioned to understand the concept 'sustainability' in the eyes of the organisers or volunteers of the garden, and see which kinds of sustainability are mentioned most. Chapter three will elaborate further on this approach.

Some examples of (sustainability) effects are; a garden can provide opportunities for recycling and composting, reduces the burden of disposing of solid waste and improves climatic conditions as well as air and water quality (Irvine, Johnson, & Peters, 1999). Economic benefits are for example the increase of the value of the houses and the land in the neighbourhood in general (Armstrong, 2000). Besides the functional benefits of the garden, social effects were also named, like better psychological well-being, better social-well being, better social cohesion and social security in the neighbourhood, lack of vandalism, and a better community feeling which is seen to promote neighbourhood activities such as music performances and lectures that can be held in the garden (Armstrong, 2000). Also in terms of a bottom-up civil society group, community gardens are an example of grassroots initiatives: "Generally referred to as "community gardens", today's urban vacant lot gardens are motivated by neighbourhood improvement and empowerment, as well as self-sufficiency and a desire to bring nature into the city" (Fox, Koepfel and Kellam, 1984; Malakoff, 1994; Warner 1987 in Kurtz, 2001, p.658).

A community garden can have various forms or organisation, but it is often characterised in urban agriculture literature as a shared garden which is maintained by a voluntary, bottom-up organisation of people, often from the direct neighbourhood (Kurtz, 2001; Armstrong 2000; Ferris et al, 2001; Borowy, 2011; Flachs, 2010; Twiss et al., 2003; Irvine et al., 1999). It can have separate shared and individual spaces, or be only shared, it can be mainly a vegetable garden or a flower garden or a combination thereof (Ferris et al., 2001). The purpose of such a garden often originates in a desire to start small-scale urban food production, urban beautification or start community development (Francis, 1989 in Bell et al., 2012).

As stated before it can be important to learn how community gardens originate and survive in society and what the factors are that influence these two processes, as recommended by Bell & Cerulli (2012). They sketch the story of the emergence of a community garden in the United Kingdom. They state that "Small community gardens such as Redfern Grove will be an important element of larger systems of urban agriculture. As such it is important to *understand the processes and conditions* that contribute to their *emergence and how they connect to regime and environmental changes*" (Bell et al., 2012, p.40, emphasis added).

1.5 Structure of the thesis

The structure of this thesis is as follows. In the next chapter I will further elaborate on the embedding of 'sustainable' grassroots initiatives as niches through Transition Theory and how this conceptualisation can be understood (research aim 1). Practice Theory will be discussed as a framework for the study of the 'sustainability' concept and the direct and indirect impacts of community gardens (research aim 2). The discussion of Transition Theory has generated the influencing factors that will be studied for the community gardens, which will be further elaborated on at the end of the chapter (research aim 3). The third chapter will present the method as well as the specifications and selection of the subject under study; the community garden. In the fourth chapter, the results of the 'sustainability' ideas and the direct- and indirect impacts of community gardens will be discussed (research aim 2). The fifth chapter will present a typology of the gardens based on their previous land-use as well as discuss the influencing factors for community gardens (research aim 3). The sixth chapter is a discussion of the results compared to the theoretical framework of this thesis, in which I will present the conclusions of this research project. Chapter seven will present the recommendations derived from the experiences of interviewees of the community garden as well as their specific recommendations for policy makers concerning community gardens as a representative of 'sustainable' grassroots initiatives (research aim 3).

As a part of studying community gardens is the visiting, and experiencing of the place and the people around, I have put pages with pictures throughout the paper, in order to give the reader an impression of the different gardens. The photos have no direct relation with the text, but are meant for sketching the atmosphere of these gardens while reading this paper. Unfortunately, photos I have taken of the Kralingentuin in Rotterdam have went missing, so this garden is not represented in the photo pages.



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2. Theoretical embedding: Transition Theory and Practice Theory

This chapter will explain the theoretical framework that is used in this study. Two theories are important in this study: Transition Theory (or the Multi-Level Perspective) and (Social) Practice Theory. The concepts of Transition Theory will be presented, and discussed how 'sustainable' grassroots initiatives can be understood as niches. This will result in a number of influencing factors for 'sustainable' grassroots initiatives which will be discussed at the end of the chapter for community gardens. Furthermore, the critiques of Transition Theory are reflected on, and the role of Practice Theory and suggested symbiosis of both theories will be contemplated. Then, the concepts of Practice Theory will be considered, as a framework for the study of the 'sustainability' concept and the direct and indirect impacts of community gardens. This results in the presentation of the sub-questions of the research questions and the discussion of the elements from Practice Theory and Transition Theory which will be used for the research method, discussed in the next chapter.

2.1 Transition Theory

In the world of sustainable development, the challenge is increasingly understood in terms of 'transitions' to more sustainable socio-technical systems (Smith et al., 2010). The aim of transition Theory, or -as it has been called more recently-, the Multi Level Perspective (MLP) (Geels, forthcoming), is to describe the bigger picture of this process of transition. Transition Theory encompasses three concepts; the regime, the niche and the landscape. The socio-technical regimes are the 'mainstream', institutionalised, current way of performing societal functions. Therefore, if change occurs within the regime, it will be incremental and path dependent. A niche is a new possibility of how to structure a societal function, and is therefore an alternative to the regime; they can be called the 'seeds for transitions' (Smith et al., 2010). The last concept, the landscape is the broader macro-level context of social and physical factors, which has an influence on both regime and niche, which, in turn, exert and influence on the landscape in an interactive way (see figure 1).

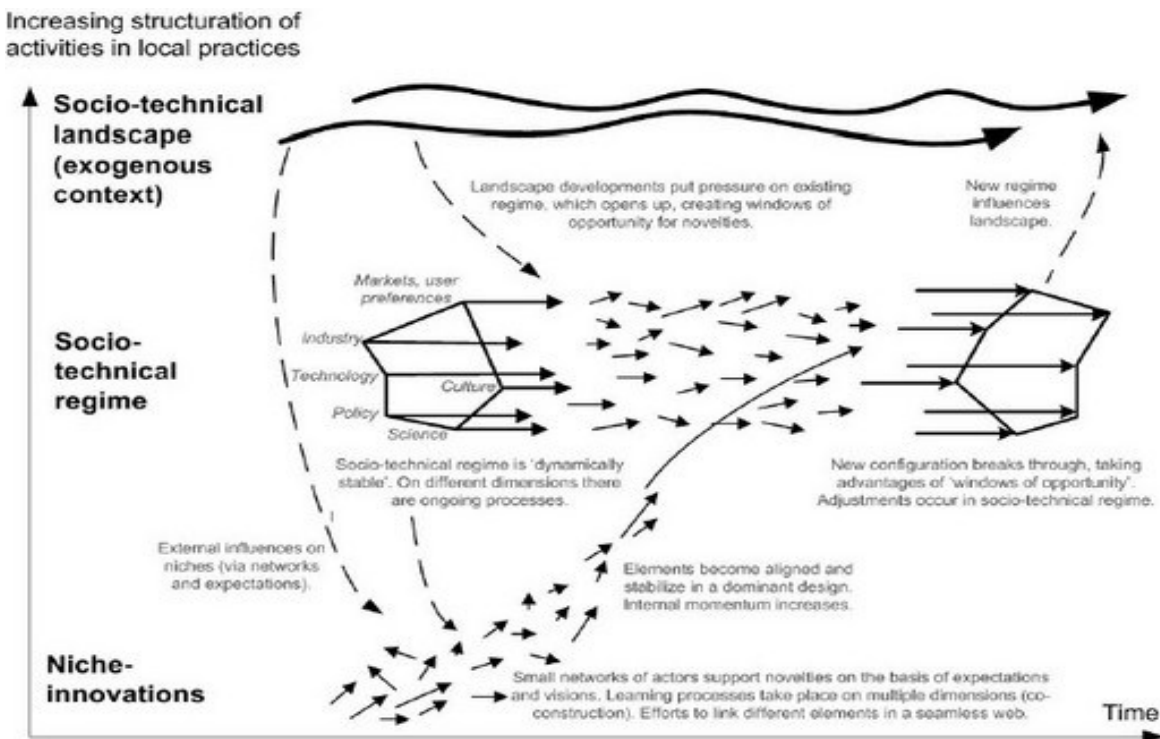


figure 1: Transition Theory schematically (Geels, 2011).

So, for a sustainable transition to happen, a new, sustainable alternative has to come up as a niche, then the regime needs to be challenged by civil society or other actors in order to change this status quo, and finally the landscape of societal values will (have to) change through long-term efforts of these actors and niches in an

interactive way. Smith et al (2010, p.441) state that “Sustainable niches can be described as networks of real world experiments with socially and ecologically benign socio-technical practices”, such as grassroots initiatives.

Besides the challenge of transition, sustainable development steers in the *normative* direction of innovation (Smith et al., 2010). The challenge for innovation is not just an economic challenge, but as societal changes (changes of the landscape), can be and are very prominent caused by innovative activity, such as sustainable niches, it remains to be a question what influence these niches have on the environmental and social sustainability of the current regime. Sustainable development is explicitly a normative science, that aims to steer for a more sustainable world, but what exactly *is* this right direction of this innovation and its transition is very hard to determine. The science of sustainable development is therefore challenged by ambivalence over the standard of ‘sustainability’ as well (Smith et al., 2010).

A complementing aim of the broader perspective of a transition scholar is not just to describe the process of transition but also the wish to *influence* the process of societal transformation arising from the establishment of new regimes, and apply steering into the most sustainable direction, for example in the form of strategic niche management (Kemp et al., 1998). This presents another problem, as socio-technical regimes can prove resistant to governance intentions (see Shove and Walker, 2010). No matter how well understood a policy measure is studied beforehand, systemic effects of any kind can never be ruled out (Smith et al., 2010), as the expectations of the outcomes of a change are based on earlier processes and problems experienced with the *current* socio-technical regime, as opposed to the *new* (or changed) regime that is being implemented. Therefore, as stated by Smith et al (2010): “ there is a need to explain how and why *individual agents* are able to reform the rules in desirable directions in the context of regimes and niches, thus dealing with the politics essential to transitions” (p. 444-445, emphasis added).

2.2 The niche concept

The first research aim of understanding ‘sustainable’ grassroots initiatives as niches from Transition Theory is only partly fulfilled by discussing the three main concepts of this Theory. The most important concept of this Theory for this research project is the niche itself. The niche, as well as its management processes, is the concept which will be compared to the community gardens as an ultimate representative of ‘sustainable’ grassroots initiatives, and will be therefore be discussed in more detail in the next subparagraph.

2.2.1 Niches

As stated before, “sustainable niches are networks of real world experiments with socially and ecologically benign socio-technical practices” (Smith et al., 2010, p.441). Niches are practices that are distinctively different from the ‘mainstream’ practice of the regime, and therefore propose a non-conformist, innovative way of handling things in society (Avelino & Rotmans, 2009). Seyfang and Haxeltine (2012) also state that as niches are variously defined in the literature, they propose the following definition as most constructive: “a protected space where sub-optimally performing experiments can develop away from regime selection pressures. Niches comprise intermediary organisations and actors, which serve as ‘global carriers’ of best practice, standards, institutionalised learning, and other intermediating resources such as networking and lobbying, which are informed by, and in turn inform, concrete local projects (experiments)” (Geels and Raven, 2006; Kemp et al, 1998; Schot and Geels, 2008 in Seyfang and Haxeltine, 2012, p.383).

What makes the practice in a niche so different from the regime? First of all, a niche is based on the idea that values are different, alternative social and cultural expressions are accepted within the niche and are encouraged to evolve (Seyfang and Smith, 2007). The actors -producers and users- therefore are more supportive of the social- and environmental qualities of the niche practice as they cherish a different expectation of the future than regime members. But, as the norms and values within a niche are different, they are also more fluid, which has both a positive and negative side to it. The instability of the norm leaves room for change if the practice and the niche require change, but can also cause the niche to become unstable (Smith et al., 2010). Therefore, niches serve as an experimentation space which can generate valuable lessons, and can help supportive institutional requirements to become better defined as well as attracting commitments from a bigger network of actors who want to get involved in the practice, for example actors from the regime.

In the definition of Seyfang and Haxeltine (2012) a second characteristic is mentioned; a niche is a 'protected space' where it can develop 'away from regime selection pressures'. In the strategic niche management literature Kemp et al. (1998) discuss the paradox of a niche: "the set-up of the experiment is perhaps the most difficult step, because a balance must be struck between protection and selection pressure" (p.188). On the one hand, in order for a niche to develop and stabilise, it can need support from the regime and its actors, and on the other hand, the niche eventually has to become stable and persuasive enough to keep in existence, or even grow bigger to outperform and take over the current regime. As Kemp et al. suggest, even a highly successful experiment may fare well by having some kind of preferential support compared to less environmentally benign technologies (Kemp et al., 1998). Which raises discussions about which technology or which niche policy makers should support and how far this support can be justified. This connects back to the earlier discussion of the normative direction of sustainable development of which direction to take and therefore which initiatives to support and to what extent.

Transition Theory suggests that if the niche practice resonates with widespread public concern -the landscape- the practice can catch on, and develop niche markets and maybe branch out and become a mainstream interest -the regime-, and ultimately cause a transition to a more sustainable society (Seyfang and Smith, 2007). If this is their aim, niche actors need to connect to broader circles of more powerful actors that can help the niche to mobilise a larger constituency and strengthen their social legitimacy (Schot, 1998 in Smith et al., 2010). In order to do this, the niche actors are required to invest time in cognitive, institutional, economic and political aspects of the niche, to persuade others to take part, as niche success ultimately rests upon their widespread (landscape) legitimacy. A critical note has to be made in this context: niches are a *source* for transformative ideas and capabilities, but are not blueprints. "Their potential is constrained, enabled and interpreted through the structures of the regime" (Roep et al., 2003; Grin et al., 2004; Bos and Grin, 2008 in Smith et al., 2010).

2.2.2 Niche management

According to Kemp et al. the energy and transformative power of a niche can be directed and used by the current regime through the practice of strategic niche management (Kemp et al., 1998). Different actors are recommended by these authors to engage in this practice: a government agency, a private company, a policy entrepreneur, but also a citizen group or local authorities. Having said this, the authors also warn us that especially niche management cannot be contributed to a single actor but will need to be a collective endeavour. This is also echoed by Smith et al. (2010) emphasising that outcomes of transitions through niche-regime interactions can not be predicted, as they are systemic. The same can maybe be said of niche management: that all of the involved actors influence the 'outcome' and the existence of the niche. The insight of niche 'management' and the 'problem' of not being able to *regulate* a niche, but rather keep sending it in the right direction, is also mentioned by Kemp et al. (1998). They state that this new perspective of sustainable niches and their impact on society "requires a new role for public policy-makers, that of an *enabler* and *catalyst* rather than a *regulator* or *technology sponsor*" (p.191, emphasis added). The uncertainty of strategic niche management however, suggests that multiple actors should be involved in this 'managing', in order to steer the niche and give direction to it, even though systemic effects can never be anticipated entirely.

In the strategic management of the niche, three processes are deemed to be key; the coupling of expectations, the articulation processes and network formation (Kemp et al., 1998). The importance of these three processes is confirmed by Seyfang and Haxeltine (2010), but are adapted to fit to *social* innovative niches instead of purely *technological* niches as described by Kemp et al. The factors in Seyfang and Haxeltine's words for 'grassroots innovations' are: "managing expectations, the learning process, and building networks are important *internal* factors, as well as *external* ones" (p.17, emphasis added). The first, managing expectations, emphasises that promises are especially powerful if they are shared, credible, specific and coupled to societal problems which existing technology is not expected to be able to solve (Seyfang and Haxeltine, 2012). As a practical recommendation, the authors add that to realistically manage these, it is important to deliver tangible opportunities within the niche for action and participation, as instead of 'just talking'. For a niche it is therefore important to create events in which the community can be active and feel to be participating in the realisation of something. The second aspect, the learning process, is a process in which to learn which barriers the niche can face, and which needs, problems and possibilities have to be dealt with, or in the words of Seyfang and Haxeltine "to embrace a community-based, action-oriented model of social learning", (2010, p.17), which can be interpreted as listening and interacting with the wants and needs of the community. The last and third process factor, building networks, is the creation of a new network of relations in which the new technology can function as desired, and thereby help

to articulate a vision of where the sector or society should be heading. Kemp et al., (1998) recommend that public authorities could be supporting to create these networks. For the social niches the same process is useful to create a deeper engagement with resourceful regime actors, for example to secure funding (Seyfang and Haxeltine (2010). These three 'process' factors from strategic niche management will be applied to the 'sustainable' grassroots initiatives in the form of community gardens.

Besides the three most important 'process' factors for niche growth and emergence; managing expectations, building social networks, and learning processes, the organisational form, as well as individual factors of a sustainable grassroots initiative such as a community gardens were deemed to be important by several authors (Irvine et al., 1999; Teig et al., 2009; Schmelzkopf, 1995; Flachs, 2010; Bell & Cerulli, 2012), and will therefore be included in the research process.

2.3 Connecting Transition Theory to Practice Theory

Even though Transition Theory (or the Multi Level Perspective) has many proponents, applying it to a smaller scale -like the individual level- proves to be difficult. Therefore, several authors have proposed complementing Transition Theory with (Social) Practice Theory (see Seyfang and Haxeltine, 2010; Hargreaves et al., 2011; Shove and Walker 2010). A short overview of the critiques of Transition Theory and the complementing role that Practice Theory can play will be discussed next.

According to Hargreaves et al. (2011), Transition Theory, -or the Multi Level Perspective (MLP)- is "a relatively simple but highly flexible heuristic framework for exploring how systemic transitions may come about" (p.4), but it is not able to explain how civil society action cuts across multiple regimes and not only challenge unsustainable forms of normality but also generate new sustainable innovations. The main point of their critique is that in the existing Theory there is an overemphasis on market- and state-based actors, while neglecting the action from within civil society arenas (Seyfang and Smith, 2007; Hargreaves et al., 2011). And even if the role of state and market actors can certainly not be dismissed in sustainability transitions, there is a growing recognition that communities and grassroots organisations will be a necessary and powerful aspect of change (Mulugetta et al., 2010 in Hargreaves et al., 2011). For example, Ferris et al. (2001) highlight that the environmental issues discussed at the UN conference of 1992 are demanding responses from *local communities* around the world. Also, grassroots initiatives have been pointed out to be able to provide an "effective and cost-efficient way to achieve local, national and global sustainability objectives in sustainability" (ICLEI website, 7th July 2013, emphasis added). This gap between the macro-scale of MLP analysis and the supposedly necessary micro-scale of local, communities and grassroots organisations that have to be included in the sustainability transition is the main critique of MLP, which is why Social Practice Theory (SPT) is suggested as a complementary Theory, see figure 2.

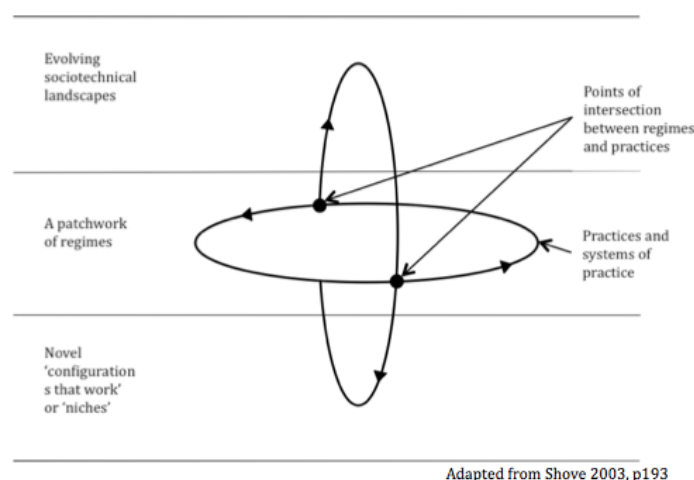


figure 2: Multi Level Perspective combined with Social Practice Theory (Hargreaves et al., 2011).

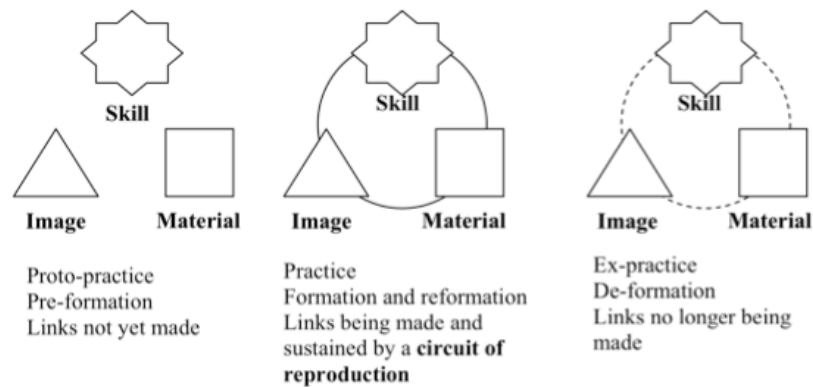
Hargreaves et al. (2011) suggest that “the account MLP offers needs extending to account for 1) civil society group activities that *cut across existing regimes and systems*, 2) that engage more directly with peoples *everyday life practices* and 3) which concentrate on normality as much as they do on novelty” (p.5, emphasis added). To fulfil these requests, Social Practice Theory is suggested to be helpful. The aim to change or intervene in practices of everyday life, can be linked to a different way of interpreting grassroots initiatives’ efforts to generate sustainability transitions. Because, ultimately, it comes down to practitioners in the same way that niches try to influence the wider public (regime) and societal norms (landscape); while these groups try to promote (social) innovations and new or changed ways of doing things, the practitioners (every individual in society) *themselves* have the most vital role to play, because they are the ones to experiment and combine elements in the course of their daily life. So, similar to MLP, in SPT also “innovation in practice is always a *collective accomplishment*” (Pantzar and Shove, 2010, p.457 in Hargreaves et al., 2011), which requires regular feedback between the ‘people’ and the influencing actors. A transition to a more sustainable society is in this case represented by the changing to more sustainable practices of people in everyday life, challenging the links between the elements within images, skills and materials concepts of a practice which will be discussed in the next paragraph.

In this paper, the Transition Theory will be applied together with Practice Theory, following Ropke (2009), Hargreaves et al. (2011) and Seyfang and Smith (2010) that they complement each other in giving depth where the other is more superficial, so as to fully explain grassroots organisation for sustainability transitions. In the words of Hargreaves et al. (2011): “ Whilst the Multi Level Perspective (MLP) allows one to examine the *emergence* of novelty through the interactions between the vertically-ordered levels of niche, regime and landscape, Social Practice Theory (SPT) focuses attention instead on the horizontal dynamics of *practices* that cross-cut multiple regimes and systems, as practices and their elements follow their circuits of reproduction” (p.9, emphasis added), see figure 2. Therefore, the MLP or Transition Theory can be used to place the ‘sustainable’ grassroots initiatives in this thesis in a larger context of a possible sustainability transition, while Social Practice Theory can be used to unravel the everyday impact of grassroots initiatives, to study whether the *practices* have changed because of the involvement in these ‘sustainable’ grassroots initiatives.

2.4 (Social) Practice Theory

Whereas MLP is focused on the *macro* and *meso-scale* analysis of transitions in socio-technical regimes, Social Practice Theory (SPT) is interested in transitions in the *micro-scale* of individual ‘practices’ (Shove and Walker, 2010). A known definition of a practice according to Reckwitz (2002, p.249–50 in Ropke, 2009) is “a routinised type of behaviour which consists of several elements, interconnected to one other: forms of bodily activities, forms of mental activities, ‘things’ and their use, a background knowledge in the form of understanding, know how, states of emotion and motivational knowledge”. A further distinction can be made between ‘practices-as-entities’, and ‘practices-as-performances’. Practices-as-entities are formed historically as a collective achievement; and through their *own* practices-as-performance, individuals can reproduce and transform these entities over time, which can change them (Schatzki, 2002 in Ropke, 2009). Individuals thus function as ‘carriers’ of practices and can consciously or unconsciously reproduce or change these practices. The focus in SPT therefore is on the ‘performance’ of the practices that make up everyday life such as showering, cooking, getting to work etcetera, and on the elements of which these practices are made up, and their social context of ‘performing’ them (Hargreaves et al., 2011).

Pantzar and Shove (2005 in Ropke 2009, and Hargreaves et al., 2011) suggest that everyday practices are made up of three categories of concepts: Images (meanings, symbols), Skills (know-how, competences) and Materials (artefacts, technologies). These three elements tie the practice together through the *repetition* of performance of individuals. This means that in order to *change* a practice, these elements should be disconnected in some way, and replaced by other elements, see figure 3.



Reproduced from Pantzar and Shove 2006, p7

figure 3: Proto-practice, practice and ex-practice (Hargreaves et al., 2011, p.8)

For example, the practice of cooking. Every time an individual cooks a meal, this person combines the images (healthy, tastefulness), skills (to cut vegetables or meat, put in in the oven or stir-fry it) and materials (fresh foods, maybe organic foods, oil, condiments, pre-fab meals) into the practice of cooking, and through *enacting* this personal version of cooking (practice-as-performance), it reinforces the practice-as-entity; strengthening the links between these elements of cooking (Shove and Walker, 2010). Another example, linked to the community gardens, could be that of 'gardening'. Here the images (beauty, usefulness, biodiversity, social atmosphere, health, physical work and so on) which are associated to gardening by that specific person, and can be combined with associated specific skills (weeding, clipping, to fertilise, mulching) and materials (hedge trimmer, shovel, scissors, lawn mower). The specific images, skills and materials that one person associates with 'gardening' are not necessarily the same as those of another person. However, through interaction with other people in a garden, practices -through their separate elements- can be challenged and changed into another practice, made up of other elements, possibly a more sustainable one, or even a less sustainable one.

