MASTER   THESIS

Understanding Problem Solving Strategies of Community Gardens: an analysis of three case studies in Berlin

Student
Gregor von der Wall
Matriculation number: 143056
M. Sc. Nachhaltigkeitsgeographie
6th Semester, SS 2016
Contact: gregor.v.d.wall@gmail.com

University
Ernst-Moritz-Arndt-Universität Greifswald
Mathematisch-Naturwissenschaftliche Fakultät
Institut für Geographie und Geologie
First supervisor: Prof. Dr. Susanne Stoll-Kleemann
Second supervisor: Stefanie Lyn Becker

Greifswald, 30.06.2016

Information referring to this altered (anonymized) version

The original version of this Master thesis has been anonymized in order to protect the analyzed gardens and their participants from potential negative feedbacks. Thereby the names of the three gardens have been changed as well as other information that could have led to the identification of the gardens or even individuals. The gardens' names have been altered to "Neighborhood Garden", "Public Park Garden" and "Social Enterprise Garden" and "Figure 1" and "Table 1" have been blackened. Furthermore the appendix as well as references to it in this thesis have been removed.

For further information on this thesis please contact the author via the following email address:

gregor.v.d.wall@gmail.com

Abstract

This master thesis explores problem solving strategies of community gardens in Berlin. Community gardens provide several benefits to the life in urban environments and have been politically recognized as a contribution to cities' sustainable development. However, little research has been conducted on identifying their main problems that threaten their existence and the strategies they have developed in the process of dealing with those problems. A grounded theory analysis on three community garden projects in Berlin has been used to identify their problem solving strategies and thereby contribute to the yet little known topic on community gardens.

The analysis identified nine main problems which could be divided into "gardening problems" and "organizational problems". Community gardens try to solve them mainly by improving their internal communication, dividing certain tasks among their participants and building up a network of supporting neighborhood initiatives and administrative institutions.

List of contents

List of tables

List of figures

List of Abbreviations

e.V.:	eingetragener Verein (registered association)
FÖJ:	Freiwilliges Ökologisches Jahr (Voluntary Ecological Year)
FÖJs:	people doing FÖJ
gGmbH:	gemeinnützige Gesellschaft mit beschränkter Haftung (non-profit company with limited liability)
ÖBFD:	Ökologischer Bundesfreiwilligendienst (Ecological Federal Volunteer Service)
ÖBFDs:	people doing ÖBFD

1. Introduction

The urbanization process has led to a variety of negative influences on the earth's biological systems and urban areas greatly contribute to the current man-made climate change (IPCC 2013). Moreover, the urban life has also other negative implications like the disintegration and detachment of the urban population from nature (Draper et al.) Therefore a shift to a more sustainable development, especially in cites, is internationally emphasized (United Nations 1992b). Urban community gardens are a global phenomenon and have also gained popularity in a growing number of German cities in the last 20 years (Stiftungsgemeinschaft anstiftung & ertomis 2016). Especially Berlin has experienced an increase in urban community gardens throughout the last decade. Had only a few of those projects existed in the early 2000's rose their number to more than 60 in 2016 (www.stadtacker.net; 20.06.2016), making Berlin the German "capital of community gardens" (Meyer-Renschhausen 2010:33). They have developed in different spaces of the city and the motivations of people to (often voluntarily) invest their time in those projects are manifold (see 2.4 "Motivation Community Gardeners"). Community gardens provide several ecological, some economic, but especially social benefits that can improve urban areas (see 2.5 "Benefits of Community Gardening"). As part of the United Nations Agenda 21 action plan for sustainable development the city of Berlin has recognized community garden's contribution to a more sustainable city development (Abgeordnetenhaus 2006) (see 2.8 "Political recognition of community gardens").

Studies on community gardening in the recent years have covered different topics like their potential for integrating refugees (Wolf 2016), their importance for social education (Lienemann 2015), their benefits for the diversity of crop plants (Mertens 2015) and other aspects that show the value of those projects. However, little research has been conducted on the problems those projects face and what kind of strategies they develop to deal with them.

1.1 Research aim & research questions

Hence, this thesis is aiming at filling the gap by identifying community garden's main problems and the strategies they have developed to overcome them. Furthermore, it is looked at the role of external stakeholders in supporting the initiatives during the solution process. This shall help existing and future community gardens to avoid obstacles that potentially threaten their

existence and therefore may have a negative influence on the goal of a sustainable urban development. Hence, this master thesis tries to identify problem solving strategies by particularly answering the following three research questions:

1. *What are the main problems community gardens are dealing with throughout their development?*

2. *What are the key strategies community gardens developed to deal with their main problems?*

3. *Who are important external stakeholders supporting community gardens during their problem solving process?*

The first research question will evaluate what kind of problems community gardens have to deal with and will provide the basis on the individual garden's problem solving strategies evaluated by question 2. The third question aims at identifying external stakeholders who are important in the process of solving problems in community gardens. By using the grounded theory methodology interviews and observational notes are analyzed to come up with answers to the three research questions and thereby producing a theory which explains community garden's developed key strategies to deal with their main problems.