With these three elements that make up a practice, image, skill and material, the actual impact of 'sustainable' grassroots initiatives as niches can be studied. Niches are experimental places where new practices can develop, which can later grow to become a mainstream or 'regime' practice. However, as stated before, 'sustainable' is a normative concept and therefore not easy to define in a neutral way. In the context of practice Theory, a *sustainable* practice is made up of images, the *ideas* about sustainability, skills, to know how to *perform* a practice so that it will have sustainable effects, and the materials of the practice, which should be materials related to the sustainability norms that the individual holds. In order to change or know about the materials and skills, first the *ideas* of what a sustainable practice should be have to develop or change, as well as the ideas about the way in which the practice should change. In this line of thought, the images of sustainability are probably the first to change, and if they change, the materials and skills will change as well (as a consequence of the ideas). Whether the images of a practice have changed can only be studied by asking or interviewing an individual, while the whole of the practice, and specifically the materials and skills can also be studied in other ways such as observation, or asking whether the everyday life patterns of that individual have changed.

Even though the 'image' of sustainability is indeed hard to define in a neutral way, as mentioned also in the earlier part discussing Transition Theory, Stocker and Barnett (1998) have given an overview of the kinds of sustainable 'fields' that can be used to classify the images of sustainability related to community gardens. Stocker and Barnett (1998) used three categories, physical and ecological sustainability, sociocultural, and economic sustainability defined as "community gardens can also function as research, development, design, demonstration and dissemination sites for community science, horticultural techniques and innovative technologies". However, in the research of this thesis the answers given by interviewed volunteers/visitors/founders or organisers of the community garden related to sustainability required a more detailed classification. Therefore, the original key concepts of Stocker and Barnett are used, but as more fitting categories were needed to describe the commonalities and differences, the first- and the third category have been split into separate elements according

to what emerged from the interview data, similar to a Grounded Theory method (Charmaz, 1996, p.36), for the emergence of categories.

Therefore, for the purpose of this thesis six separate sustainability areas for community gardens are used: ecological, physical, socio-cultural, innovative, educational and economic sustainability, which are defined as follows. Ecological aspects are biodiversity, air quality, and nature in the city, paying attention to the presence of animals, insects and so on. Physical aspects of sustainability are health aspects, the recycling of materials, growing without poisons, eating organic food. Socio-cultural aspects of biodiversity is promotion of social interaction and cultural interaction. Innovative aspects, are experimentation with new social structures, new technologies, for example in the case of gardening experimental gardening techniques. Educational aspects are explicit organisation of knowledge exchange in the form of workshops, lectures or lessons about any kind of topic. Also, the organisation of other educational-cultural events like cooking with different nationalities are part of this kind of sustainability. The last aspect of sustainability is economic aspects, which focuses on economic independence, which could be food independence by growing your own vegetables or the economic independence of the grassroots initiative itself. These six fields have been used to classify the fields of sustainability that community gardens -as a representative of 'sustainable' grassroots initiatives- are involved in, and through this, to compare if and how community gardens or their sustainability practices can be different or similar.

2.4 Application of the theories to the research question

This paragraph will present the sub-questions that guide the elements from the two theories just discussed, Transition Theory and Practice Theory, which will be used in this research project. The aims, central research question and related sub-questions as well as the conceptual model guiding this research, will be presented as well as the possible answers to these questions according to literature.

2.4.1 Research questions, aim and sub-questions

First, the central research questions of this thesis are:

Can urban community gardens, as an illustration of 'sustainable' grassroots initiatives in the Netherlands, be called 'sustainable'; which impacts do they have and how can these be classified in terms of 'sustainability'? Which factors influence these urban community gardens as an illustration of 'sustainable' grassroots initiatives and which policy recommendations can be derived from these results?

As discussed earlier in the introduction of this paper, the three aims of this thesis are:

- 1) To understand community gardens as an illustration of 'sustainable' grassroots initiatives as a *niche* of Transition theory, and to discuss if the initiatives and the trend studied in this thesis indeed 'fit' with the niches of Transition theory.
- 2) To study the impact of urban community gardens as an illustration of 'sustainable' grassroots initiatives on their environment and their members in terms of 'sustainability' using Practice theory.
- 3) To reveal influencing factors for the urban community garden as an illustration of 'sustainable' grassroots initiatives and to formulate policy recommendations for a possibly better facilitation of the development of these initiatives.

The following sub-questions, organised per research aim, will serve to help reach these aims.

1) The first aim is to understand community gardens as an illustration of 'sustainable' grassroots initiatives as a *niche* of Transition Theory, and to discuss if the initiatives and the trend studied in this thesis indeed 'fit' with the niches of Transition Theory. The first part of this aim has already been fulfilled; to understand the 'sustainable' grassroots initiatives as a niche of Transition Theory has just been discussed at the start of this theoretical chapter. However, how good the 'fit' of these two phenomena is, and whether it can be concluded that these can be treated as a niche will be reflected on again at the end of this thesis in chapter six.

- Which elements of Transition Theory regarding niches do or do not 'fit' with the 'sustainable' grassroots initiatives?
- Can 'sustainable' grassroots initiatives be seen as a niche?
- Do 'sustainable' grassroots initiatives have the potential to cause a transition or become a regime?

2) The second aim is to study the impact of urban community gardens as an illustration of 'sustainable' grassroots initiatives on their environment and their members in terms of 'sustainability' using Practice Theory.

- What is 'sustainability' for individuals involved in 'sustainable' grassroots initiatives? Which fields of images of sustainability are mentioned most often?
- Which images (as a part of their practice) do these individuals have of garden-related 'sustainability'?
- Have these 'sustainability' images (as a part of their practice) changed because of interaction with the grassroots initiatives?
- Have any of the two other elements of a practice, or their practice as a whole changed because of interaction with the grassroots initiatives?
- Besides a direct impact on the involved individuals in 'sustainable' grassroots initiatives, are there indirect effects noticeable as well?

3) The third aim is to reveal influencing factors for the urban community garden as an illustration of 'sustainable' grassroots initiatives and to formulate policy recommendations for a possibly better facilitation of the development of these initiatives.

- Are the three niche management process factors by Kemp et al. (1998) and Seyfang and Haxeltine (2010) applicable to these initiatives, which kind of examples of these processes can be given?
- Besides 'process' factors are there any organisational factors or individual factors that are deemed significant?
- Which recommendations for dealing with these initiatives can be given as derived from all of these factors as well as from the answers of the interviewees of the community gardens?

The conceptual model that guides this research project is shown in figure 4 below. Transition Theory and its concepts show that the 'sustainable' grassroots initiative can be regarded as a niche level. The strategic niche management 'process' factors as well as organisational- and individual factors exert an influence on the 'sustainable' grassroots initiative both internal and external. The initiative influences the 'sustainable' practices of any of the people involved in the initiative, mediated through the three elements of images, skills and materials. However, the individuals involved in the garden are part of the interactive process of determining what exactly a 'sustainable' practice is within such a grassroots initiative as well. Furthermore, the initiative indirectly -through the niche- also influences society, or the regime and landscape, which is also an interactive process, as the landscape and the regime determine the norm against which the niche and its 'sustainable' practices are measured.

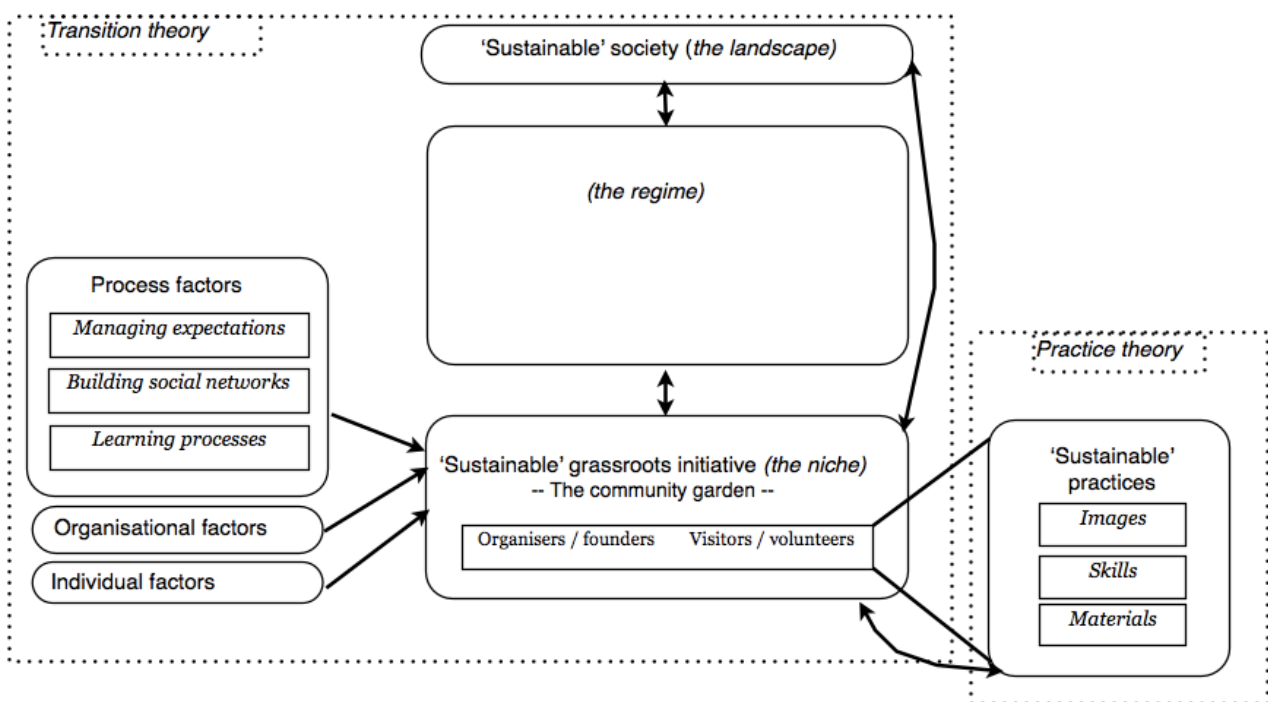


figure 4: Conceptual model

2.4.2 Contextualising the 'sustainable' grassroots initiatives

The 'sustainable' grassroots initiatives need a larger context for their existence and their possible direction or development in the future. Transition Theory is used to provide this larger context and the three main concepts, regime, niches and landscape that have been discussed will be compared to the results of this study, to verify if indeed these grassroots initiatives can be conceptualised as a niche and to understand whether these niches do have the aim, purposively or non-purposively, to drive a transition to a more sustainable society.

2.4.3 The 'sustainability' of the practices of grassroots initiatives

Social practice Theory is the guiding Theory for studying the 'sustainability' of grassroots initiatives in this paper. These initiatives typically operate at the grassroots level, which can be understood as the everyday life of individuals in society. In this everyday life, the initiatives, on their way to a more sustainable society, challenge the reproduction of practices and strive to introduce novel sustainable elements into the current practices. Or, put in other words, through introducing new elements or new combinations of elements by practice-as-performance into a changed practice-as-entity and from there spread through society (Shove and Walker, 2010).

If the practices of members of a grassroots initiative, in this case community gardens, have changed, it remains to be subjective whether they have changed into a more 'sustainable' practice, as sustainability is not a neutral concept to define. Therefore, the concept will be approached in a bottom-up way; from the perspective of the members themselves; how do they conceptualise sustainability and which 'images' do they attribute to the concept? And ultimately, how does their sustainability concept connect to the grassroots initiative that they are a part of? Has the initiative challenged or changed their sustainability concept, and if so, how? Using this construction I do not impose a normative framework of what sustainability actually is, or should be according to me, but rather try to discover what the kind of sustainability is that connects to the individuals and the initiative they support. The elements and connotations mentioned by the members will be studied according to the three elements introduced earlier by Pantzar and Shove (2010 in Hargreaves et al., 2011); namely images, skills and materials. The answers that are given will be classified in the six fields of sustainability which have been mentioned earlier and are an adaption to the sustainability aspects of Stocker and Barnett (1998); the ecological, physical, socio-cultural, innovative, educational and economic aspects of sustainability.

2.4.4 The influencing factors of 'sustainable' grassroots initiatives

The larger context of Transition Theory and its connected niche management will be used for analysing the internal- and external influencing factors on grassroots initiatives; the three process factors as described by Kemp et al (1998) for technological niches in combination with the adapted version of Seyfang and Smith (2010) for social niches; coupling of expectations (managing expectations), articulation processes (learning processes) and network formation (building social networks). Additionally, possibly significant organisational or individual factors will be discussed.

For internal as well as for external processes, in their article of 1998, Kemp et al. have already indicated that the three most important 'process' factors for niche growth and emergence are managing expectations, building social networks, and learning processes. These three factors come back in the urban agriculture literature as well. Also, the organisational form of the garden, as well as individuals and their specific characteristics were deemed to be important (Irvine et al., 1999; Teig et al., 2009; Schmelzkopf, 1995; Flachs, 2010; Bell & Cerulli, 2012).

- Internal factors

'Process' factors

An example of managing expectations as an important part of the process in the community garden niche is that "members of a given garden do not always agree on how the garden should be used, and thus gardens act as a catalyst for participants to negotiate the terms of public social behaviour" (Kurtz, 2001). A clear example is the decisions about whether and how to enclose a community garden project, which are shown to have important implications for the experience of the garden project by gardeners and other urban residents (Kurtz, 2001). Managing expectations also concerns the rules in the garden, even though there are sometimes no written rules to the garden, certain codes of conduct should be upheld verbally and informally to keep the peace in the garden (Teig et al., 2009).

Concerning social networking as an important factor, Glover and Parry point to the importance of mobilising resources both within and outside grassroots community gardening groups (2005, in Bell et al., 2012) and a variety of strong and weak relationships and social ties in forming and sustaining gardening communities (Bell & Cerulli, 2012). The (cultural) diversity of gardeners contributes to the social network, and brings in weak ties (Kurtz, 2001). Weak ties are also called 'bridging ties' and help to reach new networks, through individuals that are in both of them and as such can function to get a broader resource base (Granovetter, 1983). The community gardens offer a setting that allows for the exchange of ideas and values among diverse members, participation in the garden caused some of them to also start to invest in other community activities, as such being another 'bridging' tie (Teig et al., 2009). An example is the garden project in the United Kingdom as described by Bell et al. (2012) where the project initially grew by informal networking and with only simple rules, and only later benefitted from broader networks and other sustainability initiatives by NGOs and local governments (Bell & Cerulli, 2012).

The third factor as suggested by Kemp et al., (1998), learning processes, can also be seen to vary for every community garden. Some of the gardens offer training, in a formal or informal way, in order to train for a gardener as a job and be able to generate an income from it, as well as addressing issues of self esteem of insecure city inhabitants (Ferris et al., 2001). But besides an actual job, teaching neighbourhood residents about composting, organic gardening or water conservation also makes them aware of the value of their environment (Schmelzkopf, 1995). Exchanging knowledge about gardening, or more generally how to save water or deal efficiently with energy or garbage in the household creates the second order learning sustainability effect (Seyfang & Haxeltine, 2012). A garden is as much a learning environment and experiment as a community enterprise, so students, camps, farming projects and workshops all pass through regularly (Flachs, 2010).

'Organisational'- and 'individual' factors

Besides these three factors, the organisational form is an important factor that is named in several articles about community gardens, as well as the influence of individual members in setting up an initiative and helping it survive the years. Self-organisation seems essential in the start-up phase of a garden project, and in most of the cases it only takes one or two residents to take up the initiative, but many more than that are needed to carry out the project and transform the space (Bell & Cerulli, 2012; Schmelzkopf, 1995). However, open communication is not always achieved, sometimes it is difficult to reach consensus because only a small group of gardeners are involved in the decision making (Teig et al., 2009). Or a few strong-willed individuals take over control of what should be a community place and turn it into a sort of private group (Breslav 1992; Kannapell 1995 in Schmelzkopf, 1995).

On the other hand, in order to let the garden get through the years a garden manager stated: "it's really important to make sure that you've got a core group of volunteers that are active in developing and supporting the garden and sort of self managing the garden" (Teig et al., 2009), p.1120), because this core group will take up the managing tasks and new volunteers can be brought in from the neighbourhood, but the actual knowledge and organisation base will not be so easily lost. From these two statements it becomes clear that there needs to be a good balance between openness in the organisation and decision making process, but a core group of people feeling responsible for the garden is also needed in order to keep in existence. Therefore, the majority of community gardens had either a garden leader or a leadership council that orchestrated activities in the garden. The leaders only displayed their willingness to intervene in the activities of the garden for the good of others and encouraged gardeners to assume responsibility for the community garden (Teig et al., 2009).

Besides organisational issues, individuals are needed to set up the garden initially. Often, special individuals make the garden into a special positive or negative place. Gardeners mentioned the importance of individuals sharing advice about gardening practices and food recipes (Teig et al., 2009), which is confirmed by the story of an invaluable older gardener who was always available for tips and tricks in the story of Bell et al (2012). The same can be said for the volunteers or the organisers of the garden, who often possess certain qualities without which the garden would have come into existence (Bell & Cerulli, 2012).

- External factors

'Process' factors

An example of the process of managing expectations is the social environment, which can be seen as connected to the wider 'landscape' as described in Transition Theory, but on a more local scale. The description of several different community gardens in the article of Teig et al (2009) reflect an on-going battle for survival in the neighbourhood, related to broader land tenure insecurities, crime, and neighbourhood instabilities. The latter is the main source of new input of volunteers and support, and as such is a factor that should be kept in mind within the organisation of the initiative. Environmental change must evolve together with strong social organisations to realise community development and sustain such changes over time (Sviridoff, 1994 in Teig et al., 2009). If the neighbourhood is supportive of the community garden, it will probably be more likely to survive. Not in the least because the neighbourhood can pressure the municipality to keep the garden (Schmelzkopf, 1995).

The second process factor, building networks can be related to the tenure of the land as well as to funding. As stated before, gardens are often located on vacated plots, with little market value, but these plots can at some point become more valuable than the garden that is located on the land (Lori Zimble, 2001). Therefore, some of these community gardens can become politically contested spaces, as governments can want to develop the land for housing and destroy the garden (Schmelzkopf, 1995). Development of the plots can also be a reason for not prolonging a land lease, or only for shorter time periods (Lori Zimble, 2001). In other cases the government want to sell the land and trust funds or the garden organisation themselves can have the opportunity to buy the land, though at a high market rate (Schmelzkopf, 1995). Struggles over the rules and ownership of the land can therefore be a source of tension and fatigue in the relationship with the external networks.

The funding is organised through the building of networks of the community gardens have the fact in common that specific communities actively support them, financially or through other support. This can be done through informal or formal networks with NGOs, the local municipality or through networks with other similar initiatives, or even with help from businesses (Bell & Cerulli, 2012; Ferris et al., 2001). "An important agenda for most of these organisations is to preserve and maintain open space in the city. They perceive community gardens as especially beneficial to this goal" (Schmelzkopf, 1995, p. 374). However, projects emerge from informal networks first, until they are sufficiently stable to make more formal relationships with the urban sustainability regime of local government and NGOs (Bell & Cerulli, 2012). An example in Toronto is a garden that due to the commitment of community volunteers, and the generosity of Studio Innova, the city government had only to commit minimal resources to the creation and operation of the garden (Irvine et al., 1999). Funding in general seems to be most difficult in the start-up phase of an initiative, but there are not many sources that can confirm this besides Bell et al. (2012).

An important part of the last process factor; the learning process for community gardens is the difficulties in the interaction with local and central government. Often, participation in a government program for resources requires the on-going support of a broad-based collective, the development of a work plan with community driven priorities and strategies; and costs a lot of dedication of staff time and other re- sources (Twiss et al., 2003).

'Organisational and individual processes'

The gardens can also be organised by and serve a wide variety of communities, including public housing projects, women's shelters, day-care communities and senior citizens's residences (Irvine et al., 1999). Another way of creating this feeling of responsibility is the community workshops that were held to discuss the garden and flyers that were distributed to local residents and businesses. The purpose of this was that the garden's neighbours would also be the 'eyes' of the garden, clearing it of litter and protecting it from various forms of vandalism, thereby creating a sense of stewardship among neighbours (Irvine et al., 1999). Other methods for recruiting new members included posting advertisements near the garden sites and in local newspapers and distributing flyers to neighbours, as well as more casual approaches such as giving impromptu tours to individuals passing by the garden (Teig et al., 2009).

Having discussed the research question, the aims, the sub-questions and the conceptual model, as well as an indication of the importance of several factors according to the literature. I will now discuss in detail the method used to study these phenomena in the next chapter.



Gandhituin Rotterdam



Bergwegplantsoen Rotterdam



3. Method

This chapter will be describing the process of determining how to find the answers to the research questions posed earlier: *Can urban community gardens, as an illustration of 'sustainable' grassroots initiatives in the Netherlands, be called 'sustainable'; which impacts do they have and how can these be classified in terms of 'sustainability'? Which factors influence these urban community gardens as an illustration of 'sustainable' grassroots initiatives and which policy recommendations can be derived from these factors?*.

In short, the method of this research will be explained and discussed. The first part of this chapter will describe the research strategy that is used, and the reasons why this strategy is chosen. Then the data collection method will be presented and discussed, and in the last paragraph the data analysis method will be considered.

3.1 Research strategy

Transition Theory is grounded quite well in the Netherlands, but unfortunately, *practical* research concerning sustainable grassroots initiatives, or niches, is not so extensive. This study aims to contribute to the more practical understanding of 'sustainable' grassroots initiatives in the perspective of Transition Theory and their role as 'niches': Rotmans (2012) as well as Kemp et al. (1998), state that it is needed to come to an *empirical* application of Transition Theory. By performing this study I hope to add to this. Also, as stated by Seyfang and Haxeltine (2010) there is great scope for Practice Theory to deepen our understanding of how grassroots innovations function, develop and grow, and what precisely is happening within niches of social practices – not least how and why new social practices 'catch on' and old practices die out (see also Ropke, 2010; Shove and Walker, 2010).

For an exploratory research topic such as 'sustainable' grassroots initiatives in the Netherlands, a case study research strategy is recommended in the literature as it enjoys a natural advantage in research of an exploratory nature (Gerring, 2004). The following definition of Thomas (2011) defines why: "Case studies are analyses of persons, events, decisions, periods, projects, policies, institutions, or other systems that are studied *holistically* by one or more methods. The case that is the subject of the inquiry will be an instance of a class of phenomena that provides an analytical frame—an object—within which the study is conducted and which the case illuminates and explicates" (Thomas, 2011, p.513, emphasis added). In this research, the object, the analytical frame, is the 'sustainable' grassroots initiatives as a 'niche' within Transition Theory. The *subject* of my inquiry, the community garden, should be an instance of the class of 'sustainable' grassroots initiatives. I argue that the community garden is such a subject in the class of 'sustainable' grassroots initiatives.

The subject, the community garden, is described by several actors as being an interesting or revealing example: community gardens are named as "*icons of local sustainability* in urban communities, improving social, economic and environmental conditions (Stocker & Barnett, 1998 in Bell et al., 2012, p. 34, emphasis added). According to Thomas (2011) but for example also in Bryman (2008) different case study types are mentioned like the 'critical case' or the 'extreme or unique case' (Yin, 2003 in Bryman 2008, p.55), and many more. However, community gardens can be seen as the case study type 'typical' or 'exemplifying case' according to Bryman, or a 'key' case, in the words of Thomas (2011). This type of case study uses a case which exemplifies a broader category of which it is a member. In this case study strategy, another choice needs to be made; to study only one case or multiple cases. This research project is based on multiple cases, which will study several community gardens. This can improve Theory building, as comparing them will establish a better position to test the circumstances in which an assumption will or will not hold. Also, a comparison amongst itself can suggest concepts that are relevant to the Theory in order to broaden or deepen it (Bryman, 2008, p.60).

The exemplifying case, in the words of Bryman (2008) is "the notion of exemplification implies that cases are often chosen because they *epitomise* a broader category of cases or they will provide a suitable context for certain research questions to be answered. The second rationale for selecting exemplifying cases is that they allow the researcher to examine *key social processes*. The case merely provides an apt context for the working through of these research questions" (p.56, emphasis added). As stated before, community gardens are seen as a key case for sustainability. The second rationale that Bryman mentions can therefore be linked to the community garden as the organisation of sustainable grassroots initiatives is a *social process* above all else, being a *social experimental* niche within the dominant regime of society. However, the crucial question is not whether the findings can be

generalised to a wider universe but how well the researcher generates Theory out of the findings (Mitchell 1983; Yin 2003 in Bryman, 2008, p.57). The same kind of statement can be found in Thomas (2011, p.515) citing Eckstein (1975, p. 133) that the case study “is not about testing probabilistically stated theories. Rather, it is about discovering or testing tools of explanation”. Therefore, to test the explanatory power of Transition Theory as well as Practice Theory for sustainable grassroots initiatives, the case study is deemed the most appropriate strategy.

The cases that have been studied, - community gardens - were located in the larger cities of the Netherlands. The reason for this selection is that as cities are the focal point of different atmospheres such as ‘living’, ‘working’ and ‘transport’ and therefore have the strongest dynamics in expecting a crisis in any field of society, they will most likely be the places where ‘sustainable’ grassroots initiatives in the form of community gardens will come into existence as assumed by Hajer (2011). Community gardens have been found through searching the internet, and through overview websites of community gardens as well as through snowball sampling (Verschuren and Doorewaard, 2010, p.201) and word by mouth from acquaintances from the four largest cities in the Netherlands, Amsterdam, Utrecht, Rotterdam and The Hague. A table of the community gardens that were studied for this thesis, see table 1. In order to get the most representative sample as possible within time and resource constraints, the gardens are spread over different ages and the four cities as much as possible. Unfortunately, the Hague has a relatively low number of cases, this is the city where the gardens were not so abundant on the Internet, and contact with the gardens that were found could not or not easily be established. Also, people from gardens in Rotterdam told me that there were not so many community gardens in the Hague known to them, so the snowball technique was less effective compared to the other cities.

Name of the garden	City	Age	In-depth interviews	Survey interviews
Stadstuin Bos en Lommer	Amsterdam	0.5	1	
Oost Indisch Groen	Amsterdam	1	2	4
de Valreep Tuin	Amsterdam	1.5	1	
Afrikanerplein	Amsterdam	2.5	1	
Lusthof Den Haag	The Hague	0.5	1	
Panderplein	The Hague	3	1	
Tuin op de pier	Rotterdam	0.5	1	6
Kralingentuin	Rotterdam	2.5	1	
Gandhituin	Rotterdam	2.5	1	
Kinderparadijs	Rotterdam	3	1	5
Bergwegplantsoen	Rotterdam	4.5	1	
Cremertuin	Utrecht	0 (organising since may 2013)	1	
Wilgenhof	Utrecht	13	1	5 & 1 in-depth
Bikkershof	Utrecht	26	1	

Table 1: Overview of the community garden cases

3.2 Data collection

The most stable kind of information can be obtained by using multiple information sources, and because of this multiple source approach, information can be triangulated (Verschuren & Doornwaard, 2010, p.207). The

following are the knowledge sources I have used; 1) literature, 2) people -through interviews-, 3) documents/websites/blogs and as a data source, 4) reality, by visiting the gardens. The first knowledge source has been literature, as discussed in the theoretical framework chapter earlier. The second knowledge source is the analysis of documents, websites, blogs or books that describe the community gardens which have been found online or provided by interviewees. These were for example the mission statement, or the agenda of the garden, or reports of activities that have been organised in the garden, as well as blogs or books about the history and current developments in the gardens. For the third knowledge source, people, I have conducted fifteen in-depth interviews with individuals who were founders or organisers of the garden, see table 1. These interviews were on average one and a half hour long. Also, twenty survey interviews of approximately twenty minutes have been conducted with people involved in the garden as a volunteer or visitor, as well as one in-depth interview with such an interviewee which was approximately an hour long, see table 1. All of these interviews have taken place at their home or in a cafe with a visit to the garden, or entirely in the garden. Therefore, the last data source is reality; I have made observations during the interviews and visits of the gardens, and made pictures of the gardens. Also, during work days that I was present small talk during breaks or parts of conversations have been used as data as well.

3.2.1 *Semi-structured in-depth interviews*

As the aim of this research is an exploratory one, to add to the more practical part of Transition Theory and Practice Theory, I have chosen to conduct semi-structured interviews as the main method for obtaining data. The reason for this is that even though the study has a fairly clear focus of which questions should be answered, I wanted to be flexible and be open to the point of view of the interviewee. The goal of semi-structured interviews is to unravel how the interviewee frames and understands the patterns, events and forms of behaviour within a community garden and his or her personal life (Bryman, 2008, p.438). Therefore, the problems and recommendations of people involved as a founder or organiser in a community garden were asked specifically from this person's perspective. Another reason for semi-structured interviews is that new concepts can come up in these kind of interviews, which are essential to research for expanding or deepening Theory by suggesting possibly relevant new concepts (Bryman, 2008, p.437). When asking for an insight in the workings of the community garden as a representative of a 'sub-questionsustainable' grassroots initiative, as these developments or problems are not known beforehand, a more flexible approach is deemed appropriate by the researcher. This open approach leaves room for the interviewee to bring in the aspects that he or she deems important, which is also the reason that all of the interviews have also been recorded. This supports the natural interaction with the interviewee, and takes care of the problem of having to write down things that can disturb natural conversational interaction in the interview. The target group for these in-depth interviews about the underlying motivations of community gardens and its inner workings were individuals involved in the organisation of the garden, either a founder or an organiser. The topic list used for these interviews can be found in Appendix 1.

3.2.2 *Short surveys*

In order to study the 'sustainability' impact of sustainable grassroots initiatives, short surveys were conducted among the visitors or volunteers of the community gardens. In these surveys the goal was to study if community gardens really do have an impact on the people that are involved in them, and if so what kinds of effects could be there. Besides asking about these direct effects, indirect effects on the scale of the neighbourhood were studied as well, as a representative of the wider influence of the community garden. Inspired by Practice Theory, the survey included asking the visitors or volunteers questions about their *ideas* of what 'sustainability' is, whether these ideas have changed because of the garden, and in what way, and whether they have started *doing* something different after becoming involved in the garden, in other words, whether their everyday practices (images, materials, skills) had changed. The target group for these interviews was the individuals involved in the community garden, the people that have a garden within the larger garden, or come to the working days, or are a volunteer helping out in the garden. So, for measuring this 'sustainability' impact, a shorter survey interview compared to the in-depth interviews for the founders/organisers has been chosen for this purpose, which enabled me to include more people in the target group. The survey questions used for these interviews can be used in Appendix 2.

3.3 **Data analysis**

As stated in the data collection, four knowledge sources have been used; literature, people (interviews), documents/websites/blogs of gardens and as a data source, reality (visiting the gardens). The analysis of the

literature that has been used has been presented earlier in the theoretical framework in chapter two. The in-depth semi-structured interviews have all been recorded, and (roughly) transcribed some days later, within the maximum of 7 days after the interviews were performed. The short survey interviews have not been recorded, but the answers have been written down, and later expanded to a digital format. Documents, websites and blogs have been visited and used continuously in the research project, during the writing of this thesis, as well as during the setting up of the project, as an inspiration for the survey questions for example. Observations in the garden have been written down in a research book, and weaved into the text of this thesis. Also, in every garden, photos have been taken, which have been used to recall and support the observations made during my presence in the garden.

In order to analyse all of this data, a database has been constructed with all of the information available of a garden. Besides practical information such as websites, or interviewees names and their contact information, summarised answers to the sub-questions of this research project have been put into the database. This made it possible to compare between community gardens, between cities, or between age groups of gardens. A separate database has been made for the survey interviews with full answers, which also enabled me to compare between cities, gardens and age groups of individuals. Also, to compare the interviews to some measure, comments or answers of interviewees have been grouped together if they were very similar, in order to be able to say something about the relative importance of certain topics or factors, as some answers were given more often than others.

The data analysis method that has been used is a qualitative content analysis. In this method, “The researcher is more involved in indicating and understanding the contents and roughly classifying these, by means of temporarily labelling them, rather than classifying them in closed categories” (Verschuren and Doorewaard, 2010, p.228). This means that similarly to a Grounded Theory approach, “Observational categories are basically open categories and the researcher is looking for the meanings the producers of the material have attributed to certain cases”. (Verschuren and Doorewaard, 2010, p.228). The attitude of the Grounded Theory approach has been used throughout this entire research project, of which the aim was exploratory, Theory building and testing concerning ‘sustainable’ grassroots initiatives. Therefore, I will shortly discuss the three main characteristics of Grounded Theory according to Verschuren and Doorewaard (2010, p.186-194). First, an *inquisitive attitude*, from the the researcher, which requires an open mind, or ‘theoretical sensitivity’ (Strauss & Corbin, 1990 in Verschuren and Doorewaard, 2010, p.187): ‘refers to the attribute of having insight, the ability to give meaning to data, the capacity to understand, and the ability to separate the pertinent from that which isn’t’. This is also the most difficult part of this approach: “there is a risk of getting lost in the complexity (of the overall picture) and letting one’s imagination take over” (Verschuren and Doorewaard, 2010, p.193). The second characteristic is a *continuous* process of *comparing* empirical data and theoretical concepts, in which the researcher investigates if a newly found phenomenon has the same characteristics as a similar phenomenon which was previously found, which in the case of this research project are the community gardens. The study is to fit the community gardens with the theoretical concept of the ‘sustainable’ grassroots initiative/niche in Transition Theory. This is called ‘inductive comparison’: “The researcher establishes a characteristic of a phenomenon in reality and subsequently searches in existing theories to find an explanation for this characteristic” (idem, p.189). The third characteristic is a careful and consistent use of the *procedures and techniques* as set out in Verschuren and Doorewaard (2010, p.186-194), which are 1) sensitising concepts and open coding, 2) axial coding and 3) selective coding, however, there are no standardised variants of the grounded Theory approach.

A major advantage of the Grounded Theory approach is that it can be used to develop a Theory that is, despite its abstraction, easily recognised by the people referred to in this Theory (Verschuren and Doorewaard, 2010, p.193); “The most effective use of Grounded Theory is when a Theory is to be developed in a new area, or in an area that has not yet, or hardly been studied. This is especially favourable when the goal is not to develop abstract general theories but to develop practical theories”. As one of the critiques of Transition Theory was that it was too abstract and needed more practical application and expansion (Hargreaves et al., 2011; Rotmans, 2012), this was an important part of the way in which the research project was performed and its data was analysed.

Having discussed the research strategy, data collection method, and the data analysis method, the results of this thesis will be presented and discussed in the next chapters.



Wilgenhof Utrecht

Cremertuin Utrecht



4. Images of ‘sustainability’ and the impacts of community gardens

This first results chapter focuses on the question of what kind of sustainability-related effects these community gardens have as specified in aim 2, The second aim of this study is to study the impact of urban community gardens as an illustration of ‘sustainable’ grassroots initiatives on their environment and their members in terms of ‘sustainability’ using Practice Theory. This chapter will start with a discussion and comparison of the *personal* sustainability images for community garden founders/organisers compared to the images of the visitors/volunteers of the gardens, in paragraph 4.1. Second, the sustainability images of these two groups, *related to the community garden* for the garden will be discussed in 4.2. Third, the *direct* impact on the lives of people involved in a community garden will be discussed, after which the *indirect* impacts of the community gardens will be elaborated on, 4.3. At the end of this chapter, a short conclusion will be presented concerning the ‘images’ of sustainability which people involved in a community garden hold, as well as the direct impacts, ‘skills’ and ‘materials’- and indirect sustainability impacts which are experienced because of the involvement and presence of the garden, 4.4.

4.1 Comparing sustainability images of individuals involved in community gardens

In this paragraph, the personal sustainability images of both founders/organisers as well as visitors/volunteers involved in the gardens will be discussed and compared. For both groups this is the result of the answers to the question: “What are your personal associations with the concept of ‘sustainability’?”, see table 2 for the founders/organisers and table 3 for the visitors/volunteers. The answers can be put in the following categories; ecological aspects, physical aspects, socio-cultural, educational, innovative and economic sustainability, as discussed earlier in this thesis (p.16) which will be discussed first, after which the sustainability images of founders/organisers and volunteers/visitors of the garden will be considered and compared.

First, the ecological category with aspects like biodiversity, permaculture, the attention for fauna as well as flora, a focus on the soil and how to take care of it. Another ecological sustainability aspect is the re-use of materials in the garden, both to obtain them through the network of people involved and the re-use of what is already present in the area such as stones or pieces of wood. Organic plants and measures are named very often in the context of why the garden can be called ‘sustainable’. The physical sustainability aspect that is named relates to choosing to be an organic garden. In taking care of your body, and to ensure its ‘sustainability’ growing food with poison seems a bad idea (interviewee Stadstuin Bos en Lommer). However, the interviewees who told me this, did not necessarily buy organic, so it seems to be a bit paradoxical. The third aspect are the social and cultural interactions that can be a part of a sustainable garden; creating interactions between people who would otherwise not meet, in the words of Stocker and Barnett (1998) to create a community place. Garden people can differ in culture, social class or simply age, which could be the reason that they do not normally encounter each other. These interactions and meetings can build a different kind of social network in the neighbourhood, creating social and cultural sustainability effects. The fourth part of sustainability is the educational, the wish to transfer knowledge about nature and the way to grow things to other people, either children or adults. This includes wanting to bring up children to come into contact with bugs, spiders, to just pluck an apple, and to understand how vegetables for example are grown. The fifth aspect of sustainability is the creative aspect; being innovative and using experimental (social) technologies, which can be a test-case for new ways of gardening or new social constructs that can point towards innovative sustainability (Stocker and Barnett, 1998). The sixth and last aspect of sustainability is the economic sustainability, the idea to be independent of others for your food, and to understand that this is possible and can be organised. To support people that have little money to spend to grow their own food, relieving them of some financial pressure. All of the aspects that are named by the interviewees are categorised in these six ‘fields’ of sustainability.

4.1.1 Personal sustainability images founders and organisers

Table 2 below shows a summary of the ‘sustainability’ images that were mentioned in the interviews with founders or organisers when asked about their specific personal ‘sustainability’ associations, the second table presents the personal images of visitors and volunteers, after which both will be discussed and compared.

Table 2: Personal 'sustainability' comments of founders/organisers

Name of the garden	Personal 'sustainability' comments (founders/organisers)
Cremertuin	it is very broad concept, Brundtland, or just planet people profit, it is what I want to teach my kids, so also in my behaviour mostly since my kids, and to start with the small scale; square in front of the house to be clean and nice, solar panels for the house, more insulation, electrical car but periods of more intensity
Stadstuin Bos en Lommer	edible garden to let people interact. public garden is exactly interesting, very explicit about this, otherwise disappointments. it is a societal trend about food in the city, but I think it will last. for me, this garden is only the beginning, there is so much barren land. it is nice to look at the garden from my apartment,
Lusthof Den Haag	fascinated by 'bad' neighbourhoods and how to change this to proud, critical of 'sustainability' at the small scale, it is really about bigger processes, poor people are already 'sustainable', rich people are often not at all, it is like a pardon.
Tuin op de pier	to take good care of my personal belongings, and fix them instead of buying new ones, I like eating food from the garden instead of buying at the supermarket, more independent and ethical to do it yourself, am part of a 'band' of artists creating art with recycled materials.
Oost Indisch Groen	most important that people get into contact with the earth. too much is just taken for granted; growing tomatoes costs energy and time, so 30 cents for a kilo is just not right. just start small and now, the bigger and later will just come later.
de Valreep Tuin	food sovereignty is a sustainable thing, also a way of life in which the squatting movement fits as well: not just buying new things but reusing to build tables, do not burden nature more than is necessary
Afrikanerplein	do something about fear of each other's cultures, sitting down together on a bench is better! I do not just think of sustainability as plants but also how people can get along, you meet people but also meet the problems of the neighbourhood
Kralingentuin	sustainability is a hollow concept, resilience is the new one, is a bit better, but it seems that making your own food is an undercurrent of society now. I had thought that this garden would be more producing together, but it is more about the social thing, not for learning but for coming together.
Gandhituin	things support each other in the universe, so it is important to reconnect with the earth for people and to reconnect with each other and be creative. to also help and support each other this way.
Panderplein	sustainability is a hollow concept, is something that should be incorporated in daily life, it is being conscious of your environment and the way you treat it, I want people to think about it and teach them that things can be done differently.
Kinderparadijs	the one thing that I think is important is to teach children about impact and trash, to let them think in cycles instead of linear processes.
Bergwegplantsoen	for this garden, it is meant to be an experience garden, not necessarily for producing food, but to be in a nice place. Mixing between Humanitas people and multi-cultural people from the neighbourhood.
Wilgenhof	for me sustainability is being in contact with nature and your food, the energy that growing actually costs and the respect for the process. The different experience of time, how slow things can go as a contrast with our time experience
Bikkershof	the founder had a specific perspective and vision, but was always open to new initiatives, inspired by permaculture, which takes a broad approach, not just one focus point, so the garden is made up of many kinds of gardens.

One of the things that is mentioned by several founders/organisers is that sustainability is a 'hollow' concept, and that the new concept, resilience, is more appropriate but still not entirely right. One interviewee argues that it serves as an indulgence for richer people to feel good about themselves and their recycling habits, even though if you compare it to poorer people they have a far larger 'ecological footprint'¹. She argues that poor people are already quite 'sustainable' and the real win for sustainability will have to be found in the larger processes, which have to be steered and demanded by the government. Others emphasise the small scale as the one thing that they think they should begin with to teach people to live in a better way, for example the Oost Indisch Groen founder, and the Cremertuin as well as the Kralingentuin founder stress this point, which is the *educational* part of sustainability. A similar *educational* point of view is the respect for food that comes with growing it yourself, according to Oost Indisch Groen, the Wilgenhof and Stadstuin Bos en Lommer, which connects to an idea of time

¹ The ecological footprint is a way to measure and compare the use of resources of a person.

and effort that has to be invested in for example a garden to make it 'sustainable', they hope it makes people realise that our food system is not right. The Panderplein- and Kinderparadijs interviewee agree with respecting food but adds the environment as well, and learning to appreciate it by doing it yourself, which could be classified as *educational/ecological*. The founder from the Valreepuin mentions food as his main point of sustainability, but as an *economic* aspect of sustainability; the wish to be independent from an outside food production chain, and the clarity and hopefully lack of processing of a local food chain. He agrees with the former two gardens that it is important to be able to grow something yourself, to realise your independence in this matter and learn to respect food. The concept of permaculture also surfaces when asking about sustainability. Both the Kralingentuin, Gandhituin, Bergwegplantsoen and the Bickershof specifically take this as a starting point, and have this as their personal philosophy as well; it stands for being 'sustainable' in a innovative and diverse way, making it a *innovative* aspect of the concept. Not just focussing on one thing, for example only a vegetable garden, but multiple things, like a pond, having animals, having a herb garden. Some of these people practice permaculture philosophy also in their lives, trying to work multiple jobs, being very diverse in their activities, from the belief that everything is connected and feeds into each other.

To sum up, besides the notion of 'sustainability' being a 'hollow' concept, mainly educational-, economic and innovative aspects, and a bit ecological are named for their personal sustainability images by the founders/organisers of community gardens.

4.1.2 Personal sustainability images for volunteers or visitors

The following table 3 shows the personal 'sustainability' comments of the visitors or volunteers of the community gardens, which will be discussed and compared to the comments of the founders or organisers as well, to study similarities and differences between them.

Table 3: Personal 'sustainability' comments of visitors/volunteers

Garden	Personal 'sustainability' comments (visitors/volunteers)
Tuin op de pier	Being frugal, not wasting, fashion word, means something will last longer, awareness of transience, re-cycling for something new, environmental friendly, fair trade, fix something that is broken, not buy new, important for Netherlands, should focus on clean technologies, we should be leader in that
Gandhituin	self sufficient, respect the environment, aware of what you consume and the impact, follow seasonal cycle, large concept (food, energy, behaviour, relationships), use only what you really need, be aware of that, negative associations, companies like McDonalds that piggyback on this concept but do not understand it, positively, simplicity, make different choices, but not fake, organic, local, no drivers licence, check clothing brands, but sometimes pragmatic as well, its only a word, it is too 'made up', my own version is more connecting/loving/hugging.
Wilgenhof	careful with the earth, recycling waste, give plant waste back to the earth, try to make optimal use of things that are already there, thinking about longterm vs short term, do not throw stuff away too soon, think about consuming, no plastics, green energy, organic, fly not too often, take the bike, do not have a car, ultimately to preserve the earth for future generations, and teach that to others as well, really do it; be aware of waste, not just output, but also input of your body; organic, grow your own food, no poison
Oost Indisch Groen	expensiveness, how to survive without disasters in energy, food, water, to preserve nature, to grow your own plants, take care of your own health, health in a natural way (no pills), strike a balance between sustainable and industrial (pragmatic), be prepared for the future in social en ecological sense, but easy to misuse the word, if the one aspect is sustainable, the other does not need to be, so very stretchable word, hard to determine if something is really sustainable, container concept & hollow, should be to preserve the earth for your children, positive feeling about sustainability, still most 'white people idea', organic (but have to check if it is right, also misuse)

In this table, many ecological and physical aspects are mentioned, like preserving nature, environmentally friendly, preserve the earth, both *ecological aspects*. Organic food, taking care of your health: *physical* sustainability aspects, or your own consumption pattern, and to re-use and repair the things you own: *ecological/physical aspects* and so on. Similar to the founders/organisers it is also mentioned that sustainability can be a 'hollow term' as well as the misuse of the word sustainability and its related power, or its 'stretchability', which is mentioned in almost all of the four gardens. An aspect that seems more present in this table is the connection with future generations, and possible disasters that can destroy the earth, which could be classified as *socio-cultural* aspects

or *ecological/educational* aspects of sustainability. Some of the interviewees get to the social sustainability aspects as well, but not as many as talking about ecological or physical aspects like recycling, buying organic, no plastics, no pills, but healthy trough food. What is also mentioned is the *economic* aspect of sustainability; not being dependent on another system but being self sufficient by growing your own food, for example by some of the visitors/volunteers of the Gandhituin.

The sustainability images of the visitors/volunteers are therefore ecological, physical, educational, socio-cultural and a bit of economic sustainability. The only aspect that is not mentioned so explicitly is the innovative aspect of sustainability, which was very present with the founders/organisers of a community garden. The similarities between the two groups are the educational aspects of sustainability that they both mention as important on a personal level, and in a lesser degree the economic and ecological aspects. Also, both of the interviewed groups mention the ‘hollow’ concept or misuse of the word ‘sustainability’. It could be interesting for further research to investigate what exactly this means for them, and to understand what the possible consequences are of the ‘inflation’ of the power of the concept of ‘sustainability’.

4.2 Sustainability images related to the community garden

Having discussed the personal images that people involved in community gardens have, the next step is to study the associations they have when it comes specifically to the community garden itself. As shown in the conceptual model in chapter three, the community garden is expected to influence interactively the sustainability images that people have. Therefore, first the images of founders/organisers will be presented, after which the same is done for the volunteers/organisers of the community garden, see table 4 and 5 respectively. The answers have also been categorised in the six sustainability categories; ecological aspects, physical aspects, socio-cultural, educational, innovative and economic sustainability. In the table presenting the garden-related sustainability images of the visitors/volunteers, the last column presents the findings on whether the sustainability images of visitors/volunteers have actually changed due to the interaction with the garden. The implications of this will be discussed last.

4.2.1 Sustainability images of the community garden from founders/organisers

The table 4 presents the answers to the question of which associations the interviewee had when talking about ‘sustainability’ and the garden itself.

Table 4: Comments of sustainability images related to the community gardens by founders/organisers

Name / sustainability aspects	Age	Sustainability images related to the community garden (founders/organisers)
Cremertuin ecological, physical, socio-cultural, educational, innovative	0	to take nature into the city, a playground for kids where they can ‘meet’ bugs and insects and nature in general, with the garden I want to bring this to the children and other people of the neighbourhood. a balance between permaculture and a place for everyone, probably organic but not too strict. plans are: nature playground, vegetable garden, personal gardens, composting.
Stadstuin Bos en Lommer ecological, physical, socio-cultural, educational	0.5	really a focus on edible plants has a strong effect on the neighbourhood, people have to know that they can grow food anywhere. not everything is organic because everyone has to be able to get involved. buy organic seeds and plants, no poison on your own food only ecological pesticides, want to do compost, but in public space that is hard. but take one step at a time, easy. sometimes I have to say, ‘the garden is for everyone’. multi cultural place, everyone in the neighbourhood comes and small talk.
Lusthof Den Haag ecological, socio-cultural, innovative	0.5	proud of the neighbourhood through gardens, focus on edible plants, or insect plants, not too many rules. for the boxes on the bases of trees we use old pallets, not very durable, but are reused. Not organic ‘elite’ but for everyone to do what they can, that is much more important. permaculture is nice, but is too hard for our scale, experiment to see what happens
Tuin op de pier ecological, physical, socio-cultural, innovative, educational economic	0.5	only circle shaped gardens, looks good and is a ‘finished’ shape: its philosophy is to share everything. meeting place, added manure to the ground, insect hotel made of leftover wood, circles of old pallets, will replace them with stones later, as much re-use and recycling as possible, plants from other gardens, use network for resources, as organic as possible.

Name / sustainability aspects	Age	Sustainability images related to the community garden (founders/organisers)
Oost Indisch Groen ecological, physical, socio-cultural, educational, innovative	1	soft shapes as in nature itself, meeting place, hub garden, activities, learning and teaching about food and nature, people have to get contact with nature to make them aware, no chemicals, biodiversity for birds and insects, also areas only for them, composting, also for residents. to take care of a part of you daily food by growing them yourself, also the social aspect of sustainability, learning and interacting with each other
de Valreep Tuin ecological, socio-cultural, economic, innovative	1.5	gardens for neighbourhood and poor people, local independent food chain and food sovereignty, a bit of permaculture, no chemicals, re-use of old bags and old swimming pools for growing. focus on edible plants, innovativeness because of so many people with different background.
Afrikanerplein ecological, physical, socio-cultural,	2.5	meeting place, focus on multicultural, different kinds of people and gardens, beautiful place, a place for rest. no chemicals, composting, but also: problems of the neighbourhood surface, and negative social situations as some people take advantage of the kindness of others
Kralingentuin ecological, physical, socio-cultural, economic, innovative	2.5	this garden is set up from permaculture principles, but we don't preach that, only when people ask we tell the why and how. the garden is very open, if you come that is okay if not, also okay. composting, wood-trash walls for insects, permaculture principles, round shapes, knowledge level is low, people also do not want to learn so badly, more a meeting place.
Gandhituin ecological, physical, socio-cultural, educational, economic, innovative	2.5	place for creative sustainable ideas, connecting people with the earth and each other, food independence, hub garden beehives, insect hotels, butterfly garden, forest edge, compost, different kinds of gardens, also lectures and exchange of knowledge, innovative social constructs
Panderplein ecological, physical, socio-cultural, educational	3	aim is long term project with green to connect people, activate them, exchanging knowledge. focus on edible plants, re-use of all stones that are there, as much as possible organic, no artificial manure, mainly vegetables and edible flowers, composting as much organic as possible, some principles of permaculture, windbreaks.
Kinderparadijs ecological, physical, socio-cultural, educational	3	live happy garden, experiencing and educational for children, hub garden because of the green house, side walk tiles for keeping greenhouse warm, wood-trash walls for insects, permaculture, multifunctional plants, waiting for the network to create options for materials, compost, foster plants for planting later, teaching children to think cyclical instead of linearly.
Bergwegplantsoen ecological, socio-cultural, innovative	4.5	experience garden, nice atmosphere for residents retirement house and surrounding houses, garden to sit in, edible as well as beauty permaculture principle, re-use for all of the stones already there, mosaics of old pottery, edible plants and herbs, connecting people, maintained by the neighbourhood.
Wilgenhof ecological, physical, socio-cultural, educational	13	organic agricultural garden, permaculture basis, study garden, experiencing and educational children and adults, for the neighbourhood, biodiversity, connecting, and learning in the garden, having a feeling of plenty and abundance, building a social network from garden contacts, composting, permaculture area, organic forms in the garden
Bikkershof ecological, physical, socio-cultural, educational, innovative	26	permaculture and green (re)cycle, different kind of gardens, place for everyone, permaculture, building a biodiversity biotope, wood-trash walls for insects, organic kitchen gardens, gardening without harming nature. culture gardens, herb gardens, orchard, botanical garden, flower field, pond, tea garden, animal places for chickens and geese.