1.2 Thesis structure

This master thesis is structured into 8 chapters. Chapter 1 introduces the topic leading to the research question. Chapter 2 gives an insight into the topic of community gardens to better understand the phenomenon and the importance of their survival for a sustainable urban development via a literature review. Chapter 3 describes the scientific methodology used for the research on the topic. Chapter 4 gives insights on the three initiatives that have been analyzed in this study before the results are presented in chapter 5. Those are then discussed and summarized in chapter 6, thus giving a conclusive overview and recommendations for solving community garden's problems. Chapter 7 includes acknowledgements before chapter 8 delivers the literature used. Chapter 9 comprises the appendix (in the original version of this thesis).

2. Literature Review

2.1 "Problems"

In order to be able to identify community garden's problems (and their solutions) the term "problem" had to be defined first. According to the Macmillan dictionary a problem is "something that causes trouble or difficulty" (Macmillan 2002:1122). The German Duden states that a problem is a "difficult (unsolved) task, difficult question to answer, complicated question" or "difficulty" (Duden 2016). Furthermore, problems have an affective component and can therefore be perceived as problematic. Problems have goals, which are usually referred to as solutions. Thus, problems can also be described as "anything which is between an individual and a goal" (Runco 1994:278). The term "problem" was used intentionally as it was aimed at analyzing the issues that are influencing the development negatively and could possibly lead to an end of the initiative.

2.2 Urban Gardening

Urban gardening is simply the practice of horticultural activities in an urban location (Ernwein 2014:78). It has developed in cities worldwide and is therefore considered a global phenomenon. Some examples are Shanghai, Berlin, Nairobi, Caracas, Havana, and New York (Meyer-Renschhausen 2010). However, the term can be understood quite differently by sociologists, historians or garden activists, as Müller deplores (Müller 2012:10). According to Müller who is a sociologist "Urban Gardening is usually social gardening, it is participatory and community-oriented, the garden is staged as a place for learning and meeting and the neighborhood is included in the design of the outdoor social area" (Müller 2012:23). She further depicts the development of a new form of gardening with varying organizational forms and legal regulations in cities that distinguishes itself from the traditional allotment gardens which are officially regulated by the federal allotment garden legislation ("Bundeskleingartengesetz"). "The new gardens try to enter into a dialogue with the city and want to be perceived as a genuine component of urbanity, not as an alternative to it" (Müller 2012:23).

Urban Gardening is multifarious and includes all kinds of gardening activities, such as guerilla gardening which is "the illicit cultivation of land that belongs to someone else" (Reynolds 2010:12), window gardens or vertical gardens which try to make use of small spaces, school

gardens that are used for teaching about topics like food and resource management, roof-top gardens that are defined by their location on a roof and community gardens that explicitly emphasize the social aspect of gardening. (Müller 2012:31ff.) Hereby, the different kinds of urban gardening practices are interlinked and cannot be fully separated from each other. A community garden can potentially be situated on a roof and cooperate with a school, for example.

2.3 Community Gardens

Community gardens are spaces where both, the "need for community and the need for self-expression" (Eizenberg 2013:192) are emphasized. However, there is no common scientific definition of the term "community garden" either (Appel et al.:2011). According to Ferris et al. and Hou they are "in some sense public gardens in terms of ownership, access, and degree of democratic control" (Ferris et al. 2001:560) which provide multiple social, economic, environmental and health benefits (Hou et al. 2009:3) (see 2.6 "Benefits of community gardens"). Rosol defines community gardens as "collectively and by voluntary engagement established and managed gardens, green areas and parks with a focus on a general public" (Rosol 2006:7). She distinguishes between three types of community gardens, thematic gardens, neighborhood gardens and thematic neighborhood gardens (Rosol 2006).

1. **Thematic gardens** are focusing on a specific topic. One example are intercultural gardens with their intention of intercultural interaction through garden activities.
2. **Neighborhood gardens** are addressing neighbors close to the garden area, aiming at providing a space for communal gardening activities to foster neighborly exchange.
3. **Thematic neighborhood gardens** are a combination of the two listed above. Hence, addressing the close-by neighbors with a focus on a special topic.