What stands out when looking at table 4, is that the 'sustainability' images of the gardens are for all founders or organisers defined by the *ecological* (all of the gardens: 14) and *socio-cultural* aspects (14), most name *physical* aspects (11 interviewees have mentioned them), some mention the *educational*- (9), or the *innovative*- (9), and a few mentioned the *economic* aspects (4): the first column of the table show the classification of images that were mentioned by the interviewees. Most gardens cover a broad range of on average four fields. Three gardens cover 'only' three fields, Lusthof Den Haag, the Afrikanerplein and Bergwegplantsoen. These are all public gardens, and relatively small, which could explain their relative small range of sustainability aspects. The two gardens who cover the whole of the range of sustainability aspects are the Tuin op de Pier and Gandhituin, both located in Rotterdam. Gandhituin is a private garden, while the Tuin op de Pier is completely public and both have quite a different

character as well as type of garden (which will be discussed in the next chapter), however, they are both driven and supported not just by an active core group of organisers, but also by an active group of volunteers/visitors.

To sum up: for all of the founders/organisers the images that are associated with the gardens are ecological and socio-cultural sustainability aspects, it varies for the other aspects, of which economic is mentioned the least often.

4.2.2 Sustainability images of the community garden from visitors/volunteers

The following table 5 presents a summary of the associations concerning the sustainability concept linked to the garden mentioned by the visitors or volunteers. Many of the aspects of sustainability that are mentioned by the visitors/volunteers are *ecological* (4) and *physical* (3), like 'see the beauty of nature, to re-use materials or to re-use water, learn to follow the season'. Also, the *socio-cultural* (4) aspect is mentioned for all of the gardens. For visitors/volunteers of the Gandhituin, Wilgenhof and Oost Indisch Groen, the gathering of knowledge and exchange of knowledge, the *educational* aspect (3), of gardening are mentioned as one of the primary things that really add something to the sustainability image of the community garden, 'to make compost, to learn things, learn about old vegetables'. The Gandhituin stands out most in its *innovative* sustainability aspects of the garden, with 'alternative techniques and energy, experimenting beekeepers' even though the Wilgenhof also has a bit of this aspect by visitors/volunteers mentioning 'creating a closed system'. The *economic* aspect (1) is only mentioned for Oost Indisch Groen, in 'being less dependent on the industrial system, and learning to grown your own vegetables'. None of the gardens cover the whole of the range of sustainability aspects according to the answers of the visitors/volunteers, but all of them include the ecological and the socio-cultural aspect.

Table 5: Images of sustainability aspects related to the community garden by visitors/volunteers

Garden	Images sustainability related to the community garden (visitors/volunteers)
Tuin op de Pier ecological, physical, socio-cultural	natural materials, no plastic, composting, no poison, no artificial fertiliser, garden should approach the connection between people and nature, just want to contribute to the garden, but as a hobby, dig into the ground, good to do something, re-using materials, re-using plants, waste recycling,
Gandhituin educational, ecological, innovative, socio-cultural,	learning things about gardening, bees and plants are interdependent, learn to follow the season, about local vegetables, the extra of the garden is mainly to work with your hands and to gather new knowledge, garden is an example of sustainability; ideas for alternative techniques and energy, beekeepers are experimenting as well, idealistic, to connect on all levels, human and nature, very practical is sustainability, to meet like-minded people
Wilgenhof educational, ecological, physical, socio-cultural, innovative	to make compost, kind of paradise is the garden, if you treat something with kindness it will keep that way (that is sustainability), it will 'stay' with your positive energy, a garden is self-sustaining it can help itself, it is only supported by its members that is also sustainability, to exchange knowledge about how other people understand sustainability, helps choosing for organic, more conscious of sustainability, it is fun, to show what is beautiful about nature, to be creative with materials that are there, to show reuse of waster, organic, to make a closed system by reusing almost everything
Oost Indisch Groen economic, educational, socio-cultural, physical, ecological	try to grow your own vegetables and herbs, so less dependent on industrial system, mainly also to do this together with other people, learning things about gardening, but also old vegetables, lots of recycling of materials that are already there, reusing stones, crop rotation principles, composting also for neighbourhood, not so elite or 'dusty&old' but simply sharing plants and cuttings, it makes the frayed edges of the city beautiful and positive, this is good idea

When a comparison is made with the group of founders/organisers of the community garden, it paints roughly the same picture. All of the community gardens are associated with images of ecological- and socio-cultural sustainability, with the physical, educational and innovative aspects in the runner up places, and economic aspects mentioned the least of all images. However, the images of founders/organisers are *not* the same of the four gardens as those of the volunteers/visitors, as presented in table 6. These differences can be explained simply by the notion that the people who visit the garden or volunteer for it can certainly have different ideas about the garden compared to the founders/organisers. For most of the gardens the founders/organisers attribute a broader sustainability image to the garden compared to the visitors/volunteers, which is not, or not yet, entirely picked up upon by the visitors/volunteers. This probably depends on how actively the different sustainability aspects are promoted by the founders/organisers in the garden and whether visitors/volunteers are open to these influences, which is discussed next.

Table 6: Difference in images for four gardens between the founders/organisers and visitors/volunteers

Garden	Founders/organisers	Visitors/volunteers	Difference	Images changed?
Tuin op de Pier	ecological, physical, socio-cultural, innovative, educational, economic	ecological, physical, socio-cultural	innovative, educational economic extra by founders/organisers	yes: 0 no: 5
Gandhituin	ecological, physical, socio-cultural, educational, economic, innovative	educational, ecological, innovative, socio-cultural,	physical, economic, ecological extra by founders/organisers	yes: 3 no: 2
Wilgenhof	ecological, physical, socio-cultural, educational	educational, ecological, physical, socio-cultural, innovative	innovative extra by visitors/volunteers	yes: 2 no: 3
Oost Indisch Groen	ecological, physical, socio-cultural, educational, innovative	economic, educational, socio-cultural, physical, ecological	innovative by founders/organisers instead of economic by visitors/volunteers	yes: 3 no: 1

When asked if being involved in the garden had changed or had any *influence* on their personal images of what sustainability is and how it should be practiced, some people answered there was no change at all, while others did experience a change because of their attendance at the garden, see table 6, last column. At Tuin op de Pier, none of the interviewees said their ideas were changed, only one person said “no, except for the attention I now pay attention to compost and the separation and recycling of my waste”, which can be seen as a little more awareness compared to before. At the Gandhituin, those that did have their perspectives changed, told me it was because they gathered more knowledge of gardening and plants in general, or because of the garden being a ‘hotbed’ of creative or sustainable ideas, and therefore challenged their thinking, into ‘more practical’ but also more ‘radical ideas’. Both of the people who said their thinking about sustainability did *not* change, admitted that besides taking potatoes home that were grown by themselves, the extra value was the gardening knowledge that they gained by being and working at the garden, which did not *challenge* their sustainability ideas, but were more of an *addition* to them. At the Wilgenhof, the two people who found their ideas changed told me it was because of their interaction ‘with like-minded people, who tell me about how they behave and live sustainably’. They challenged this person to be more aware of the concept, and a result of this was to go to the organic store more often than before. Two of the interviewees of the last garden, Oost Indisch Groen, said almost the same as at the Wilgenhof, they gathered more knowledge, and did that together with other people, which was an important aspect for them. One of the other two visited the garden during an event and was positively surprised by the people being diverse, and not just a dusty old group of ‘goat-sock’ (in Dutch: ‘geitenwollen-sokken’) people. The other person admitted to bring her organic waste to the garden for composting, but did not have her sustainability ideas challenged in a profound way.

The Gandhituin and Oost Indisch Groen seem to have changed the sustainability images of the most visitors/volunteers, while the Tuin op de Pier changed them for none of the visitors/volunteers, even though some of the visitors/volunteers for all of the gardens did admit that their ideas were influenced, even though they were not changed, but more added to.

4.3 The direct and indirect impact of the gardens on visitors/volunteers

The last aim of this chapter is to understand the actual (sustainability) *impact* that community gardens might have on the lives of visitors or volunteers of these gardens. In the Theoretical embedding, chapter two, it is discussed that one of the ways to understand impact is to study whether changes have taken place in the daily *practices* of people, as suggested by Practice Theory (Shove and Walker, 2010). This paragraph will delve deeper into this definition of impact, in understanding *direct* impact as the changing daily practices, to be more specific the changing of the elements of practices ‘materials’ and ‘skills’, (the ‘images’ have just been discussed) and *indirect* impact through the changing of the larger social atmosphere of the neighbourhood because of the presence of the garden.

4.3.1 Motivation and direct impact of the gardens

Motivation and the changing of daily life practices are probably interlinked; if the reason for involving yourself in the garden is to get to know more people in the neighbourhood, your daily life practices can change for example in being at the garden every regular workday instead of being at home, or stopping to have a chat at the supermarket

with someone whom you met at the garden which changes your behaviour and possibly your routines later in a more profound way. In table 7 below, keywords about motivations and daily life impacts will be shown and later discussed. Also, as a measure of relative importance, recurring comments have been grouped and given a number between brackets of how often they have been mentioned.

Table 7: Motivations and direct impacts of the community gardens on visitors and volunteers

Name of the garden	Motivations	Impacts on daily life
Tuin op de Pier	nice to volunteer, for social contacts, fun, fresh vegetables, a use for fallow ground (2x), live in the neighbourhood (4x), part of the organisation (3x), more beautiful neighbourhood, more 'green' in the city, helps to prevent dispersion of particulate matter	a lot more social contacts (4x), feel better connected to the neighbourhood (3x), more beautiful, neighbours who know me now, replaces going to the gym, people know you are involved in a garden so you receive things, talk about garden things, eating from the garden (2x), changes where you walk the dog (3x), view has changed, Saturdays working in the garden, book exchange 'library' in the garden
Gandhituin	wanted to get involved in peace project and found the garden, permaculture interested, a talk about cancer in the garden, don't have a garden myself (2x), doing physical work, take your mind of things, the group dynamic is good here, to share knowledge (2x), share life perspectives (2x), met someone of the garden at singing mantra's, the garden signifies nature and social things important to me	more conscious of the power of the earth, more connection with life, to enjoy the food from the garden, I am here every Tuesday it is a rhythm, sharing plants, sharing bees, gathered more knowledge (2x), my social network has grown (2x), talk about environmental issues and health issues (2x), I am improving my Dutch
Wilgenhof	have only a small garden little sun, live in the neighbourhood (5x), love gardening (3x), working with your hands, working together, making neighbourhood beautiful (2x), makes me happy (3x), in the organisation (2x), green in the city, fun people,	impact in all perspectives of my life; meeting nice people (2x), having a quite place (oasis) (4x), physical work, even more aware of good influence of plants (2x), I am more outside, more social contacts in the neighbourhood (2x), feel more connection with community (2x), visit garden at least once a week, not just for gardening just being here (3x), more aware of waste, more aware of nature also for teaching my children
Oost Indisch Groen	live in the neighbourhood (4x), interested in environmental issues, permaculture, nice place to be, I work in similar projects, wanted to organise project together with the garden	been here Saturday with my son, feel at home (2x), makes me happy (2x), more involved in garden architecture because of garden, more often outside, gives me peace and inspiration, at least two days a week here, social meeting place

In the motivations column the most mentioned reason is to live in the neighbourhood. Also being part of the organisation, wanting to garden but not having one, or only a small one, making the neighbourhood more beautiful and the comment that being in the garden makes people happy is made quite often. In comparing the gardens there does not seem to be much difference in motivations. The answers concerning the direct impacts for the gardens do vary however. For Tuin op de Pier the social contacts, the connection with the neighbourhood and the atmosphere for walking the dog are most mentioned. The Gandhituin is mostly about sharing knowledge, creating a social network and exchanging perspectives of life styles and environmental issues. The Wilgenhof can be characterised as being an 'oasis' for peace, social interaction and community feeling which also influences the wider community of the neighbourhood. Oost Indisch Groen is a good place to be both personally and in a social way. Three of the gardens but not the Gandhituin have a strong social component, which the Gandhituin garden actually also has, but it is more focused on knowledge sharing, creating and exchanging, and less on 'just socialising'.

Eighteen of the twenty interviewees admitted that their lives had actually changed; - not just their thinking, but also their practice. Examples of this are the new rhythm of attending the garden, walking the dog on a different route to go to the garden, also to be more interested in gardening knowledge, as well as changing their behaviour towards waste, which can all be classified within Practice Theory as 'skills'. A lot of the gardens do composting, and have a place where you can bring your organic waste to be composted, which relates to changing the 'materials'. Another aspect that changed in the 'materials' element was that people cooked with food from the garden and exchanged plants and seeds (Gandhituin) or even books (Tuin op de Pier) with each other. These relatively simple changes pulled people into the garden more often as well as make them more aware of their waste disposal. Two of the total of twenty interviewees did not think that the garden changed anything in their everyday life -practice-.

The definition of ‘impact’ for this thesis was that daily life practices would be changed because of the garden in profound or less profound ways. For most people there was a strong *social* impact because of the garden as they expanded their (neighbourhood) network and felt more connected and part of a community. The other aspects that were used earlier in this chapter to define ‘sustainability’, were almost all mentioned in the impacts, though some more than others. The cultural part of the *socio-cultural* aspect was mentioned not directly, but in the motivation was a part of why people got to know for example, the Gandhituin. The *ecological* aspect was mentioned for most gardens; the neighbourhood is more beautiful and greener in a stony city, or the comment that the garden gives peace and inspiration to people, suggesting a possible *spiritual* aspect of sustainability. The *physical* aspect of eating home-grown healthy vegetables, working with your hands, replacing the gym as well as discussing a healthy life-style. The *educational* aspect was mentioned as well; to teach children how things grow, and also to share knowledge about gardening. *Innovativeness* was not directly mentioned by the gardens, but could be attributed to the Gandhituin in some way. The last category, namely “economic”, was also not mentioned explicitly.

To conclude this paragraph; most of the interviewees experienced changes in their everyday life due to their involvement of the garden. Examples of ‘skills’ that changed are being more knowledgeable about gardening, changing the daily walk routes of people to visit the garden, as well as changing their behaviour towards waste by paying more attention to possible separation and re-cycling. Materials that changed were the waste, or the food that was used for cooking, as well as the exchange of plants, or seeds or other materials like books. The most changed impact is of a social nature; many interviewees mentioned being more social, more connected to the community and to their neighbourhood. Which also might be called a ‘skill’ is to feel happy, or enjoy the outside, which is another thing that was mentioned many times. All of these conclusions suggest that community gardens can be concluded to have a profound impact on people’s lives.

4.3.2 Indirect impact of the gardens

Having discussed the direct impacts of the garden, in which some of the interviewees already suggested some indirect impacts of the gardens, these will now be discussed more elaborately. A summary of answers that were given to the question, “Has anything changed in the neighbourhood because of the garden? If so, what?”, are presented in table 8 below. The indirect impact of the community gardens are measured by looking at the neighbourhood, being the first community in which the garden is probably located; the volunteers and visitors often come from the direct neighbourhood and are thus in the best position to judge whether anything has changed in this community.

Table 8: Summary keywords of indirect impacts of the community gardens

Name of the garden	Indirect impacts: impact on neighbourhood
Tuin op de Pier	people drive by more slowly to have a look at what happens, more people are coming to take a look at the garden, not just the neighbourhood changed, the whole of the Lloyd quarter involvement increases, saying hi increases, you know the faces (3x), more contacts in the neighbourhood (3x), I don't know live here for a year but the empty apartments would probably sell even less quickly when the garden would not be here as the view is better, the homeless people or other low classes have moved somewhere else because of the garden, also less particulate matter in the air
Gandhituin	I don't live in the neighbourhood (3x), more people from the neighbourhood involved because of flyers for the peacefestival this summer, neighbours meet here en talk, more connection between people (2x), people with depression come here and get cured of that, also lots of people who are happier because of the garden compared to their computer work normally.
Wilgenhof	more people in the public space makes it a better neighbourhood (2x), less vandalism incidents, more contacts in the neighbourhood (3x), knowing people in different roles now, spin off that people make little gardens in their streets, the park around the garden has become more safe
Oost Indisch Groen	I live here 2 years so don't know, like the place, good place to meet people (3x), too early to tell needs more time, it does spin-off for other projects in the neighbourhood, lots of people that come to have a look, it is often the same group that come here, one of the neighbourhood kids is here everyday, it is like 'his' place.

The interviewees summarised in this table are very clear that the community gardens indeed have an influence in the neighbourhood that it is located in. They state that it makes the social community of the neighbourhood tighter, as more people know each other, or know each other’s faces; this makes them feel safer and more welcome. Also,

because of the greater activity in the public space of the neighbourhood, some people suggest that fewer incidents happen and homeless people and other nuisance causing individuals have moved somewhere else. This is all a social aspect once again of sustainability, but environmental aspects are named also, spin-offs like little street gardens, or other 'green' projects in the neighbourhood are suggested indirect impacts of the garden as well. One physical aspect from sustainability was also named; seeing other people being happier and less sick who come to visit the garden. A very interesting comment concerning the economic aspect of the sustainability impact of a community garden is the comment of interviewees of the Tuin op de Pier about the apartments that are for sale there. Some state that they know people who wanted to move away again, but actually have stayed because of the garden and the community that they became involved in, in a way, it increases the worth of the houses in the neighbourhood as well. This will be elaborated on in chapter 6, in the theoretical reflection chapter.

Once again, the Gandhituin is sort of an exception in the group of four gardens. While all of the interviewees from the other gardens were from the neighbourhood, the majority of this garden was not, but lived farther away. Still, the social impact of the garden in building a community was present, but mainly to make the people involved in the garden more of a community, and less for the direct neighbourhood in which the garden was located. Still, some effect was seen here as well. This difference between the other gardens and the Gandhituin might be attributed to the location, being on the other side of a busy road, with no direct houses to it causing it to lie more outside the neighbourhood than any of the other gardens. Oost Indisch Groen and the Wilgenhof are also located on the edge of a neighbourhood, but just inside it, being more accessible than the Gandhituin. Another reason could be the more spiritual, experimental and knowledge exchanging character of the garden, while the others can be seen as more educational, physical, social community gardens.

In short, the indirect effects of community gardens in a neighbourhood are clearly experienced by the interviewees. They mention a tighter community (feeling) which makes them feel safer and can inspire spin-off projects in the rest of the neighbourhood. An interesting effect was that it made some residents stay instead of moving to another house, which indirectly increased the value of the housing in the neighbourhood, an effect also mentioned in the literature (Armstrong, 2000; Irvine et al., 1999).

4.4 Conclusions about sustainability 'images' and the impact of the gardens

The second aim of this research project: to study the impact of urban community gardens as an illustration of 'sustainable' grassroots initiatives on their environment and their members in terms of 'sustainability' using Practice theory, was the specific aim of this chapter. The sub-questions used to guide the research in this chapter were:

- What is 'sustainability' for individuals involved in 'sustainable' grassroots initiatives? Which fields of images of sustainability are mentioned most often?
- Which images (as a part of their practice) do these individuals have of garden-related 'sustainability' ?
- Have these 'sustainability' images (as a part of their practice) changed because of interaction with the grassroots initiatives?
- Have any of the two other elements of a practice, or their practice as a whole changed because of interaction with the grassroots initiatives?
- Besides a direct impact on the involved individuals in 'sustainable' grassroots initiatives, are there indirect effects noticeable as well?

First, the personal sustainability 'images' of individuals involved in the garden have been discussed in this chapter, second the sustainability 'images' related to the garden. And third, the direct and indirect impacts that the community gardens have on the everyday life of the individuals involved in the garden, by means of discussing the 'skills' and 'materials' which had changed in the practices of these people.

To start with the first subquestion, the aspects that represent the personal image of 'sustainability' for the founders/organisers of community gardens are the educational, economic and innovative, and a bit ecological. For the visitors/volunteers of the gardens the image is made up of ecological, physical, educational, and socio-cultural aspects, and a bit economic. It can be understood as quite interesting that -except for the common aspect of 'educational' sustainability, these two groups are almost mutually exclusive. In a sense though, this could be seen as a logical thing; the founders/organisers have a kind of opposite role to the visitors/volunteers of a garden. Therefore, the founders/organisers have a different personal idea which they might want to transfer *through* the

community garden to the visitors/volunteers of this garden. A common thing that is mentioned with regard to the concept of 'sustainability' is that it called 'hollow', 'too stretchable', 'can be mis-used', 'container concept', and so on. Even though both of the groups have different images related to sustainability, they agree that it is too broad and therefore unpractical to use for specifics. A further interesting research idea could be to try to find out what this 'inflation' of the concept of sustainability actually is, and also how it influences the organisations of persons who (want to) make use of this concept. The second part of the first subquestion can be answered with 'the educational aspect, as this is the common aspect that is mentioned when asked about personal 'images' of sustainability of people involved in the garden in general.

Whereas for personal images the two groups were almost mutually exclusive, for garden-related 'images' and sustainability aspects they agree almost perfectly. For all of the founders/organisers the images that are associated with the gardens are ecological and socio-cultural sustainability aspects, which is actually the same for all of the visitors/volunteers. The other aspects vary only slightly per garden: the physical-, educational- and innovative aspects. They also agreed on the economic aspect as being the least present in their image of a community garden, for which I can not think of a logical explanation. It could be theorised that especially a 'niche' like the community gardens are acting as an opposite to the 'regime' of supermarkets who sell a totally different 'image' of food compared to them, but even though the Valreepuin founder made this focus explicit, it is not a shared image among the community gardens in general.

The images mentioned in the third subquestion have indeed been changed through the interaction with the garden, with the Gandhituin and Oost Indisch Groen as the top 'changers' and the Tuin op de Pier as the garden that changed none of the images of visitors/volunteers. However, a slight nuance should be made, as the interviewees of the Tuin op de Pier amongst others indicated that their ideas were *influenced*, but in an additive way. Therefore, the answer to the third subquestion can be answered with 'yes', both changed and influenced.

When looking at impacts, the direct impact was clearly 'measured', as 18 out of the 20 interviewees indicated that there was indeed a change in their everyday life, which was caused by the involvement in and presence of the garden. Both 'materials' as well as 'skills' were mentioned to have changed, in which the 'skill' of being a more *social* human being in general (while shopping in the supermarket, walking down the street, or walking the dog and so on) was the most profound change in their everyday life practices. Also, they experienced to be more happy in general, and enjoy the outside much more. All of these conclusions suggest that community gardens can be concluded to have a direct impact on people's lives.

The impact of a higher social 'skill' mentioned also had a larger indirect effect on the scale of the neighbourhood, which was measured separately. The reason for asking about the neighbourhood level, is that this is the next larger scale bigger than the community garden itself. Most of the interviewees mention a tighter community (feeling) which makes them feel safer in the neighbourhood and can inspire spin-off projects in the rest of the neighbourhood. Another interesting indirect effect was that it made some residents stay instead of moving to another house, which indirectly increased the value of the housing in the neighbourhood, an effect also mentioned in the literature (Armstrong, 2000; Irvine et al., 1999).

The exact extent and -importance of these aspects cannot be determined by this study, as its aim was exploratory. This research has however generated an insight in the aspects that are important concerning the images, direct- and indirect 'sustainability' impacts of community gardens as an illustration of 'sustainable' grassroots initiatives; they really do have a *sustainable* impact on the people involved as well as the neighbourhood that they are located in. Also, we can conclude that community gardens are a *sustainable* grassroots initiative, so far.

The next chapter will explore the influencing factors for the urban community garden as an illustration of 'sustainable' grassroots initiatives, the first part of the third research aim.



groenkruid
abrotanum



Bikkershof Utrecht



Oost Indisch Groen Amsterdam



5. Influencing factors on urban community gardens

This second results chapter will present the findings of this study for the first part of the third research aim: to reveal influencing factors for the urban community garden as an illustration of 'sustainable' grassroots initiatives. First, I will discuss their general structure and philosophies, presenting a typology of different kinds of gardens based on previous land use, paragraph 5.1. Second, the internal organisation will be discussed and the factors that influence this, which are grouped in three groups; process factors, organisational factors and individual factors, discussed in 5.2. Third, the external context of the gardens will be discussed, also grouped in these three categories, 5.3, after which a conclusion will be formulated in 5.4.

5.1 General structure of the community gardens

The fourteen studied gardens presented in table 9, were from four different cities in the Netherlands; Amsterdam, The Hague, Rotterdam and Utrecht. Only the Cremertuin from Utrecht is in a very early phase of its existence and consists of only the organisation, not yet being an actual physical garden, all of the other gardens have experienced at least one season of gardening. In terms of the kind of garden, six of the gardens are public, four are private, and three are semi-public. Public in this classification means that the garden is situated in a public space without any high fences, which means the garden can be accessed at any time, without the assistance of a volunteer or a person of the organisation of the garden. Private signifies that the garden is fenced and only open during specific opening hours when a volunteer or organisational person is in the garden. The times and length of opening hours varies between gardens but are often specific daytime hours. Semi-public means public during the daytime, from approximately 8 o' clock in the morning until 6 in the afternoon.

Table 9: Typology of the gardens according to their previous land use and perception

Name	City	Age	Kind of garden	Type (based on previous land use)	Specification of previous land use
Cremertuin	Utrecht	0	to be decided	not yet clear	unused waste area right beside the train tracks in between a church and a volunteering organisation building, drug dealing problem
Stadstuin Bos en Lommer	Amsterdam	0.5	public	-to be developed later-	excavation site, aim to be developed as a grass plot
Lusthof Den Haag	The Hague	0.5	public	grass plot and dog waste	garden spaces at the base of trees in a 'bad' neighbourhood
Tuin op de Pier	Rotterdam	0.5	public	-to be developed later-	excavation site, which should be developed with crisis-delayed buildings, drug-dealing, prostitution, polluted area
Oost Indisch Groen	Amsterdam	1	private	abandoned or empty (social) spaces	town yard, storage of stones and paving stones
Valreep Tuin	Amsterdam	1.5	semi-public	-to be developed later-	area belonging to a squatted monumental former animal shelter in an excavation site
Afrikanerplein	Amsterdam	2.5	public	grass plot and dog waste	dog toilet place/ grass plot on a triangular square
Kralingentuin	Rotterdam	2.5	semi-public	-to be developed later-	space where an apartment building was just demolished
Gandhituin	Rotterdam	2.5	private	abandoned or empty (social) spaces	part of a utility garden complex, they fused a number of these gardens into the new garden
Panderplein	The Hague	3	public	abandoned or empty (social) spaces	a stony courtyard, with drug dealers and trouble causing youths
Kinderparadijs	Rotterdam	3	private	abandoned or empty (social) spaces	part of a play ground complex, the area of the garden was a grass plot with trees
Bergwegplantsoen	Rotterdam	4.5	public	grass plot and dog waste	sitting space with benches on a grass plot on a triangular square
Wilgenhof	Utrecht	13	private	abandoned or empty (social) spaces	Part of an abandoned school garden complex right beside the train tracks in a surrounding dog walking park
Bikkershof	Utrecht	26	semi-public	abandoned or empty (social) spaces	courtyard, heavily polluted as it was a landfill area before

5.1.1 Typology of community gardens based on previous land use

When looking at the kinds of gardens that have emerged in a specific space and their previous land use, it seems that a connection can be seen between these two factors. The land use seems to be an influencing factor for the kind of garden that emerges, which is explained in the typology below. The previous land use of the gardens can roughly be categorised into three kinds of places: the public and semi-public “to-be-developed-later spaces”, public “grass plot and dog waste place” and semi-public or private “abandoned or empty (social) space”. All of these spaces have some kind of negative atmosphere, with drug dealers, prostitution as the worst variety, and troubling youths drinking or dog waste everywhere as the lighter variety. These categories will now be discussed in more detail.

The first type, “-to be developed later- spaces”, are the gardens that have emerged on an excavation site, which are public or semi-public spaces. These are the Tuin op de Pier and the Kralingentuin in Rotterdam, and Stadstuin Bos en Lommer and the Valreptuin in Amsterdam. These areas are scheduled to be developed by the municipality, turning them into squares or apartment buildings, but due to the financial crisis these developments are delayed, or called off, leaving the area ugly and empty of meaning. This situation has its effects on the neighbourhood, making it less attractive and sometimes even pushes the recent new inhabitants of nearby buildings to move away again (Interviewee Tuin op de Pier). Some residents of the area anticipate this situation, or watch it happen and try to turn this situation around. They initiate creating a garden in this space, to attract attention to the area, involving the neighbours in the garden and drive out the negative atmosphere. Because of the existence of the garden, more people are outside in this public or semi-public space and this social control mechanism of the neighbourhood makes it a better place to be and live than before (Interviewee Stadstuin Bos en Lommer). The Valreptuin is a part of a bigger movement of squatters who have occupied a central building in the excavation site, and have created a cultural centre there. The garden is located on the land adjacent to the building, and is part of the whole purpose of this movement to “do something with this space and to create a social centre, a place for the neighbourhood and the city, without subsidies and without the aim of making a profit” (website valreep.org/about, accessed 8th January 2014, translated from Dutch). The philosophy of all of these gardens is exactly that, to create a space that is positive, and bring a good atmosphere and more social cohesion to the neighbourhood.

The second type, the public “grass plot and dog waste places” are exemplified in the following gardens: Afrikanerplein in Amsterdam, Lusthof Den Haag in The Hague, and Bergwegplantsoen in Rotterdam. These gardens are created on plots of land that had a function before, that of a grass plot where dogs could be walked or a low maintenance sitting area. The aim of these gardens is to create a more (inter)active meeting space by planting herbs and other edible plants for people to come and make use of, especially the presence of herbs like mint attracts people from different cultures to the garden. The case of the Afrikanerplein, a large triangle of grass in between buildings, has also drug dealing in this ‘bad reputation’ neighbourhood according to the interviewee. She formed a group with other women from the neighbourhood who wanted to improve the triangular square and turn it into a more pleasant space where the people of the different cultures of the neighbourhood could meet each other and interact (Interviewee Afrikanerplein). With the help of the municipality, a part of this triangle has transformed into an enjoyable public garden, with some private plots and common areas with benches used for having lunch or resting for a bit. The same effect applies here as in the first category; more of the neighbours or passers-by walk through and linger in this garden, chasing away the negative influences of before. The Bergwegplantsoen has a similar origin; a large triangle of grass, with the difference that there was already an enclosed sitting space, but unsociable and with low-maintenance non-edible vegetation according to the interviewee (Interviewee Bergwegplantsoen). This space is transformed into a high-variety permaculture garden with mosaic benches and lots of edible plants. It is a contrast with before as the garden is now very busy with people, especially in lunchtime. In this garden also the aim of mixing of cultures from people of the neighbourhood has proved very effective. The Lusthof in The Hague uses the base square of trees on the pavements or sides of the trees, by placing a box around it with earth, and giving them to people in the neighbourhood for maintenance, or maintaining them themselves. Just like the other two, this neighbourhood, the ‘Stationsbuurt’ (Station neighbourhood) is seen as a ‘bad’ neighbourhood, and the aim of the founder of the Lusthof was to help the inhabitants to interact more with the public space, and become “proud” (Interviewee Lusthof Den Haag) of their neighbourhood, thereby improving the image of the neighbourhood as well as its public space. In short, all of these gardens transform public low-use low-maintenance spaces into more intensively used spaces maintained by the neighbourhood, which create a better atmosphere and encourage and facilitate (multi-cultural) interaction.

The third and largest category are the private or semi-public gardens, “abandoned or empty (social) spaces”, of which these gardens can be seen as an example: Oost-Indisch Groen, Panderplein, Kinderparadijs, Gandhituin, Wilgenhof and Bickershof. The spaces these gardens are situated in have been used before, but are no longer in use. The aim of this category of gardens is to fill these spaces once again with people and activities and create a better social atmosphere. All of these are enclosed gardens and are only open during daytime or when a volunteer or organiser is present. Panderplein and Bickershof are both courtyard gardens which are maintained and organised by the inhabitants of adjacent buildings. The Bickershof is a 26 year old garden created on the former land-fill courtyard, which is an organic permaculture and highly diverse garden with private plots, a pond, a wild flower area, chickens, ducks, a play garden, a herb and tea garden and so on. The Panderplein is ‘only’ three years old and started as an art-project by one of the inhabitants who aimed to make it a more active square. Through the organisation of the Pander (the common organisation of the buildings around the square) she successfully engaged all of the inhabitants in the square, as each household has a small plot in the square to take care of and plant vegetables or other edible plants, driving away drug dealers and the like. The other gardens are situated in enclosed areas which were before used as storage space for stones, like Oost-Indisch Groen, or were part of another bigger garden complex, which did not - or only scarcely - use the space of the garden; Kinderparadijs, Gandhituin and Wilgenhof. The Kinderparadijs or as the children have named it ‘LeefVrolijkTuin’ meaning Live Happy Garden, is a part of a larger complex with a large play garden as well as an indoors area with organised children activities. This garden is used for educational purposes like outdoor lessons organised with primary schools in the area, to show how vegetables and other plants grow and teach them how to take care of them. The Gandhituin is named after Gandhi, the Indian spiritual leader, as the aim of this garden is to give the people of Rotterdam the opportunity to “develop their relationship with the earth as well as with each other” (Interviewee Gandhituin). Both Oost-Indisch Groen as well as the Gandhituin function as a ‘hub’ in a larger network of garden initiatives in their cities, to exchange and develop ideas of how to garden as well as making this gardening a larger social event for the neighbourhood (Interviewee Oost-Indisch Groen and Gandhituin). The Wilgenhof, in Utrecht, is also an older garden like the Bickershof, and is similar to the Panderplein. It originated as an art project for the neighbourhood by one of its inhabitants. It is created on a previously no longer used area of school gardens, and consists of both small private plots as well as common areas. It has a small building on its land, which the Gandhituin has as well, in which both of them can be used for cultural activities or private events like birthday parties. In the Wilgenhof, French lessons are given, and in the Gandhituin, lectures, yoga and meditation sessions are organised as well. This category of ‘hub’ gardens with a broader function have besides the garden a social, educational and also cultural function in the larger network of the neighbourhood.

The only garden that has not been put into the typology yet is the Cremertuin in Utrecht. This garden will be situated right beside the train tracks on an empty piece of land in between a church and a social organisation for peace and cultural diversity. As this garden is not physically established yet, but only exists as organisation that will start the garden coming spring of 2014, its function cannot yet be determined. The organisation wants it to be a private garden, connected to the social organisation next door, and hopes to develop as a nature playground for children, as well as a partly vegetable garden for the social organisation and people from the neighbourhood.

In this typology, the previous land use can be seen as a precursor for the kind of garden that it will become - either public, semi-public or private, depending on what is possible in that specific space. Also, the philosophy or aim of the garden can be linked to the previous land use; even though all of the gardens have the aim of improving the neighbourhood and its (negative) atmosphere, the public gardens have more of a focus on being a meeting place, while semi-public and private gardens often focus more on the educational aspect of even the cultural aspect. The first category is both public and semi-public and due to the delay of the development of spaces want to make use of it, transforming an empty space into a social public place with a good atmosphere, awaiting another destination possibly much later.

In general, all of the gardens fill a desire of the neighbourhood to have a space in which they can come together and interact, and possibly learn gardening skills or exchange knowledge of plants or non-garden related things as well (Interviewee Kralingentuin). In the next paragraph the inner workings of the community gardens will be discussed further.

5.2 Internal processes of the garden

The factors influencing the internal process of setting up and managing the garden can be divided into three groups of factors, as announced earlier; process factors, organisational factors and individual factors. The process factors can furthermore be divided into three separate groups; managing expectations, building social networks and learning processes. Each of these groups of factors will be discussed in this paragraph, and examples of what can be understood as indicators of the state of these five factors will be presented.

5.2.1 Process factors

The three process factors as described by Kemp et al. (1998), and later modified for social niches by Seyfang and Haxeltine (2010) were deemed to be important for the 'managing' of growth and development of the niche, making them a part of the internal as well as the external process factors of the niche, which will be discussed later in this chapter.

- Managing expectations

Expectations are important for determining whether the garden is a success or a failure, because if expectations of what the process of the garden is, and the meaning that it has are true when compared to the reality of the garden, the events that are organised, and the effects that people experience from the garden, it can be called a success. If expectations are projected on the garden that are not realistic, the involved people will be disappointed and therefore less motivated to continue. Seyfang and Haxeltine (2010) state that promises are especially powerful if they are shared, credible, specific and coupled to societal problems which existing technology is not expected to be able to solve. Also, to create tangible results helps to manage expectations.

In terms of the management of the garden this means for example both what the formal and informal rules are, to the organisers, to the volunteers and to the people visiting the garden. A lot of the community gardens are aiming to be organic, but the definition of this and how to organise the garden as being organic can vary per individual. An example of the Bickershof in Utrecht is the management of the dunghill. There are some plants or parts of plants that should not be put on the hill because they are poisonous or they will start to grow in the hill. Not everybody has a complete knowledge of the allowed plants, as one of the interviewees complained that when wrong things are put on the hill, the other volunteers have to dig in to get these out again, it causes a lot of frustration. The same problem occurs at the Panderplein in The Hague, but this interviewee told me that she is not so strict and takes this as a balance with the positive things of the garden, explaining that the organisation of a large group of people causes these things to be vague sometimes; "it is just something you have to take together with the positive effect", which was confirmed by the Bickershof interviewee.

Another part of managing expectations is how to organise the physical appearance of the garden. For example, the Tuin op de Pier has the philosophy of sharing incorporated in their garden, and decided to make every part of the garden into a circle to emphasise this philosophy. But also here, some people planted trees in straight lines in the garden, or straight lines within a circle, not adhering to the philosophy and the rules. These kinds of misunderstandings or interpretations of the formal or informal rules are part of managing expectations. In this case, the interviewee said that re-emphasising the philosophy, and changing the non-conform parts into circles again was the approach that they took, which worked, but requires patience and time. An important way for gardens in communicating rules is through a website, a blog, a Facebook page, a news email giving updates of the garden, a park newspaper in the garden or by distributing a flyer. Each garden decides for itself which way to use, and which way or combination of these communication options is most effective for them (see table 9 below). The Wilgenhof garden communicates mostly through email and the website, while Tuin op de Pier is really active on Facebook and also uses their website to announce events. Lusthof den Haag only has a Facebook page through which they do everything, most of the interviewees say that they use a combination of different methods to make sure to reach all of those interested in the garden.

The last example of managing expectations is the difference between 'common' and 'private' and how this should be handled; how far can a person go, to cross boundaries and how are they called back by the organisation or other people of the garden. Some gardens have a combination of private small garden plots and a common area, other gardens have only common areas. There seems to be no connection between if the garden is a public, semi-public, or private garden to the type of garden as to private plots, common plots or a combination. However, the

common areas in a mixed garden need to be maintained as well, so many gardens have a system of having common 'working days' and the private plot owners have to be present for a number of times to help maintain the common areas. Some gardens have a strict number and keep count, while others rely on the goodwill of people, which does not always work out, and they have to intervene to keep people to their promises. Also, the private plots in mixed gardens have to be maintained, which some of the individuals have different ideas about, which sometimes causes disappointment in the garden of the people involved in the garden. An example of the Afrikanerplein is a woman who wanted to see how the garden would grow if she did not do anything, but lots of weeds came up and moreover spread to other gardens, which the other owners were not happy with. In the end, the board of directors had to talk to the woman to maintain her garden or get out the seeds of the weeds so they would not spread. Also, some of the private plot gardeners struggle with the maintenance of the garden as well as with the required number of the 'working days', and decide that they will share the plot with another person in order to live up to the rules and expectations, as one interviewee of the Wilgenhof told me. Stadstuin Bos en Lommer has no private plots at all, but separate common areas of which for each a minimum of two people take responsibility for its maintenance, making the task of maintaining the garden easier, and spreading the risk of not living up to the expectations of the appearance of the garden, quite an elegant solution to managing expectations.

- Building social networks

The second important aspect that has been researched is the building and formation of social networks. This process is useful to create a deeper engagement with resourceful regime actors, both within the circle of gardeners as well as outsiders like governmental agencies or businesses in the area according to Seyfang and Haxeltine (2010). Most of the gardens are focused on the recycling of materials, or obtaining (second-hand) materials for free, both from the perspective of being sustainable by not buying new things, as well as the fact that they cost less or nothing, they only cost time to wait for an opportunity for materials to come about. Besides the involved people in the garden, the network can consist of other community gardens, or of larger organisations that support sustainable initiatives or even of local businesses and other people in the neighbourhood who want to support the garden. Often, these network emerge when somebody connected to the garden talks to his or her network on behalf of the garden when they need something. Sometimes the board of directors of the garden are also proactively recruiting and making deals with organisations or businesses in the vicinity of the garden, creating a network themselves.

One of the gardens that really stands out in exceptional use of their existing social network as well as proactively building a new one, is the Tuin op de Pier in Rotterdam. Several examples of this can be given. At the time of interviewing, they were building their network of known gardens in Rotterdam, by visiting them. Also, Tuin op de Pier is connected to an organisation that promotes exchange of knowledge for grassroots initiatives, called 'Wijkalliantie', meaning 'neighbourhood alliance'. This organisation connects different initiatives and organises the exchanges that the initiatives requires, 'matching' them in a way. Tuin op de Pier, being very good in networking and their online presence through Facebook and their website, gave a talk about this topic for an initiative in Amsterdam who were struggling with this. Then, this initiative gave them information on how to tackle a problem that Tuin op de Pier had, helping them in turn. Another example of the resourcefulness of this garden is that in order to save costs, they have made a deal with the local copy-shop printing their flyers for free, in exchange for the logo and information of the copy-shop printed on the back side of the flyer. Besides the board of directors, the residents involved in the garden actively use their personal network to find materials for the garden. As the garden is totally public, and in order to garden you need tools, and some place to put them, they were wanting for a sea container or something similar to put on the garden land, to have some storage. One of the volunteers knew a couple that was managing a sea container business, and asked them to donate one of the containers. In the end they even donated two, as only the one was not even enough (Interviewee Tuin op de Pier). Also, a lot of plants and trees were donated to them by knowing a person who had to clean up his garden. Using their network, they managed to save lots of money for plants and recycle materials as much as possible. Some of the other gardens are actively recycling as well, like the Gandhituin, the Bikkershof, the Wilgenhof, the Lusthof Den Haag, Oost Indisch Groen and the Kinderparadijs, but Tuin op de Pier seems to be a real example of this attitude and resourcefulness.

- Learning processes

The third important element as proposed by Kemp et al. (1998) is learning processes; to learn which barriers the niche can face, which needs, problems and possibilities have to be dealt with. According to Seyfang and Haxeltine

“to embrace a community-based, action-oriented model of social learning”, (2010, p.17), which can be interpreted as listening and interacting with the wants and needs of the community. This process can entail different things in gardens, for example the learning of knowledge about gardening itself by the people involved in the garden. Or the ‘learning of learning’, meaning *how* to teach these gardeners in a way that it gets across but also is not pushing people to ‘attend classes’ or always be present, or even how to let them teach gardening to *each other*. These exchanges are not always about the garden or gardening, but can be seen more in general about life, culture, social situations etcetera. Some gardens even organise lectures and meetings about other topics. Besides these kinds of learning, the organisation also has to learn how to organise the garden and get the expectations together with reality as mentioned earlier. And as new situations and challenges keep coming up, to make sure that each individual in the organisation has a responsibility that is fair and suitable for the time and energy of that person.

Workdays or regular garden days are often organised for the maintenance of common areas of the garden. Sometimes these days are organised by a special gardener explaining what to do in particular areas and how to do it, for example a flowerbed or an herb garden, as it is organised in the Wilgenhof and sometimes in the Bikkershof. For most garden days it is just working and if possible learning and asking each other on how to do this or that in the garden. As one woman involved in a garden told me, she would just ask her neighbour why she combined some of the vegetables in her plot, and learning that these two strengthen each other’s growth process. However, a certain attitude is necessary for learning, which not everyone has or even wants. The interviewee from the Kralingentuin was disappointed in how much people coming to garden wanted to learn, as he expected them to be more interested. The next example confirms this as well. The 13-year-old Wilgenhof deals with the problem of how to distribute the seeds for the private gardens. The seeds come with the contribution paid for the garden, and every gardener can take whatever she or he needs. At a work day on which I was present, there was talk of not having been bought enough seeds for everyone, but when the person responsible for this insisted that she bought enough, the real problem appeared to be gardeners sowing very dense rows, causing the seeds not to grow and thus using a lot of the seeds without being effective. An interviewee told me later that it might be a good idea to organise a ‘how-to’ day for addressing this behavioural problem, although another side of the story could be that the people who actually did the dense sowing would not come, while the people doing it right would come. This is an example of how the learning of how to deal with the involved people of the garden and the organisation of the garden itself will not stop, and will be an on-going process.

The Wilgenhof, the Gandhituin, Oost Indisch Groen, Panderplein and Kinderparadijs, actually all of the garden of the type ‘abandoned or empty (social) spaces’, have a specific focus on these learning processes; they all organise activities, both non-garden- and garden related, like yoga sessions, or sustainability lectures, as well as activities like how to grow mushrooms, or an evening to harvest together and then cook with the harvest. Except for the Panderplein in which all of the gardeners live directly on the side of the square, all of the gardens have a dry place, either a small cabin or a green house, in which they can give education or organise leisure activities.

Especially the new gardens are often still struggling with the way of managing of the garden, and learning how to deal with gardens that are not maintained like at the Wilgenhof or Afrikanerplein or how to act in a situation when the rules are not abided by, like at the Tuin op de Pier. Another problem is how to manage all of the people who want to be involved in the garden; the interviewee from the Lusthof Den Haag told me that she really wanted to involve all of them, and use the energy that they offer for the gardens, but she finds it hard to keep track of them and to activate them for activities that they organise. The Valreptuin interviewee had a similar problem; as when private plot gardens there became available, at first they had tried to contact someone from the list of interested people, but this became very time intensive as people proved to be unresponsive. Later they changed the policy for open gardens to ‘first come, first serve’, saving the organisation the energy of chasing someone on account of the garden. The learning process of these gardens seems to be very organic in the sense that no big arguments arise, but the situation will resolve eventually, taking the time for this process and helped a little by the organising group of the garden. Probably this is also because these gardens are not so big, and the group of organisers is only a small group and which can help the decision making process easier.

However, even the organisers or founders of a garden can get tired, or move away and can or will not put the same amount of time and energy into the garden. In such a case, a new way of managing the garden has to be found. Both for the Wilgenhof and the Bikkershof the founder has gone away from the garden, and a new board of directors was formed that took over responsibility. At the Wilgenhof, the founder had made a five year plan, in

which she wanted to set up the garden, incorporating the transfer of the garden, in which she wrote down her strong points and the things that were difficult for her and were learning opportunities for her. At the Bickershof, the founder moved after 15 years to Amsterdam, and died not long after. When he moved, the people of the Bickershof could still ask him questions, but also contacted another involved professional gardener to design a more simple plan for the maintenance of the Bickershof, leaving as much as possible intact, and help them with the maintenance of the garden as well. Besides moving, a person's life can change in the way that other things will require more energy, or simply the feeling that her or she wants to have less responsibility in the garden, of which there are plenty of stories as well. A learning process for one of the founders of the younger gardens, the Afrikanerplein, told me that she had worked about 40 hours a week for three years on the garden, in order to get it going and set up. All the while she was not being paid for it, but really willing to put in the effort. Her personal learning process was to choose for herself after all this time, and sharing more of the responsibility so that it would be bearable for her. Just like at the Bickershof, the social process and the formal and informal rules were sometimes confusing which caused some people to take advantage of the situation. This taught her that in dealing with the garden, misunderstandings and deliberate negative things are as much part of it as the positive things.

The older gardens, like the Bickershof, can have a different problem to deal with; the interviewee told me that it could be difficult to maintain the garden as only few people are taking part during the weekdays, and not all of the work can be done. Also, the younger residents can be less interested in the garden compared to the residents who have lived there for a longer time. However, the other 'older' garden, the Wilgenhof, also in Utrecht, but 'only' 13 years old compared to the 25 year old Bickershof, has no such problems at all, but is a thriving community garden, so age might certainly not be the only factor influencing this issue.

5.2.2 Organisational factors

Having discussed the process factors important for sustainable initiatives and how they can be interpreted for a community garden, the organisational factors will be considered next as represented in table 7. The main organisational factor to determine the philosophy and atmosphere of the garden is the organisational form chosen to represent the garden, being a formal registered organisation or not, and if yes, which kind of organisation has been chosen.

There are several types possible, most of the gardens; Tuin op de Pier, Oost Indisch Groen, Gandhituin, Panderplein and Kinderparadijs, chose to be a foundation, three of them are an association: Stadstuin Bos en Lommer, Afrikanerplein and Bickershof, one of them has both forms; the Panderplein. Registering officially as one of these types gives the organisation the right to own land, or buildings and open a bank account and receive funding. The main differences between being a foundation from being an association are that an association is deemed to be more democratic, it has a membership, and the statutes and choosing of a new board of directors can only be changed by a general member meeting with a specific vote count. A foundation is freer in its decisions, even though funders will probably need an explanation of where the money went and how it is used. The statutes of a foundation can be changed by the board of directors as well as by court, and is therefore more flexible. This is also the reason most community gardens have chosen to register as a foundation, it is less democratic, but easier to manage in general. Even though they have chosen this less democratic form, both the Wilgenhof and the Gandhituin stated that the most important decisions are taken through organising a meeting with all involved volunteers to reach a consensus. The gardens that have chosen to be an association have deliberately done this to state the democratic way of the organisation; both the Stadstuin Bos en Lommer, the Afrikanerplein and the Bickershof. The Lusthof Den Haag, even wanted to be a cooperation, which is a special form of association, in which the cooperation has agreements with its members and closes deals for its members. Unfortunately this was not possible, as they found out that funds do not give money to a cooperative, and so they use another foundation to receive the funds at the moment.

The rest, five of the gardens, have chosen to not register in an official way. Most of the gardens that have been registered did so for funding reasons, and as these gardens are self sustaining, and do not (yet) require any external funding, there was no need to get into the tiring and expensive process to register formally. The Valreepuin or the Bergwegplantsoen are like this. Other gardens are still thinking about which form to organise in in a later time period like the Cremertuin and the Kralingtuin, and have no direct need for it. There does seem to be a connection between being a bigger garden and becoming formally registered, with bigger in the sense of having more people involved, not necessarily the extent of land that the garden has. This might be because the

more people, it seems also the more money that needs to be managed, and with more money, a formal organisational arrangement can be a safe option. Age of the garden can also be an influence, as early in the process it can be premature to start this process. But even so, the Bergwegplantsoen is 4,5 years old, and does not need to be a formal organisation, but thrives as a garden.

Table 10: Various organisational characteristics of the gardens

Name of the garden	Years of existence	Communication	shared plots garden/ combination of private and shared plots/ only private	Public, semi-public or private garden	Foundation/ association/ nothing (yet)	Board of directors
Cremertuin	0	facebook, news email, sometimes flyers	-to be decided-, probably combination	to be decided	not yet, probably foundation	6
Stadstuin Bos en Lommer	0.5	park newspaper, website, facebook, news email, flyers	shared	public	association	6
Lusthof Den Haag	0.5	facebookpage only	shared	public	nothing, wanted cooperation	2
Tuin op de pier	0.5	facebook, sometimes flyers, sponsored by local company	shared	public	foundation	6, but also workgroups for specific purposes
Oost Indisch Groen	1	facebook, website, email address	shared	private	foundation	5
de Valreep Tuin	1.5	facebook, email, blog	combination	semi-public	nothing, not necessary	6
Afrikanerplein	2.5	blog, facebook	combination	public	association	5
Kralingentuin	2.5	weblog, website transition town, earlier on: news email	shared	semi-public	nothing, later maybe	2
Gandhituin	2.5	facebook, website transition town	shared	private	foundation but with democratic decisions	4,
Panderplein	3	website of Panderplein	private plots	public	foundation and association, already there	workgroup of the garden of 6
Kinderparadijs	3	website transition town	shared	private	foundation of the play garden, already there	1 and some volunteers for the garden
Bergwegplantsoen	4.5	park newspaper, website transition town	shared	public	nothing, not necessary	no board, maintenance by residents
Wilgenhof	13	news email, website, flyers	combination	private	foundation	4, and 6 masters of the garden with a specific part
Bikkershof	26	news email, park newspaper, sometimes bulletin	combination	semi-public	association	4, and 10 with specific task of the garden

5.2.3 Individual factors

Besides organisational factors, individuals can be crucial to the development or the direction of the development of a garden. All of the interviewees for the gardens have a special role in its organisation, being either the founder or a part of the board of directors at the moment. The background of the different interviewees are very different, most of them have had some kind of education in landscape or ecology, but one person has worked in the mental health industry, another is an artist, but with an interest specifically in gardens and greens in the city, another has learned the permaculture way of gardening just by doing and educating himself, and so on. All of them are enthusiastic about their project but at the same time can be critical of the downsides and what their personal

expectations and disappointments have been. In short, there is no one type of person with a specific background who starts a garden, but all kinds of people, though all of them have a connection to sustainability somehow.

The founder is one of the most important individuals to the garden, who often has determined the philosophy, the form but also the atmosphere of the garden. When this person leaves, another individual can step up to take the vacant spot, but more often a group of people assume responsibility, as discussed earlier, which was the case in the Bickershof in Utrecht. The initiative of creating a garden, and therein taking the main responsibility is for most gardens done by one person. As the interviewee from the stadstuin Bos en Lommer told me, 'even though I have a group of people who are enthusiastic and really want to help, if I want this to happen, I will be the one that it will boil down to in the end, that has to carry out the tasks that no one wants to do'. As is apparent from this quote, this person deeply realises the responsibility that he or she has taken upon him or her. It was a similar situation for the Wilgenhof in Utrecht, the founder, an artist called Maria Evelein, made a five year plan in which to create, set up, organise and also transfer the garden to the neighbourhood. She wrote down possible pitfalls and how to overcome them, realising that this would be a long-term project. But, even though the garden was only her responsibility, she also wrote down that she would have to delegate some of the tasks later on, which was her own pitfall. That being said, other individuals who become involved in a later stage of the garden can be of crucial importance as well.

In Oost-Indisch Groen, a garden in Amsterdam, I have interviewed the founder of the garden as well as his companion who came along a bit later. He told me his vision of the garden as being a hub and starting place for other sustainable initiatives in the neighbourhood, making them spin offs of the garden, and stimulating these kinds of developments. Also, in the period that I talked to him, he was gathering individuals from the neighbourhood who could help him make the garden a part of the neighbourhood, giving them a key of the garden. His mission was also to transfer the responsibility for the gate and the opening hours to residents and other involved people, as well as them 'making it their own place, and organising activities that they like'. While interviewing he even spoke to a person that he found to have a good 'vibe' and invited her to become one of this particular group of people, to which she responded to be open for that opportunity. So even though the founder determines the atmosphere and philosophy, this can be complemented or changed by other crucial individuals, or groups of people getting involved in the garden.

5.3 External factors of the community garden

The factors influencing the external process of managing the garden can be divided into three groups of factors, the same way as the internal factors; process factors, organisational factors and individual factors. The process factors will again be divided into three separate groups; managing expectations, building social networks and learning processes. Each of these groups of factors will be discussed in this paragraph, and examples of what can be understood as indicators of the state of these five factors will be presented.

5.3.1 Process factors

The three process factors as described by Kemp et al. (1998), and later modified for social niches by Seyfang and Haxeltine (2010) were deemed to be important for the 'managing' of growth and development of the niche, making them a part of the external processes of the niche as well as the internal processes discussed earlier.

- Managing expectations

An important external factor for the development of the garden is the interaction with the (social) environment of the garden. The atmosphere that the garden projects and the kind of place that it becomes are important for the reactions that people have to the garden and the involved gardeners or residents. If all goes well, the garden will resonate with the neighbourhood and can make a connection. But if the neighbourhood or passers by do not connect positively with the garden, it can lead to negative situations like stealing from or demolishing the garden. This is most important for totally public gardens, but even for private and semi-public this is an important factor. Dealing with the environment of a garden is not just human interaction but dealing with the animals of that area as well; pet animals like dogs or cats, or semi-wild animals like rabbits can play a part in how successful the garden is as measured by the expectations of its members. In order to deal with these challenges, expectations about these interactions need to be clear and if necessary adjusted for the gardeners to make it a success.

For a public garden, without any high fences, or even for a semi-public garden things like the stealing or eating of plants by both people or animals can be very discouraging and demoralising for the volunteers and organisers involved in the garden. Especially rabbits can be a plague, but can be discouraged by fencing, or by planting specific rabbit-repellant plants around the crops, like stadstuin Bos en Lommer has done. Also, most people take this just as something 'that happens, and only a few things can be done to handle the situation'. This aspect is very different when it concerns the destruction or stealing of produce by people. It is actually harder to prevent, as humans can outsmart certain measures, frustrating the residents who maintain the garden and invest time and resources to it; but, this does not have to be a hopeless case. The interviewee from this garden told me almost the very expectation she tells people to have is that "instead of letting it get to you personally, look at it as just a part of having a public garden". The interviewee from the Afrikanerplein garden told me that she always says: "one third of what you grow is for the neighbourhood", by which she means that produce can get stolen, or nature decides that some plants will not grow this year; anything can happen. She told me a story about an older lady, stealing some of the vegetables of the garden. The garden organisers then talked to her, but it was hard to get through to her and let her understand the wrong she did people. Then, they offered her own personal garden to take care of, and now she understands and keeps watch over all of the garden, sitting on a bench in the garden as often as not. And because she is such an old respectable lady, she can actually approach stealing people without getting threatened in any way. It is a very nice example of how the presence of a person in the garden helps prevent stealing of destruction.

Even though it is not a problem having to do with stealing or destruction of plants, some people can also display a negative presence in a public or semi-public garden by hanging out talking loudly, or cursing at other people, drinking beer, using drugs, etc. An interesting way to approach these people, and ultimately having them leave the garden or be present in a pleasant way, is to go to them and have a chat, offer them some tea, and ask polite questions. The interviewee of the Bickershof used this technique on some youths who were drinking alcohol and being very loud, sitting on a bench. Every time she noticed them she went to talk to them and have tea, which apparently they found so annoying that after a couple of times, never came back. Even in private gardens, there have to be rules about behaviour that have to be abided by for all of the involved individuals. In another garden, the Wilgenhof, they have a small pond filled with salamanders, which unfortunately were fished out completely by the children of some gardeners, even destroying the pond as they poked a hole in the plastic on the bottom. Therefore, a new rule is that it is okay to bring your children, but you are responsible for their action, and should not just leave them unattended.

The presence of a garden can cause the social atmosphere to change not just internally, within the garden, but also externally, in the neighbourhood of the garden. For almost all of the gardens the atmosphere in the neighbourhood has changed in a positive way. The Stadstuin Bos en Lommer just like the Tuin op de Pier are situated between apartment flats in an empty space. People see this as their own back yard, and keep a watchful eye out for what is happening there. The interviewee from this garden said that she would go downstairs if she saw anything bad happen in the garden, and that other people from the flats care for the garden in a similar way, making the public space more of a shared space. Besides the positive effect of watching out for the garden, when people are working in the garden, there is always time for a small chat, or to just say hello to each other. At Tuin op de Pier these kinds of things happen as well; an elderly woman saw the group of people working on the garden from her apartment, but due to her back she could not participate, so instead she baked an apple cake and brought it to them as a reward for their hard work, as she always enjoyed the view of the garden below. Because of these interactions, residents start knowing each other by face, and having short conversations at the supermarket or walking their dogs, becoming a community formed by the garden. They start feeling good in their neighbourhood, and proud of how it looks and the people that are their neighbours, exactly in the way that the interviewee from Lusthof Den Haag is aiming for in her neighbourhood. At the Panderplein garden, before the garden "people were always complaining about the bad neighbourhood, and all the problems of the Pandersquare, but now people talk about the vegetables in their gardens, and exchange tips and tricks" (Interviewee Panderplein). Their focus has shifted from the negative aspects, to the positive aspects, which might be seen as a self-fulfilling prophecy; they *make* the neighbourhood better because their expectations have changed in a positive way. A similar comment is made by the interviewee from the Lusthof; talking about the gardens is an easy and safe topic, it is not a personal thing, so small talk comes very easy and if you are working at the garden, lots of people will talk to you - even to the point that working in the garden is more talking than working.

The gardens mentioned were all public or semi-public gardens, but this positive effect can be present for private gardens as well. Oost-Indisch Groen, Gandhituin en Wilgenhof are thriving gardens which are quite busy during their opening hours. Even though they are more hidden compared to the public gardens, fenced and located in a less accessible area, they have enough interested people. This is because they actively promote the garden through their website, Facebook, flyers or other neighbourhood channels. Probably another reason is that the people that I met at these gardens are also very enthusiastic about them, telling friends, neighbours and family about it and thus spreading the word. Even though they are busy gardens, because of the private character of the garden, it is harder to say anything about the social cohesion effect in the neighbourhood. The location of the garden is just outside a neighbourhood instead of right in the middle, as a public garden often is. Often you have to know about the garden to find it, and because this knowledge is spread by word by mouth a selection mechanism takes place in which not everyone is knowledgeable about the garden, creating a specific subgroup in the garden. For the atmosphere *within* the garden this can be a positive thing; likeminded people can exchange ideas and come together in a community, but the atmosphere *outside* of a garden will probably be less influenced compared to a public garden due to the different location and character of the gardens.

- Building networks

Building external networks are a very important factor for the development of a garden, as these networks provide resources, for example permission to use a plot of land. Another resource important for a garden is of course money, so the funding network or contribution from outsiders and gardeners is another important aspect in the building of external networks, a summary of this information is presented in table 11.

The arrangement concerning the land on which the garden is located is a very important aspect for a garden. In the sample of gardens of this thesis, there are seven gardens that rely on trust and mutual relationships between them and the municipality and five that have a formal agreement with the municipality. The trust agreements are built up over time, and through the personal relationship of the founder and the municipality, in which the founder takes responsibility and convinces the people of the municipality that they can trust him or her. Often, the process of obtaining the land and informal permission to work with it, as a process has taken quite some time, and the perseverance of the founder can convince city district officials, that he or she is serious and will take responsibility. The gardens that have a formal agreement often have followed the same trajectory with the municipality, resulting in the formal agreement which is often not more than a superficial agreement, in the sense that the agreement is not so detailed that it entails all of the possible situations and their solutions. A formal agreement offers more certainty it would seem, many cities are restructuring their organisations, which means that the person with whom the trust relationship is present, can be relocated or forced to leave the organisation. In such a case, a formal agreement is probably stronger. The interviewee of Stadstuin Bos en Lommer told me that she wanted the formal agreement especially for this reason. However, Tuin op de Pier mentioned that if nothing is agreed upon, almost anything is possible, so it can be a trade-off between security and freedom.

Table 11: Formal arrangements concerning land and money for the gardens

Name of the garden	Years of existence	Contract	Funding	Contribution
Cremertuin	0	useragreement with ProRail, cancellation notice should be one year in advance	funding from the 'green plan' meant for the neighbourhood.	still contemplating within the board of directors
Stadstuin Bos en Lommer	0.5	first a contract for front garden, then useragreement, but was very old and unflexible, new one is in the making	some money for residents initiatives, the first 3 years, now the money normally for maintaining the grass in the area, is given to the foundation to support the garden, sometimes other funds as well. we do not want to be a charity project.	no
Lusthof Den Haag	0.5	on the basis of trust, if it doesn't work the municipality will remove it.	money from fund 1818 (local) for Queensday project (holiday in the Netherlands)	no

Name of the garden	Years of existence	Contract	Funding	Contribution
Tuin op de pier	0.5	the municipality wanted a contract, but hasn't offered one, so it is on a trust basis.	We receive funding sometimes, but we try to be self sustaining, so we are also part of the neighbourhood-alliance organisation to earn money and receive knowledge.	neighbourhood residents can support our initiative, by becoming a member for at least 25 euros a year, we even had someone donating 500 euros at once!
Oost Indisch Groen	1	the ground is still owned by the municipality , trust basis	Funding from the municipality and other funds, also maintenance hours are paid by the municipality, but they urge us to become self sustaining.	no, voluntary donations are requested during an organised activity in the garden
de Valreep Tuin	1.5	not necessary, it is part of the squatted ground of the animal refuge	300 euros received from organisation 'a seed', donations from people, but everything is very low budget.	voluntary donation, not obligatory, with the notion that the actual costs are 25 euros for a personal garden.
Afrikanerplein	2.5	municipality ground, trust basis	The initial form of the garden was done by the municipality, planting the hedge and money for the flowers and plants	Ten euros per part taking family having a personal garden.
Kralingentuin	2.5	trust basis, ground is of a housing corporation, we will get a new spot for a new garden from the municipality with a user agreement	Only now a donation asked and received from the housing corporation, and also two donations from funds that were easy to approach.	No
Gandhituin	2.5	the foundation rents the ground from the municipality	no	no
Panderplein	3	covenant deal, ground is owned by the municipality, we do the maintenance.	received funding from three organisations: fund 1818, the municipality and the ministry of agriculture.	no, but of course part of the larger organisation of the Pander foundation
Kinderparadijs	3	of the foundation of Kinderparadijs	through the foundation	no, but money for the children education lessons
Bergwegplantsoen	4.5	it is given for management to the residents, around the garden, the grass will be maintained by the municipality, trust.	funding from the municipality and some other funds for the 'construction day', plants and seeds, and some events in the gardens.	no
Wilgenhof	13	user agreement with th municipality	the municipality has sponsored the garden by giving seeds and money for the garden lessons and maintenance of the garden, during the first five years. after, some funding as well.	45 euros per year for the personal garden, seeds and the usage of the tools of the garden
Bikkershof	26	trust agreement with the municipality	Supported by the municipality, also unique subsidies for certain species in the garden, like exotic plants or frogs.	being a member is 7,5 euros per year, having a garden is 35 euros a year

Besides land, money to buy plants, tools and seeds are necessary for most gardens. Most of the gardens receive some kind of funding, either from the municipality or from a formal fund. Some are purposely very low budget, and only use money for seeds and plants for the garden, not for the maintenance in any way. On the other end of the spectrum are the gardens that receive quite large sums of money, or are more active in requesting donations from formal funds. Despite the difference in money, one of the interviewees told me that his experience was that initiatives that are heavily funded often do not survive the longer period, while the initiatives with low money income survive and prosper. In his opinion this was because the low budget ones were supported mainly by *people*, while the other ones were so heavily supported by money that once that fell away, the initiative could no longer exist. Other interviewees from different gardens actually shared this opinion. Also, for the district of East Amsterdam, the interviewee of the Oost Indisch Groen garden told me that the officials of this district, find it very

important that initiatives become self-sustaining, and will not be dependent on their funding forever, encouraging the garden organisation to find other sources or other ways to support themselves. The stadstuin Bos en Lommer organisation had this purpose already from the start, which is why, in their arrangement with the district officials of West Amsterdam they made their contract in such a way that the money that would otherwise have gone to maintenance of the same park area, goes to them, and they use it to maintain the garden in that same spot. The interviewee told me that they did not want to be 'some charity project' (Interviewee Stadstuin Bos en Lommer), but an independent garden in the public space.

Contribution is only requested in the gardens that also have personal gardens to be rented, like the Wilgenhof or the Bikkershof. The Valreepuin also has personal plots, but has a voluntary system, which is appreciated if donations are made for the costs. The Panderplein also has personal gardens, but as the organisation is only a part of the larger foundation of Pander, they do not charge separately for the personal gardens. The only garden that has some kind of support membership without personal gardens is the Tuin op de Pier, which in their case works really well, as they have many members who together donated over 2000 euros. Other gardens have a donation system with organised activities or as an exchange for lessons or the maintenance of the garden.

- Learning process

The last process factor is the learning process, internally, the people involved in the creation and organisation have to learn and change and learn again, but with respect to the outside world this is just so. As discussed before, the interaction with the social environment can be hard and things have to be tried to see what works. The biggest external learning process for a garden is dealing with bureaucracy, especially municipalities and other public organisation like the water board. As discussed earlier, the agreements with municipalities or city district and the bureaucratic process that this involves can be very tiresome. The learning process of how this works, and how to deal with problems in these areas will be discussed now.

Time-consuming bureaucratic procedures are named by many interviewees as the hardest things to overcome when starting a garden. The founder or founders are often not familiar with the bureaucratic system and get frustrated with rules and permits that have to be arranged. A sentence often heard in interviews is "The energy was there, we just wanted to get started!" (Interviewee Oost-Indisch Groen). Oost-Indisch Groen, Afrikanerplein, Stadstuin Bos en Lommer and Panderplein have followed this procedure together with the municipality or city district officials to get permission for the creation of their garden. At the same time, the interviewees expressed understanding of these same procedures, as they understood very well that the long procedures also filter out people that are enthusiastic, but not persevering in this issue. Some even said, "if gardens were be allowed to be created and were not maintained or taken care of, the municipality or city district officials would have to clean up the areas" (Stadstuin Bos en Lommer). The balance between too hard or too easy is therefore something to be thought of both for the gardens as well as for the organisations in question. At this moment, the gardens voiced the opinion that it is too hard to get through, even though they agree with the 'test' of bureaucracy. Maintaining this balance connects to other important aspects of setting up a garden, like its trial period, after which indeed, if it is not maintained, it should be cleaned up. When a formal agreement is made about the ground on which the garden is located, all of these terms need to be incorporated into the tenure document in order to be clear about the terms for both parties.

Stadstuin Bos en Lommer had many problems with their tenure agreement as the contract the city district offered was quite out-dated and very defensive on the part of the district, according to the interviewee. An example of this is that without any notice the garden could be demolished and turned back in a grass plot by the district. This was not thought to be fair by the gardeners, who say they deserve more time to make the garden work. In this case, there was also no personal trust relation between the district official and the founder. A different example, that of the garden Oost Indisch Groen is the opposite. The founder was quite known at the district office and had done a successful project similar to this one, which gave him leverage to start without any such formal contract. This person also pointed out that even *within* Amsterdam, it makes quite a difference in which district you are, as there are different 'cultures' in each office. Learning to deal with the specific 'culture' of your city district, and how to approach the procedures in these offices was mentioned as something really hard for founders. In both gardens in Amsterdam however, there was a specific person in the organisation of the garden who knew the way these procedures worked, and accompanied the founder in the process, making it easier to get through to the end, and learning from them how to deal with these situations.

Another problem, pointed out by the interviewee of the Afrikanerplein, is that in the context of such a garden project, people can be put together by the city district to create the garden. Sometimes this is a combination that can work in a wrong way. In the Afrikanerplein case, there were different groups of people who had ideas of what to do and how to create a garden on the square. They were issued to work together by the city district to come up with a plan, but without help of how to go through the process of becoming a group that has a shared idea of the outlook and atmosphere of the garden. The time pressure, and the lack of accompaniment of a professional in this process, got tempers rising and hurt people deeply. Later on in the process, money meant for the garden to build a water tap, was spent in a way not clear to other organisers, putting another negative layer on the cooperation between them. Of course it can not be known if this would go differently when professional accompaniment would be present, but the different people and the pressure of time did the organisation of the garden no good. This is both a learning opportunity for the city district officials, as well as the organisers of the garden, in thinking through how the process should go, and trying to be very clear about the rules and responsibilities of everyone.

5.4.2 Organisational factors and individual factors

In terms of organisational and individual factors, the internal aspects of this have been discussed. Externally, the city district that the garden is located in, and more specifically its rules and processes are important for the way the garden can develop or sustain itself. As well as the more general 'organisation' of the district, individual district officials can certainly play a part in the differences between the one district or city and the other. For example the two gardens in Amsterdam just mentioned, in which the eastern district was named as being much more in favour in general of civilians taking initiatives and supporting these, compared to the western district. A more individual case was in Rotterdam, where the alderman of the district of Bergwegplantsoen, was such a proponent of permaculture that it transformed the organisation of this district, and made it much easier to get permission for the garden than another garden in Rotterdam, the Kralingentuin, confirmed by the interviewees from both gardens. So both the general organisation as well as the influence of an individual person will have an influence on the development of the garden.

As for the examples earlier, it is worth noting that both these gardens are situated in Amsterdam, which is reorganising and centralising its districts and their organisation into one large organisation. This could cause the officials to play it safe, and be less willing to stick their neck out for a specific project, in order to keep their jobs. The same situation is currently a part of the problem in Rotterdam, in the city district of Tuin op de Pier, reorganisation there was coming as well, making the officials possibly anxious to keep their head down, and creating chaos in the communication between the garden and the officials department.

The same garden in Rotterdam, Tuin op de Pier, has another 'problem'. The officials working there were utterly surprised and a bit scared by the proactive residents of the new area, as they were used to dealing with the uninterested residents of the rest of the neighbourhood. This caused them to be very cautious with any promises or trust, which did not help their communication. Also, the jurisdiction of the different departments of the city district partly overlapped concerning the new garden. The development department that owned the ground of the area did not communicate with the department taking care of all of the greens in the city, while this was exactly the administrative space that the garden needed. The land of the garden was still marked as being 'in development', which meant that the ground was not transferred to the green maintenance department, so this department could not help out the garden with planting, seeds or other resources even though they were willing to. These kinds of bureaucratic separations between departments can be a frustration for those that find themselves in such a paradox. However, Tuin op de Pier made the best of it; instead of focussing on having to deal with the uncertainty, they turned it around to freedom, as they would do their things unofficially and being tolerated by both bureaucratic parties. Still, this case exemplify as something that could be done better in the future, in trying to make communication better between different departments especially for these kinds of civilian 'in-between' initiatives. Now, whether a garden can be created greatly depends on the willingness and trust or influence of individuals in the organisation of a city district.

5.4 Conclusions

This second results chapter was guided by the first part of the third research aim: to reveal influencing factors for the urban community garden as an illustration of 'sustainable' grassroots initiatives. The following sub-questions were used to obtain this aim and guide the research of this chapter:

- Are the three niche management process factors by Kemp et al. (1998) and Seyfang and Haxeltine (2010) applicable to these initiatives, which kind of examples of these processes can be given?
- Besides 'process' factors are there any organisational factors or individual factors that are deemed significant?

First a typology of the studied community gardens has been discussed in this chapter, based on their previous land use, then the internal and external factors that influence the development of the community garden have been discussed, of which three groups have been distinguished: process factor, organisational factors and individual factors.

When describing the different gardens and trying to understand the similarities and differences between the fourteen community gardens, a typology of the kind and philosophy of the gardens arose from the data (see 3.3, data analysis, about methodology of content analysis). Three different types of gardens could be distinguished base on their previous land-use, which were similar for some of the gardens. Therefore, a typology was created and discussed in this chapter based on the previous land use of the gardens, which were categorised in three types: the public and semi-public "to be developed later- spaces", public "grass plot and dog waste place" and semi-public or private "abandoned or empty (social) space". The first type was focused on creating a new neighbourhood and transform the land from 'waiting' and 'empty' to 'social' and 'busy'. The second one had the aim to transform from grass plot with negative dog waste to beautiful social positive (multi) cultural garden, and the third type was an abandoned, previously used piece of land, transformed into a green hub for initiatives and creative ideas in the area, besides sharing the gardening, also exchanging knowledge and being a test space for new (social) ideas like using barter instead of money for the exchange of products.

Now, to partly answer the first subquestion, the three niche management factors, -in this thesis labeled as 'process factors'- have proved relevant for the description of factors that influence the development of community gardens as an illustration of 'sustainable' grassroots initiatives. These were used effectively to group the processes that were mentioned by interviewees as important for the community garden and its internal or external management.

As for answering the rest of the first- and also the second subquestion: as this is qualitative and exploratory research, the relative significance of the one factor compared to the other is hard to determine. Still, for the internal factors, these are deemed important from the perspective of the researcher when looking at the whole of the data concerning internal and external factors. Important *internal* factors are managing expectations and learning processes, as these help to keep up the spirits of the volunteers and be realistic about the garden as well as dealing with possible problems in a positive way. The other important factor is the group of individual factors; the founders or other dominant individuals seem to be *crucial* in the creation of the garden, they make the garden and its philosophy what it is, and take the ultimate responsibility for the things that need to get done and making sure that they are. For the *external* factors, the building of networks seems to be most crucial, for funding reasons, but also for finding people who know how to deal with the bureaucratic system of most city districts. It is these organisations that are very important to the creation and development of the garden as well, but cannot be *directly* influenced by the organisation of the garden, while creating a large and diverse network is something that can help the garden as many people have many sources of influence which they can use in favour of the community garden that they are part of, or linked to.

To conclude, the three niche management 'process' factors were very applicable to the 'sustainable' grassroots initiatives in the form of urban community gardens. Besides these three factors to gather up the most important processes, individual factors are a crucial factor mainly for the internal development and set-up of a garden, as this person takes the end-responsibility for the garden. The external factor deemed most important is one of the three niche management factors, building networks, as this increases the chance that there are people or other sources which can help the community garden when there is a problem with for example the local government.



Afrikanerplein Amsterdam



Valreepuin Amsterdam



6. Discussion: Theoretical reflection

In this chapter, all of the results presented earlier will be put into context by contrasting them with the theoretical framework constructed from literature. The research questions of this thesis is the following:

Can urban community gardens, as an illustration of 'sustainable' grassroots initiatives in the Netherlands, be called 'sustainable'; which impacts do they have and how can these be classified in terms of 'sustainability'? Which factors influence these urban community gardens as an illustration of 'sustainable' grassroots initiatives and which policy recommendations can be derived from these factors?

This chapter is built up in the same order as the three aims which guided this research project: the first aim of this thesis is to understand community gardens as an illustration of 'sustainable' grassroots initiatives as a *niche* of Transition theory, and to discuss if the initiatives and the trend studied in this thesis indeed 'fit' with the niches of Transition theory, discussed in 6.1. The second aim of this study is to study the impact of urban community gardens as an illustration of 'sustainable' grassroots initiatives on their environment and their members in terms of 'sustainability' using Practice theory, 6.2. And the third aim of this research therefore is to reveal influencing factors for the development of the urban community garden as an illustration of 'sustainable' grassroots initiatives in 6.3. The second part of the third aim, to formulate policy recommendations for a possibly better facilitation of the development of urban community garden as an illustration of 'sustainable' grassroots initiatives, will be discussed in the last chapters, chapter 7.

6.1 Community gardens as niches in an unsustainable landscape

The first aim of this thesis is to understand community gardens as an illustration of 'sustainable' grassroots initiatives as a *niche* of Transition theory, and to discuss if the initiatives and the trend studied in this thesis indeed 'fit' with the niches of Transition theory. The sub-questions related to this theoretical aim are:

- Which elements of Transition Theory regarding niches do or do not 'fit' with the 'sustainable' grassroots initiatives?
- Can 'sustainable' grassroots initiatives be seen as a niche?
- Do 'sustainable' grassroots initiatives have the potential to cause a transition or become a regime?

These questions will be discussed in the following subparagraphs.

6.1.1 Community gardens as niches

In chapter two, the theoretical framework, three main aspects of a niche were mentioned. First, the 'culture' in a niche is different; the norms and values are something else than the regime. Also, they are more fluid and flexible, which is seen within the niche as a positive aspect, as they can be adapted and altered into the best possible form, after experimenting with it within the niche. Second, a niche can be defined as a 'a protected space' where it can develop 'away from regime pressures' according to Seyfang and Haxeltine (2012), this is related to the first aspect of developing and experimenting the internal culture of the regime, but points to the protection that a niche should receive in order to do so. However, a balance needs to be struck between the protection period of development, and the selection pressure of the regime that is dominant at that moment, because at some time, the third point of a niche becomes important, which is its potential to grow and become a niche market, or even a new regime, causing a sustainability transition in the process. It should be noted that even though a niche can grow out into a regime, the way the niche is structured and the structure of the regime do not necessarily have to be the same; a niche can be a source for ideas for transformation, but is never a blueprint, as its structure or ideas will always be mitigated by society and the current regime.

In comparing the concept of a 'niche' and the community garden it can be seen to fit each other. Within a community garden, the values and norms are different from the outside world, and are often experimented with. For example the rule in Tuin op de Pier about only circle gardens and the philosophy of sharing everything and taking this form as the way to express it, had to be negotiated quite fiercely within the community group of gardeners, to see if it could work. The Gandhituin also does experiments, both with social rules or ideas, like the exchange of goods and services instead of exchange of goods and services for money as well as physical experiments with gardening forms like permaculture or other philosophies. And in all of the gardens, it is necessary to re-emphasise and evaluate the norms and rules that are imposed. The second point about the balance between

protection and selection pressure is very present in the organisation of a community garden as most gardens are still very dependent on government money or other kinds of funding to be able to survive, even though some gardens are very keen on their independence and take care of their finances by organising workshops or lectures or lessons for kids. The discussion of how long or even if at all external actors should help and protect the community gardens is omnipresent. It does seem to be most pressing for quite new garden (still in the start-up phase like the Cremertuin or Tuin op de Pier) or a bit older garden like the Bickershof, which needs funding for a specific gardener to support their interesting but intensive and diverse garden. Unfortunately, this is the only really old garden in the sample, and therefore can be an exception and not a general rule in this aspect. The last point about a niche having the possibility to become a regime is very interesting for the topic of a community garden. Since the start of this thesis, city gardening and community gardens have boomed, and become a mass media topic that keeps coming back in different papers and in lectures (www.dezwijger.nl, accessed 20th February, 2014). Still, community gardens are not a regime yet, but are on the rise, and much discussion is going on about if this is really what, for example, Amsterdam needs, or whether community gardens can really change our food system, and so on.

Having discussed the idea of a community garden as a niche, and its implications in society, how to manage a niche will now be discussed, as proposed by Kemp et al. (1998) and modified for socially oriented niches by Seyfang and Haxeltine (2010).

6.1.2 Niche management

The energy and transformative power of a niche can be used by the current regime through the practice of strategic niche management (Kemp et al., 1998), which can be carried out by all kinds of actors. Examples of these kinds of actors are government agencies, private companies, policy entrepreneurs, citizen groups or local authorities. Management of these niches needs to be done as a *collective* endeavour as much as possible, as outcomes of this kind of steering cannot be predicted. For the governmental actors involved, this means that they have to take on “a new role (for public policy makers), that of an *enabler* and *catalyst* rather than a *regulator* or *technology sponsor*” (Kemp et al., 1998, p.191, emphasis added).

When looking at the actors involved in the community gardens, they vary greatly per garden. Almost every garden has the local government involved, because of regulations and the ground the garden occupies. Most gardens have received money from a fund at some time in their existence. Some gardens, not many, but some have made deals with local businesses to help themselves and the business get attention. The Tuin op de Pier is probably the most active in pursuing finances and connecting with other actors. Who could be labelled as a policy entrepreneur is hard to determine in the Netherlands, but the city district in which the Gandhithuin, Bergwegplantsoen and Kinderparadijs are located seems to have a person who has responsibility for the organisation of the care for public space who is very pro-gardens and because of this facilitates the gardens and helps them to find their way through rules and regulations in the city district. This brings us to the last point, that of the new government role as an enabler and catalyst.

Many community gardens that were studied in this research project talked to me about their problems with the bureaucratic governmental system, with the exception of the three gardens in Rotterdam named just now. As the role of the government is traditionally to take care of rules and regulations, this is the kind of government they encounter when trying to set up a community garden. Going through the system to take care of permissions and related things for the garden often takes a lot of time, which frustrates the founder of the community garden. One of the things that was described by the interviewees to be the hardest was dealing with this issue. Therefore, the advice from Kemp et al (1998) seems valid for the government to be more of an enabler and catalyst rather than the traditional regulator or technology sponsor, but even though governmental organisations are trying at this new role, it is not yet a total reality in the current political system in the Netherlands (SCP, 2012). I will return to this issue of recommendations for local governments and city district paragraph in the last chapter.

6.1.3 Conclusions

The first aim of this thesis is to understand community gardens as an illustration of ‘sustainable’ grassroots initiatives as a *niche* of Transition theory, and to discuss if the initiatives and the trend studied in this thesis indeed ‘fit’ with the niches of Transition theory. To answer the first subquestion; the fit between the community garden and the concept of a ‘niche’ is deemed a good fit by the researcher, as discussed. Therefore, the answer to the second

subquestion is, yes, community gardens as a representative of 'sustainable' grassroots initiatives can be seen as a niche. Also, there is some suggestion of an answer to the third subquestion, even though it can not be definitive; 'sustainable' grassroots initiatives, like urban community gardens, *can have* the potential to cause a transition or become a regime; there is much discussion about urban community gardens and other 'green' initiatives that this could indeed cause a transition. A possible transition would be helped if it were to be supported by governmental actors as Kemp et al. (1998) and Rotmans (2012) suggested. For community gardens as a representative of 'sustainable' grassroots initiatives there are indeed many kinds of actors involved, besides the governmental organisations. But even so, this last actors is still the most influential one. The role of the regulator and or technology sponsor is still too often the one performed by governmental organisations, even though the paradigm is changing and the facilitator and catalyst is being tried on (SCP, 2012).

In the next paragraph, 6.2, the role of 'sustainable' grassroots initiatives in a possible transition to a more sustainable society, will be further elaborated on by examining the micro-level 'sustainability' impacts.

6.2 Sustainability of the urban community gardens and their impacts

The second aim of this study is to study the impact of urban community gardens as an illustration of 'sustainable' grassroots initiatives on their environment and their members in terms of 'sustainability' using Practice theory, with the following sub-questions:

- What is 'sustainability' for individuals involved in 'sustainable' grassroots initiatives? Which fields of images of sustainability are mentioned most often?
- Which images (as a part of their practice) do these individuals have of garden-related 'sustainability' ?
- Have these 'sustainability' images (as a part of their practice) changed because of interaction with the grassroots initiatives?
- Have any of the two other elements of a practice, or their practice as a whole changed because of interaction with the grassroots initiatives?
- Besides a direct impact on the involved individuals in 'sustainable' grassroots initiatives, are there indirect effects noticeable as well?

According to Reckwitz (2002, p. 249-50 in Ropke, 2009) a practice is "a routinized type of behaviour which consists of several elements, interconnected to one other: forms of bodily activities, forms of mental activities, 'things' and their use, etc. Pantzar and Shove (2005 in Hargreaves et al., 2010) suggested that this can be unravelled into three main elements; images (meanings, symbols), skills (know-how, competences) and materials (artefacts, technologies). The elements from these three concepts tie a practice together and as such are also the key through which to break or change a practice. In this research all of these three elements have been researched but more specifically the image element, which is discussed in subparagraph 6.2.1. Therefore, in this research the open question about sustainability facilitates an open answer, which can then be used to determine the similarities in 'images' among individuals involved in community gardens. The next subparagraph starts with this discussion.

In the second subparagraph, 6.2.2, the two other elements of a practice will be discussed, which are more visible elements: skills and materials. New skills can be acquired, or skills can be changed or even discarded as something useful. Using a particular material in or for a practice is a choice, and the awareness (image element) of that choice and the consequences of that choice can cause an individual or a group to change their practice by using other materials, or stop using materials during a practice. These two more practical elements will be discussed in the second subparagraph: "sustainability effects of the gardens" for the direct effects that change people's everyday life practices. Last, the indirect effects of community gardens will be discussed which are the collective manifestations of the changing of these everyday life practices, and will be looked at on the scale of the neighbourhood that the garden is a part of.

6.2.1 Images of sustainability

In this part of the chapter I will discuss what 'sustainability' is for the people of these community gardens and how they define it, what their 'image elements' are. As discussed in chapter two, sustainability and the direction that a sustainable society should take are normative concepts, and as such they can vary per person. Therefore, in this research when asked about sustainability, an open question was posed in order to study the definition from the interviewees' perspective. Later the answers have been categorised in different sustainability fields adapted from

Stocker and Barnett (1988) in order to compare them and find the most key elements that are shared amongst the interviewees. These categories were ecological sustainability, physical-, socio-cultural-, educational-, innovative- and economic sustainability. The images that were presented by the various interviewees will be discussed next.

When asked about their personal associations with the word sustainability, founders/organisers of the gardens and volunteers or visitors of the garden mention very different aspects of sustainability. The only common aspect they name is the educational aspect. Founders/organisers focus on economic and innovative aspects, and a bit ecological while visitors/volunteers name mainly ecological, physical, socio-cultural and a some of the economic aspects. On some level, this could be seen as a logical thing; the founders/organisers have a kind of opposite role to the visitors/volunteers of a garden. Therefore, the founders/organisers have a more actively educational and innovative personal idea which they might want to transfer *through* the community garden to the visitors/volunteers of this garden. Compared to them, the volunteers/visitors of the gardens are more practical in their definition of sustainability, their associations are things like be aware of transience, fix something that is broken, use materials that are already there, take care of your own health, which are not focused on teaching others but teaching and learning themselves, which in the context of them visiting the garden is a logical thing. Another interesting association with 'sustainability' that was shared in both groups is the mention that sustainability is a 'hollow' concept, a 'container concept', which could contain almost anything, and became worthless as a word because it could contain multiple kinds of sustainability, like fair trade, organic, good for the environment. Because all of these things can be classified as 'sustainable' but there is no way to determine exactly *why* it is sustainable as well as the problem of misuse of the word by companies, governments and commercials, it becomes a difficult, often disappointing, empty word for many people involved in community gardens, of which the presence of this and larger effects in society would be interesting to study. The second part of the first subquestion can be answered with 'the educational aspect, as this is the common aspect that is mentioned when asked about personal 'images' of sustainability of people involved in the garden in general.

When asked about the associations with sustainability and the *garden*, the founders/organisers and visitors/volunteer agree almost perfectly on the sustainability aspects related to the community garden. For both the founders/organisers as well as the visitors/volunteers the images that are associated with the gardens are ecological and socio-cultural sustainability aspects. The other aspects vary only slightly per garden: the physical-, educational- and innovative aspects. They also agreed on the economic aspect as being the least present in their image of a community garden. It could be theorised that especially a 'niche' like the community gardens would be acting as an opposite to the 'regime' of supermarkets who sell a totally different 'image' of food as they have or transmit to society. The Valreuptuin founder made his economic focus explicit, but this is not a shared image amongst the community gardens in general, which answers the second subquestion.

As a measure of changing the world and making it more 'sustainable' this thesis has taken the *changing* of practice of people, with the three elements of image, skills and materials as guidelines. For the third subquestion, when asking the volunteers/visitors of the garden about whether gardens have actually changed their *ideas*, their images, of sustainability, quite some people answered that their ideas were indeed altered by their interaction with the garden and the other people involved in it. This interaction caused them to rethink their own ideas and acquire new ideas to take home and think about. They challenged each other by talking about the practical and philosophical implications of living more 'sustainably'. One person told me that his ideas were sharpened and became more practical, like what he could do himself in this every day life, but also more radical because of this, changing from a more 'soft' form of sustainability in which every contribution to the concept is a positive addition, to a more concrete form of personally sharing goods and services with the community, and dismissing the sustainability issues that were displayed by many companies for which he mentioned McDonalds as a 'fake sustainability company'. In short, the community garden and its accompanying interaction amongst people challenged them to reshape their ideas through this exchange with other people. Another way that *the community garden itself* had an influence on their images was by experiencing the process of gardening; like coming to the garden to water the plants, or coming back to the garden and seeing that things had grown in their absence. This made people realise that they do have an impact on their surroundings if they choose to. This then connected to their ideas of sustainability as something that should and can be worked for and be put in a 'better' or other direction. This last effect on their images can be characterised as more of an awareness and empowering experience, which made them realise that they do or can make a difference, which is the beginning of the changing of a practice that connects to the actual materials and skills that they use and have in their daily life. The

next subparagraph is about these 'actual' changes, which are more visible than the images that they have, but are located in their heads instead of coming out as an actual effect in the real world. In short, the images mentioned in the third subquestion have indeed been changed through the interaction with the garden, with the Gandhituin and Oost Indisch Groen as the top 'changers' and the Tuin op de Pier as the garden that changed none of the images of visitors/volunteers. However, a slight nuance should be made, as the interviewees of the Tuin op de Pier amongst others indicated that their ideas were *influenced*, but in an additive way. Therefore, the answer to the third subquestion can be answered with 'yes', both changed and influenced.

6.2.2 Sustainability effects of the gardens: skills and materials

Besides the images, skills and materials are part of a practice as well according to Pantzar and Shove (2005 in Hargreaves et al., 2010). These skills are defined as competences or know-how and materials as artefacts or technologies that are used during the performance of a practice. In order to change a practice, these elements have to be changed as well to create an effect on society and the world in general. Therefore, whether and how these elements have been changed through the involvement in a community garden will be discussed next. First, the *direct* impact will be discussed, defined as the changing of the practice of people by changing the skills and materials. Second, the *indirect* impact of a community garden on society will be discussed, which is defined by if there is also an effect on a larger scale than the garden and its people, which in this case is the neighbourhood the garden is located in. The neighbourhood functions as a precedent for the larger scale of society for answering the question of how and how far a community garden or a sustainable initiative in general can have an impact on.

- Direct impacts

The impacts that are mentioned by people related to their everyday life practices can be very different from each other. Some are 'material' related like the cooking with and cleaning of vegetables from the garden, or changing their consumption habits from regular vegetables and other foods to buying more organic foods. Another habit that has changed for almost all of the volunteers/visitors of a community garden is a higher awareness (image) of their household waste, and the possibility of the garden to compost plant materials, which causes them to start separating their waste and bringing it to the garden to be composted, and as such has an effect on the 'materials' that are used in the 'practice' for example of 'separating waste'. The most important example from the category of 'skills' that make up a practice is the improvement of making social contact. For each and every garden, this effect has been 'measured', and almost everyone involved in the garden agrees that this is a big difference in *before* the presence of the garden and *now*; it seems easier to greet another person on the street, to talk to them even for a short while, to come to the garden and be part of the community there, or to go to the garden and learn skills like how to plant seeds, or even how often to water the plants and how much to give them..

In terms of sustainability related impacts it comes down to learning how to recycle things, the waste and compost skills mentioned earlier, but also to learn from others how to take care of a plant, and therein the connected images of taking care of your environment and the things that are a part of it. The knowledge exchange of a community garden, together with the practical elements of really working with your hands and learning to grow vegetables or flowers changes the images of people, and ultimately can change their behaviour towards these things specifically but also in other areas like the "better awareness of nature around me, and the fact that I want to teach my children these things: that apples grow on trees! And that it is okay to pluck an apple and eat it, because that is what they are meant for." From these smaller changes in images, skills or materials that are used in daily practices, other larger changes can occur in the pattern of practices of people. At the Tuin op de Pier, which also has a plot which is especially for dogs to run around and play in, I was told that many people change their daily dog-walk route, to include this plot as well as include the garden to have a look at everything and make sure that nobody is destroying anything. In the Wilgenhof and Oost Indisch Groen, this was the same: people's daily routines were changed to go to the garden and enjoy being in nature and help with gardening for a while. So besides the really strong social component, people enjoy being in a garden very much and are willing to change their daily paths to include this experience. So also besides having a better *social* 'skill', another 'skill' was that many of the interviewees told me that they enjoyed themselves more, being more happy in general. This adds to the conclusion that community gardens have a direct impact on people's lives.

For each of the four gardens that have been researched more in depth, a different emphasis seems to be present when looking at the direct impacts on daily life. The Tuin op de Pier has a strong social contact emphasis and a better connection within the neighbourhood, the Gandhituin has a stronger emphasis on knowledge exchange and

experimentation atmosphere, the Wilgenhof is mainly a peaceful place with a strong sense of community building and Oost Indisch Groen has both the individual learning and the social element connected to its garden. Why they are different in this is probably determined by their founder/organiser who set up the garden in a specific way and partly because of their previous land use. Therefore, to answer the fourth subquestion; the collective effects of the community gardens can ultimately have a 'sustainable' effect on their general lives and their larger (social) environment such as the neighbourhood, which will be discussed in the next paragraph about the indirect impacts.

- Indirect impacts

In order to study the larger impacts, the interviewees have been asked if there has changed anything in the larger scale of the neighbourhood, as a way to determine the indirect effects of a community garden apart from the individual effects on involved people. If we take the perspective of the six fields of sustainability for the indirect effects, the following things can be characterised as impacts. First of all, the socio-cultural effect of the community garden on the level of the neighbourhood is very large. This has been named by almost all of the interviewees as a direct effect on their lives, and is a collective effect of all of these people being more social towards each other. The neighbourhood is said to be safer and more agreeable to be in, as well as a lowered barrier to greet people and say hi to them in the supermarket, when walking the dog, when working in the garden or anywhere else in the neighbourhood. Ecological aspects on this level are the spin-off of different gardens in the form of other gardens or garden projects in the neighbourhood who are promoted and helped by the first community garden, realising more greenery in the neighbourhood. Physical aspects are named like people coming to the garden depressed and sick and getting healthier and happier over a period of time. Another interesting aspect of sustainability, the economic aspect, was talked about in the context of a garden as well; the effect of increasing, - or not decreasing -, the value of houses and apartments in the area, by improving the view from the balcony, by taking up public space that otherwise was occupied by drug dealers, prostitution and homeless people, by causing residents to become *involved* in the public space and making it a good and beautiful place to be, all because of the community garden located in this neighbourhood. Before the presence of the garden, residents who just bought an apartment wanted to move away again because of the unfinished public space surrounding their apartments, causing a bad atmosphere that felt unsafe and unwelcome. The garden which had the *least* neighbourhood effect was the Gandhituin, where also three out of five interviewees were no resident of the neighbourhood, but the social effect amongst this community of involved gardening people was the same; they felt more connected and more part of a larger community (of the garden) which made them happier than they were before.

As a conclusion, and to answer the last subquestion, the largest of the indirect effects on the neighbourhood was the social impact; which made the neighbourhood a tighter community due to the presence of the garden.

6.2.3 Conclusions

The second aim of this research project: to study the impact of urban community gardens as an illustration of 'sustainable' grassroots initiatives on their environment and their members in terms of 'sustainability' using Practice theory, was the specific aim of this chapter. The first part of the first subquestion about the sustainability 'images' of involved individuals in community gardens, can be answered as follows: founders/organisers focus on economic and innovative aspects, and a bit ecological while visitors/volunteers name mainly ecological, physical, socio-cultural and a some of the economic aspects. On some level, this could be seen as a logical thing; the founders/organisers have a kind of opposite role to the visitors/volunteers of a garden. The second part of the first subquestion can be answered with 'the educational aspect, as this is the common aspect that is mentioned when asked about personal 'images' of sustainability of people involved in the garden in general. For the second subquestion, when relating sustainability to the garden, for both the founders/organisers as well as the visitors/volunteers the 'images' that are associated with the *gardens* are ecological and socio-cultural sustainability aspects. They also agreed on the economic aspect as being the *least* present in their image of a community garden. It could be theorised that especially a 'niche' like the community gardens would be acting as an opposite to the 'regime' of supermarkets who sell a totally different 'image' of food as they have or transmit to society. As 18 out of 20 interviewees regarded their sustainability 'images' as changed, this is the answer to the third subquestion. With the Gandhituin and Oost Indisch Groen as the top 'changers' and the Tuin op de Pier as the garden that changed none of the images of visitors/volunteers. However, the interviewees of the Tuin op de Pier amongst others indicated that their ideas were *influenced*, but in an additive way. Therefore, the answer to the third subquestion can be answered with yes, 'images' were both changed and influenced.

The fourth and fifth sub-questions related to the direct and indirect impact of the community gardens on the everyday life 'practices' of its individuals. To answer these sub-questions; the collective effects of the community gardens can ultimately have a direct 'sustainable' effect on their general lives and their larger (social) environment such as the neighbourhood, which will be discussed in the next paragraph about the indirect impacts. The direct impact is mainly of a social nature, as people engage more easily in social contact with each other, as well as their general feeling of being more happy and enjoying themselves more outside of their houses. These direct effects also have indirect effects: interviewees find the neighbourhood becoming more of a community and feel safer and more welcome in it, so besides direct effects, indirect effects are also clearly 'measurable' because of community gardens as a representative of 'sustainable' grassroots initiatives.

Both the direct effects in all three elements (images, skills and materials) as well as the indirect effects correspond greatly with the effects that are mentioned in the literature about community gardens, and were also mentioned in the article of Stocker and Barnett (1998, p.180-181, emphasis added) about community gardens as change agents for sustainability: "The role of community gardens as change agents for sustainability is three- fold. First, the local growth of foods, often organic, can provide people with fresh safe foods, which are a fundamental product for physical and ecological sustainability. Second, the making of such a community place provides an opportunity for social and cultural interactions; many people join community groups looking for companionship among kindred spirits with a shared goal (Francis & Hester, 1990). Community gardening offers precisely such opportunities. The processes involved, those of encounter, negotiation and embodied engagement with the land, with other group members and with the broader community (Barnett, 1996), may be expected or unexpected in their exact nature. Together, however, they form a basis for the evolution of sociocultural sustainability. Third, community gardens can also function as research, development, design, demonstration and dissemination site for community science, horticultural techniques and innovative technologies in this way they point towards economic sustainability. These three roles combine to give community gardens the potential to be very effective change agents for sustainability". All of these effects have been found in the studied community gardens, but not all in the same garden, as some were more diverse than others.

The exact extent and -importance of these aspects cannot be determined by this study, as its aim was exploratory. This research has however generated an insight in the aspects that are important concerning the images, direct- and indirect 'sustainability' impacts of community gardens as an illustration of 'sustainable' grassroots initiatives; they really do have a *sustainable* impact on the people involved as well as the neighbourhood that they are located in. Also, we can conclude that community gardens are a *sustainable* grassroots initiative, so far.

Now that the sustainability effects of community gardens have been discussed and shown to be existent on two levels, this chapter will continue with discussing the workings of the community garden itself; a typology of community gardens as well as the internal and external factors that have an influence on the garden.

6.3 Community gardens and their influencing factors

The third aim, elaborated on in this paragraph, is to reveal influencing factors for the urban community garden as an illustration of 'sustainable' grassroots initiatives and to formulate policy recommendations for a possibly better facilitation of the development these initiatives, with the sub-questions:

- Are the three niche management process factors by Kemp et al. (1998) and Seyfang and Haxeltine (2010) applicable to these initiatives, which kind of examples of these processes can be given?
- Besides 'process' factors are there any organisational factors or individual factors that are deemed significant?

First the typology based on previous land-use will be discussed, after which the two sub-questions will be considered.

6.3.1 Kinds of community gardens

In this subparagraph a typology of community gardens based on their previous land use will be discussed, after which the influencing factors both external and internal will be discussed for managing the niche. The three processes deemed most important for the managing of a niche, adjusted from Kemp et al (1998) by Seyfang and Haxeltine (2012, p.17) for social innovative niches, are, 'managing expectations', 'the learning process' and 'building networks'. These refer to both internal processes and external processes. In this research, besides these

three 'process factors' two other groups of factors have been researched for both internal and external processes: organisational factors and individual factors.

During the research, it appeared to be that in all of the diversity of the gardens, there were three types of garden in this project that were very similar in philosophy of the garden which can probably be connected to a shared type of previous land use. The first type was developed on a 'to-be-developed-later' space which is an excavation site where there are plans to develop the ground, but due to the economic crisis have not been carried out yet. The gardens that are created in such a space are meant as a counter-initiative against the degradation and atmosphere that such an empty space brings into a neighbourhood. They are public or semi-public garden that bring people outside and take control of 'their' public space, which makes it a better and more social space than before. The second type of garden is located on a public "grass plot and dog waste place" which did have a function before, but are seized by the residents of the area to transform these spaces in a richer and more social and beautiful environment. The aim of these garden is to create a more (inter)active space of the garden where people linger longer than before, giving them time to relax and enjoy the garden and also to meet the other people in the neighbourhood and create a better social atmosphere. Besides the function of dog waste place, the grass plots also often served as a drugs and prostitution place, which negative atmosphere has been turned around, in a similar fashion to the first type of garden, but with another previous land use. The third type is the private or semi-public gardens located on "abandoned or empty (social) spaces". These spaces have been used before but no longer. These spaces are seized by an individual to use the place for a garden and to give this place to the neighbourhood or a community. These gardens are except for beauty and a nice place to be also used for education like workshops, lectures and other kinds of activities. Some of these gardens experiment with new ways of gardening or new social structures and as such, this group of gardens can also be called 'hub' gardens: they have a broader function and can generate green spin-off projects in the neighbourhood or even farther away.

6.3.2 Influencing factors of community gardens

Even though all of the gardens are can be put in the typology, there is still variation between them, which is probably due to the three groups of factors that internally and externally influence a community garden. The process factors with 1) managing expectations, 2) learning process and 3) building networks, and the organisational factors like the organisation form the garden has chosen, and individual factors, which make every garden different from the other, simply by which people are involved in it and their personal goals for and in the garden.

- Process factors

These process factors are important for internal and external processes, which will be discussed both now. The first of the process factors, managing expectations, states that promises are powerful when shared amongst the whole of the group, especially when ideas are credible, specific and coupled to societal problem which existing technology is not expected to be able to solve. If the niche or community garden can show that there are results from being involved in them, the community will stay active and involved. For community gardens this is an obvious similarity; people see the plants grown, and take pleasure in being involved in the garden because they work for something in the end, which is food or flowers or simply a beautiful place to be. They are made a part of the idea that they can garden themselves, and probably make the neighbourhood or the larger society a bit better, maybe even more sustainable. Managing expectations is also important for keeping up the spirits of volunteers, one story about a lot of destruction and stealing in a particular garden is a good example of this, the founder and the volunteers were quite de-motivated by these events, and the founder told me that he wished he had paid more attention also to his own reaction to this, and wished to do this better in the future. Stealing and destruction is part of a community gardens, and having the expectation that this can happen beforehand helps in dealing with this problem when it happens.

The second of the process factors, the learning process, is another important factor for the community garden to survive. Literature defines this factor as the understanding the barriers which the niche has to face, which needs problems and possibilities have to be dealt with. In the process of managing a community garden, when things are not going according to the idea of how it should be, evaluation is necessary; the organisation of four people of Oost Indisch Groen come together every Wednesday for at least two hours, to talk about how it goes and whether things need to change, listening and talking to each other and the volunteers and visitors of the garden. Externally, this learning process is how to deal with problems that come up, like the stealing and destroying mentioned

before, but also with disappointments in the interaction with governmental agencies or other public players, like how to write letters for funding, or to be part of an organisation for the whole of the neighbourhood.

The third of the process factors is building social networks, which can help the niche to create a network of relations in which the new technology or new social organisation form can function as desired, and help articulate the vision of where the sector or society should be heading. Seyfang and Haxeltine (2012) emphasise that in the social context a network helps to create a deeper engagement with resourceful actors. Kemp et al (1998) recommends that public authorities help with the creation of these networks. As discussed earlier, most community gardens are part of a network with many actors that support their existence, some of which are governmental, some of which are private, and some of which are other gardens just like them. And not just the external network, but the internal network of volunteers are a resource in this as well; they also use their network personal or work-related to make things happen for the garden; networks are of vital importance to the survival of the garden.

- Organisational factors and individual factors

Gardens can organise themselves in several different ways, both internally as being a foundation or an association or not registered formally at all. External organisational factors include for example the city district that they are located in and the rules and regulations that come with this location. Most community gardens have chosen to register and to become a foundation, which is a less democratic form than an association but gives the organisers more freedom in making decisions for the garden. The advantage of being registered is mainly that funds and other organisations can donate money to the garden, which can be stored in an official bank account. The gardens who have not chosen for this official procedure chose this because either they did not think it was necessary, for example because of their garden being not that large, and therefore there is not need to deal with great sums of money, or are still thinking to do it, for example because the form is not decided yet. The number of people and the related sums of money for the garden are probably the main factor for registering, not necessarily age.

Individuals are often crucial to the garden. This starts with the founder or founders of the garden, who create and set up the initial garden according to their idea. But also individuals arriving later at the garden can really connect to the garden and help develop it further and improve it. Besides individuals internal to the garden, external individuals in for example the city district can have a profound influence on the course of the garden, through supporting or opposing it. Very often, the founders/organisers told me that one or two persons in the bureau of the city district supported the project that made the process of realising it so much easier. But this can also work against the garden as was the case in Rotterdam and Amsterdam where a reorganisation was about to happen, which held back progress in getting permission for the garden or the agreement on a user contract for the ground.

6.3.3 Conclusion

From the perspective of the data, a typology has been derived, which connects type of garden to the previous land-use. It seems that this land-use almost causes a specific garden to arise, as these have been found to be connected in this research project. However, this typology and its validity should be tested in other research projects to verify the truth of this statement. The first subquestion asks whether the niche management factors are applicable, and which examples of these processes can be given. In this research project it has been found that the three niche management 'process' factors were very applicable to the 'sustainable' grassroots initiatives in the form of urban community gardens, and quite useful in describing the main important processes to the development of the garden, and therefore the 'sustainable' grassroots initiatives in general. Besides these three factors to gather up the most important processes, to answer the second subquestion, individual factors are a crucial factor mainly for the internal development and set-up of a garden, as this person takes the end-responsibility for the garden. The external factor deemed most important is one of the three niche management factors, building networks, as this increases the chance that there are people or other sources which can help the community garden when there is a problem with for example the local government.

These three groups of factors influence the course and process of a community garden, still, it is not easy to determine which ones are most important, as all of them are present at any garden. Consequently, more research into the relative significance in maybe a more quantitative fashion should be conducted to determine a ranking of influences as well as a value to their separate or common effect on the garden.

6.4 Conclusions

The research questions of this thesis project are the following: *Can urban community gardens, as an illustration of 'sustainable' grassroots initiatives in the Netherlands, be called 'sustainable'; which impacts do they have and how can these be classified in terms of 'sustainability'? Which factors influence these urban community gardens as an illustration of 'sustainable' grassroots initiatives and which policy recommendations can be derived from these results?*

Following all of the earlier sub conclusions, the answers to these questions can be formulated as follows. Community gardens as an illustration of 'sustainable' grassroots initiatives have an 'sustainability' impact on the everyday lives and practices of the people involved in the gardens, the method of which was inspired by Practice Theory. The personal 'images' that they attribute to 'sustainability' are very diverse, but the common aspect is the educational value or image of the concept of sustainability. When related to the garden, all of the individuals involved agree that the community gardens are associated with images of ecological- and socio-cultural sustainability, with the physical, educational and innovative aspects in the runner up places, and economic aspects mentioned the least of all images. In terms of 'materials' or 'skills' the main direct impact is the increase in social 'skills' of people involved in the garden. This leads to indirect impacts of the garden on the neighbourhood, which can also be classified for the most part in the social area of sustainability; the neighbourhood becomes more of a 'community' with a greater social cohesion and a safer, more welcome feeling of the public space in the neighbourhood.

The factors that influence the urban community gardens as an illustration of 'sustainable' grassroots initiatives have been derived from the niche concept of Transition Theory, and fit the 'sustainable' grassroots initiative quite suitably; managing expectations, building social networks, and learning processes. Besides these niche management 'process' factors, two other groups of factors have been studied, the individual- and organisational factors. Of which the individual factors are a crucial factor mainly for the internal development and set-up of a garden, as this person takes the end-responsibility for the garden. The external factor deemed most important is one of the three niche management factors, building networks, as this increases the chance that there are people or other sources which can help the community garden when there is a problem with for example the local government.

Also, there is some suggestion of an answer to the last part of the third research question, even though it can not be definitive; 'sustainable' grassroots initiatives, like urban community gardens, *can have* the potential to cause a transition or become a regime; there is much discussion about urban community gardens and other 'green' initiatives that they could indeed cause a transition. A possible transition would be helped if it were to be supported by governmental actors as Kemp et al. (1998) and Rotmans (2012) suggested. For community gardens as a representative of 'sustainable' grassroots initiatives there are indeed many kinds of actors involved, besides the governmental organisations. But even so, this last actors is still the most influential one. The role of the regulator and or technology sponsor is still too often the one performed by governmental organisations, even though the paradigm is changing and the facilitator and catalyst is being tried on (SCP, 2012). Therefore, the policy recommendations are presented as a concluding chapter, in chapter 7.

The conclusion of this research projects is that community gardens, which are part of 'sustainable' grassroots initiatives, have the potential to be effective agents of change for sustainability which can possibly lead to a larger sustainable societal transition as envisaged by Transition Theory.



Tuin op de Pier Rotterdam



PanderTuin Den Haag



Lusthof Den Haag

7. Recommendations for policy makers

A part of doing research from a governance perspective is to formulate recommendations for policy makers or governmental organisations to possibly improve or adjust their policies to 'sustainable' grassroots initiatives in the form of community gardens. In the case of this thesis, I have explicitly posed this question to the founders/organisers of the community gardens who were interviewed, in order to have their perspective of what would help them in their process of setting up or sustaining their community garden. Besides their explicit mention of what could go better, I have also asked them what their experiences were in being involved in this way in the garden. These can be personal learning moments, or organisational effects that have been mentioned by them.

7.1 Recommendations and experiences of founders/organisers

In the table 12 below, both negative experiences as well as explicit recommendations from founders/organisers are presented. To show that even though there are the positive effects of a garden, there can be negative ones as well. Some can be improved and can be supported by governmental organisations, but also the things that seem to be inherent to setting up or having a community garden.

Table 12: Experiences and policy recommendations of founders/organisers of a community garden

Name of the garden	(Negative) experiences in the garden?	Recommendations for municipality or city district
Cremeruin	already trying to put all different ideas into one garden	No, not yet
Stadstuin Bos en Lommer	Participatory trajectory of the city district for design of the public space was difficult, also to convince them to let us take responsibility for maintenance, it always comes down to a few person to consent to it. Personally, I have learned to do things step-by-step, and to delegate responsibilities as well.	They seem to believe in the initiative now, have given it some time. A framework covenant should be made for these kinds of initiatives, with option clauses, to agree on specific things like the financial arrangement.
Lusthof Den Haag	The ownership of the ground on which the containers are placed is sometimes hard to determine, the city district refers to us for them. Another thing is how to manage the volunteers, it is hard to make them a group and it is necessary to involve them on a regular basis to keep them interested and to really use the energy they bring.	Maybe to organise all of the initiatives a bit together, now they are not connected at all, which could be really useful. On the other hand, I am afraid that the city district is not the right organisation for this, and not take the broader public aboard, but keep it in their own small circle.
Tuin op de pier	A negative experience is that when you are highly educated people and try to get funding, the feeling is that you should not get funded because "you are not piteous enough", even though we help create social cohesion and atmosphere in our neighbourhood, of which the city district does not bother at all, a paradox.	Our garden falls in a jurisdictional gap within the city district, which is a bureaucratic disaster. In fact, the garden keeps people here, where they would have moved away because of the ugly empty spaces in the area. I think the municipality or city district should make a framework of rules, and if you abide by these you are fine. This includes the financial aspect; we do the maintenance and receive the money meant for it. Also, a designated person for questions about green initiatives could be a good idea, who can help us find the way through bureaucracy.
Oost indisch Groen	Frustrating when delays happen because of the municipality, also the centralisation/reorganisation of the city was problematic for communication. for the participants in the garden it is useful to regularly organise an event to help keep them involved in the gardens/garden containers	City district east Amsterdam is already progressive, compared to the others of Amsterdam I hear. On the one hand the long run-up period is frustrating and not always necessary, on the other hand it is also a good thing as it filters out the serious initiatives, it needs to be a balance. They saw that I was serious and wanted to, and now they know me so the process goes faster.

Name of the garden	(Negative) experiences in the garden?	Recommendations for municipality or city district
de Valreep Tuin	If a garden becomes available, it is hard to reach the people who are on the waiting list so now, first come, first serve.	I do not really have recommendations for the municipality of city district, except to see the value of the Valreep community and the hope to stay.
Afrikanerplein	In a personal way, it has cost me almost too much energy (working in the garden for three years 40 hours a week), having other people take the credit for the garden and getting paid projects from this, or obscuring money from the foundation; this has damaged my general trust in the human race.	In our case the group of the garden was put together by the city district for the purpose creating the garden, but the people did not match and ideas differed about the how and what, causing some people to be dishonest and cheat the group. This process should be watched out for by the governmental organisations to be replicated again.
Kralingentuin	Personally, time management; working a job as well as in the garden is hard. Working with volunteers is quite intensive as well, it is a lot 'giving' and little 'receiving' which is tiring sometimes, next project aims to be more in balance in this aspect. Another thing I have to learn is to not be demotivated when things are demolished in the garden, this affects the mood of volunteers as well, I have to be stronger in this.	The municipality of Rotterdam does support city farming but no funding, the city district does do funding. my experience is that the low budget initiatives survive, so less money can be good. the municipality or city district does not facilitate structurally, just some of the bureaucrats help you, others don't. the idea for a city-wide platform for initiatives is good, but if it is too top-down probably not, initiatives will find each other, no need for that.
Gandhituin	No, not really	No recommendations
Panderplein	The process of getting the permission for the garden took a very long while involving the municipality	I think the municipality should support and also initiate things themselves. Also, a support window would be opened for this, but have not heard more of it yet. Other recommendations are to simplify the rules for these more temporary projects, instead of an official planning permission, make some conditions and rules, and within these rules you can start. Most important is of course to get the residents involved and enthusiastic.
Kinderparadijs	No, not really	Our city district is quite positive, the right people are in the right places, and the person responsible for public space is inspired by permaculture, I do hear of other city district where it is much harder
Bergweg plantsoen	Egoistical dog-owners who felt threatened by the gardens, complaining of residents that the garden looked 'ugly', in the beginning: miscommunication within local government office about the maintenance of the garden, causing destruction of new flowerbeds, later the interaction with government went very well and was satisfying.	Take residents ideas seriously and try to facilitate them by supporting and being (not too) critical at first.. Help projects by giving them a financial impulse, NOT structurally (when a foundation is made, the rest will organise itself). Municipality services who maintain the green areas can be more facilitating by bringing wood chips for example to the garden on request.
Wilgenhof	Children have to be watched better, also to think about how to improve the knowledge transfer about tips and tricks for gardening.	I think a part of it is to be patient for the garden to gain reputation and support from the neighbourhood. Also, the emphasis for a community garden is the social function and the awareness of the energy and time it costs to grow food, do not expect that a garden can produce for a poverty food organisation or something
Bikkershof	Finding enough people for workdays in the garden can be hard, to sustain the garden. The connection with the garden is less with young people who move here, which is disappointing sometimes. Another hard thing is the organisation of a group with individuals with different perspectives and backgrounds, to keep them to have a common goal.	The city district now support the garden with money for an ecological gardener who helps the maintenance and planning for the garden, whether this support will continue is a question, but according to the interviewee is very important to the motivation and survival of the garden.

Three recommendations are more or less commonly mentioned by the gardens as shown in the table above. The creation of a framework agreement with optional clauses, a platform for initiatives and for the governmental organisation to understand the functions of a community garden will be discussed in order of stressed importance by the founders/organisers.

The framework agreement is independently mentioned by stadstuin Bos en Lommer, Tuin op de Pier and Panderplein, which are located in the different cities of respectively Amsterdam, Rotterdam and The Hague. The fact that they are from different cities, which means they have different organisational cultures of their municipalities and city district strengthens the idea that this is an essential problem that community gardens have; they find themselves in separate bureaucratic jurisdiction and find it difficult to find their way through the system. The framework agreement would give them rules within which they have to operate, as well as a framework for the governmental officials to make an agreement on the exceptions to the rules in the specific case of that particular garden. An example of framework rules could be that it is acceptable for the municipality if a group of citizens take over the maintenance of a specific flowerbed, as long as the municipality is notified, and one or more individuals explicitly take the end-responsibility for the maintenance. Then, if maintenance is not carried out, this person can be contacted and held responsible. The second aspect, a formal agreement which has options for exceptions, can be put into a standard contract between a resident or group of residents and the municipality, which has different clauses for for example a full fledged community garden, or a smaller facade garden, or the just mentioned example of the maintenance of a flowerbed in the public space. Different rules and clauses could be included within which the official together with the founder/organiser can make a choice of what is useful and applicable to that particular situation. As the interviewee from Panderplein stated, "this can ease the rules a bit, making this kind of temporary projects easier to plan and carry out without a long-term permit". An idea or recommendation linked to this, made by both Tuin op de Pier and the Panderplein was to open a support window or appoint a specific official for questions about garden initiatives or even broader, for civil society initiatives in the city district. This person could help new initiatives to find their way through the governmental system and provide them with information on what rules they have to abide by.

The second recommendation is to create a platform for (sustainable) initiatives hosted by either the municipality or a larger scale governmental organisation, or even by the founders/organisers themselves. These recommendations are made by Lusthof Den Haag and also mentioned by the Kralingentuin and Oost Indisch Groen from The Hague, Rotterdam, and Amsterdam respectively. This platform, which could be in the form of a website, or a regular organised meeting in an office where the people from initiatives can come, some way to connect them and bring them into contact with each other. Such a platform could be a place to accumulate knowledge and exchange it between them, helping each other with issues or other questions they have. If this platform is also connected to the governmental window or person mentioned in the first recommendation this can strengthen support for these initiatives even more. The Kralingentuin and also the Lusthof were critical of this as well, as they are afraid this task can maybe not be fulfilled by a governmental organisation. Oost Indisch Groen shows actually that it *can* also be done by the organisers/founders of gardens themselves; they have created their own platform as they offer the garden and its experienced volunteers as a stepping stone for other initiatives, keeping in touch with them and creating a network that comes together in their garden. This of course could be another, no government involved option.

The last recommendation is mentioned both by Wilgenhof, Kralingentuin and the stadstuin Bos en Lommer, but in different words. To remember the function of a community garden, being a city district official or a municipality official; to remember that the production of food is not the main thing, but something extra that can improve the public space and make the neighbourhood into a more cohesive unit, making the residents happier in general. This means to give a project the time it needs to turn their efforts into effects. When nothing is expected, but the garden is left to the volunteers, according to the Kralingentuin interviewee, it will probably flourish and survive, while a garden with too much attention or money from an outside organisation can lean too much on these aspects. The Panderplein interviewee confirms this by saying; "first you need to involve and activate the neighbours and residents, that is the most important part for the success of a project". But, to grow the supporting community, it takes time and low expectations.

Interestingly, I attended a lecture at Pakhuis de Zwijger in Amsterdam on 5th of September 2013 which was a follow up about city farming and gardens, with the central questions: What makes a city farm/garden project

successful or sustainable? How do the projects become self-sustaining and not dependent on subsidies? How to keep the involvement of volunteers and the neighbourhood alive and active? How to spread knowledge about gardening? Which 'business model' do different city farmers use? Which role should the municipality play in such a business model and which role should they explicitly not want to have or take? (see <http://www.dezwijger.nl/79259/nl/de-hongerige-stad-2-kijkje-in-de-keuken>, accessed 11th of February, 2014). The three recommendations that were given above were confirmed by a majority of the people there. The easing up of the rules, or a better framework of what is allowed, also the doubt about a platform initiated by the municipality or not. Such a platform was more or less already present by some organisations in Amsterdam connecting these initiatives. Also the function of city farming or gardens in the city were discussed heatedly; should it be food, awareness or a social function? In the end, the conclusion was that it was all of them in a more or less equal amount, where the one was as important as the other (personal notes, 2013).

The personal negative experiences that are also summed up here often link to the recommendations given. For example in dealing with the governmental system, things like how to manage time, or how to deal with volunteers. How to keep your network active and involved in the garden, what kind of rules are needed for a garden and how strict do they have to be? All of these questions are linked to the more difficult and challenging aspects of a community garden, which especially a platform like a meeting place or website could help initiatives to come in contact with each other. The interviewee of Tuin op de Pier told me that there actually is an organisation called 'wijkalliantie' (neighbourhood alliance) who facilitates and connects initiatives in the whole of the Netherlands with each other. A similar organisation, but more self-organised and probably more local could help the initiatives not just with the formal procedures, but also with these more personal or practical problems.

7.2 Conclusions

In this chapter the experiences and the recommendations that came forth from these experiences for community gardens have been discussed, as aimed for in the last research question: Which recommendations for dealing with these initiatives can be given as derived from all of these results as well as from the answers of the interviewees of the community gardens?

As one of the aims of this thesis was to help policy forward with regard to sustainable initiatives and community gardens in particular, the founders/organisers of the gardens were asked what their main negative experiences were with the garden and if they had any recommendations for the municipality or the city district. Three main recommendations in order of importance came to the fore. The first recommendation is to create a framework agreement that can be used by municipalities and the gardens to make their interaction about rules and regulations easier. This framework would set cadres with optional clauses that can be used for the specific case of each unique garden. These recommendations could be seen in the light of Kemp et al.'s recommendation for the government to become more of an enabler and catalyst, and become more flexible and less a regulator role. The second recommendation given by the interviewees is to create a platform for (sustainable) initiatives, in the form of a website, or a regular meeting place for these initiatives to exchange knowledge and possibly help each other out. This could even be connected to a designated person of the municipality who can be a mediator between the initiatives and the municipality. As mentioned for the process factor 'building networks' the article of Kemp et al (1998) actually states that the government could help create these kinds of networks, which is in this case also asked by the community gardens themselves. The third recommendation is actually from the gardens to have patience with these kinds of projects, and to have low expectations in terms of 'profit' in any way be it social or in terms of production of food. It takes time to build up the supporting community surrounding a community garden or another kind of sustainable initiative, not just in terms of results but also in terms of money. One interviewee recommends helping the initiative in the start-up phase, after which the community will take over and pay for little costs such as small repairs and the cost of tools themselves. However, for this last recommendation, there is another discussion, that of the balance between protecting the niche and opening it up to the real world and its selection mechanisms. In this case, most community garden recommend to have more patience it seems, and point to the start-up as an important phase, after which the community can take over and withstand selection pressures of society and maybe, ultimately, cause a transition to a more sustainable society.

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Appendix 1: Topic list semi-structured in-depth interviews

General

- motivation/idea for the community garden
- is there a specific aim? what kind of aim?
- history
- no of people involved
- lay out of the garden
- community/separate spaces
- website/blog/facebook/twitter? social media?

Organisation

- organisational structure
- stability of this structure
- individual influences of organisers

Members

- no of members
- active vs passive members
- new members vs losing members
- tightness of the group
- member activities/workshops/lectures?

Activities in the garden

- any activities in the garden?
- what kinds? and to what end?
- how many people visit such an activity
- is the neighbourhood involved?
- in what way? are they happy/unhappy with the garden and why?

Land/Tenure

- how is the land of the garden acquired
- future of the garden
- practical factors/problems/opportunities concerning the land of the garden

Funding/other societal and governmental actors

- do you receive funding (money/material/knowledge/activities)
- from whom?
- through which canal?
- how have you found these funding sources?
- other factors/problems/opportunities concerning funding?

Garden management and set-up

- did you have problems setting up a garden?
- which problems
- do you see solutions (now) for solving those, how did you solve them?
- which differences are there between 'coming up' and 'surviving'?

Networks

- part of bigger (social) networks?
- or garden networks?
- do you know any other community gardens/organisers?
- do you communicate with them and how?

Q1: What is your personal association with the concept of 'sustainability'?

Q2: What is your association with the concept of 'sustainability' and the garden?

Appendix 2: Survey questions

- Name
- Nationality
- Age
- Sex
- Why are you involved in the community garden?
- Did the garden have any influence on your every day life? If yes, in what way?
- Has anything changed in the neighbourhood because of the garden? What has changed?
- What is your personal association with the concept of sustainability?
- What is your association with sustainability connected to the garden?
- Did the garden have an influence on your ideas of what sustainability is? How?