However, the development of community gardens, especially in Berlin, has led to more diversified forms which had not yet existed during the time of Rosol's work. One example being community gardens that have taken on a more economic approach and aim at profitable systems supporting individuals or the project in order to pay its employees (Zacharias et al. 2014:16). This is important to mention as one of the community gardens included in this study is working

as a social enterprise and tries to pay its employees. This goes beyond the often voluntary engagement in other community garden projects. Therefore, Rosol's definition has been altered to the recent developments and is used as such in this thesis:

> *"Community Gardens are collectively established and managed gardens, green areas and parks with a focus on a general public"*

2.4 Motivation of Community Gardeners

The motivations of people to engage in community gardens are manifold. Motivations in some studies ranged from "pleasure", "to grow their own vegetables", "physical connection with the land or with the vegetables", "need for nature/being outside" (Scheromm 2015) to the desire of producing and eating healthy and regional food (Wunder 2013). Rosol analyzed 13 motives for an engagement which she further combined in three motivation types. The first type describes people who are interested in the actual gardening activities. The second type refers to people who are motivated by the creative freedom that comes along with those projects. The third group refers to people who cannot name a specific motivation, but feel connected to the project because of their long-term commitment. (Rosol 2006)

2.5 Benefits of Community Gardening

Several studies show a variety of benefits associated with community gardening such as community development (Peters et al. 2008:11), building social capital (Alaimo et al. 2008), providing an area for people to participate in physical activity (Saldivar-Tanaka et al. 2004), healthy body weights (Zick et al. 2013), contact with nature (Maller et al. 2005), economic benefits (Draper et al. 2010), e.g. and thereby contribute to the social dimension of sustainable life in cities. Furthermore, community gardens are one form of green space which provide habitats for a variety of plants and animals and fulfill important climatic functions in urban areas as they divide the closed heat island of a city (Dihlmann 2003:2; Crossan et al. 2015:7ff.; European Commission 2015). Based on other theses a study from 2016 developed a model to show the benefits of community gardens for wellbeing. It shows that there are many positive aspects that can be associated with urban community gardening and they have been

internationally recognized as one way to help ensure especially social sustainability by reversing trends of disintegration in cities (Müller 2009; Draper et al. 2010). This shows the importance of their continuation. Thus, it is important to find ways to support them.

2.6 Political recognition of community gardens

Since the beginning of the Industrial Revolution in the 1800s the global human population has risen from around 750 mio. (Caldwell et al. 2002) to 7.3 billion in 2015 (United Nations 2015b:1). In search for job opportunities and a better future for themselves and their families, people started to move from rural into developing urban areas (Clark et al. 2009). Thereby the percentage of urban population continuously rose until the number of the world's urban population equaled the number of the rural population in 2008 for the first time in history (United Nations 2008:3). In 2014, already 54 per cent of the world's population resided in urban areas and the number is expected to rise up to 66 per cent by 2050 (United Nations 2015a:1).

The urbanization process is connected to a variety of negative effects on the urban population and environment. Especially urban residents with poor access to nature experience negative impacts on their health and are more likely to be disconnected to nature, leading to a diminished awareness and engagement with the environment (Miller 2005; Mitchell et al. 2008). Cities also have negative impacts on the local climate, due to the modification of surface albedo and evapotranspiration, anthropogenic heat sources and increased aerosols which results in elevated temperatures and changes in precipitation patterns (Seto et al. 2011; Chrysanthou et al. 2014). Furthermore, cities worldwide account for around 70% of resource consumption and more than 75% of the global CO_2 emission production (BMZ 2014). Therefore urban areas are seen as a major driver for the current global climate change (IPCC 2013). On the other hand urban areas are also the key in the search for solutions to a so called "sustainable development" in order to avoid risks resulting from climate change, and better adapt to them (Revi et al. 2014).

The book "Limits to growth", commissioned and published by the Club of Rome in 1972 was the first one to predict a collapse of our civilization in the upcoming century in their "business-as-usual" scenario (Meadows 1972). Their main aspect was to highlight the contradiction of endless growth (in terms of economy and population) on a planet with finite resources. The so called "Brundtland Report" (also known as "Our Common Future"), published by the United

Nations World Commission on Environment and Development (WCED) in 1987, was the first to define the term "Sustainable Development". According to the commission it is a "development that meets the needs of the present without compromising the ability of future generations to meet their own needs" (United Nations 1987). This definition and the two concepts were revisited at the United Nations Conference on Environment and Development (UNCED) in Rio de Janeiro in 1992 which resulted in the Rio Declaration on Environment and Development and consisted of 27 principles (United Nations 1992a). Those principles served as guidance for the future sustainable development of countries.

Additionally, among other results of the conference, the "Agenda 21", a non-binding action plan for sustainable development in the 21st century, was established (United Nations 1992b). The action plan emphasized that sustainable development requires new forms of social learning and potential conflicts on environment and development. Furthermore, issues should be resolved through new forms of involvement and co-operation (Lafferty et al. 1998:1). Chapter 28 of the agenda especially refers to local authorities and their status as being a "determining factor in fulfilling its [Agenda 21] objectives" and "as the level of governance closest to the people, they play a vital role in educating, mobilizing and responding to the public to promote sustainable development". Thus, in order to meet the sustainability goals set at the Rio Conference and its following conferences, local authorities, of especially urban areas, will have an increased responsibility on fulfilling the agreed tasks.

In 2006, after several years of political debate and development, the Berlin House of Representatives presented and approved their text "Local Agenda 21 Berlin" as the city's guideline for a sustainable development (Senatsverwaltung für Stadtentwicklung 2016a; Senatsverwaltung für Stadtentwicklung 2016b). In chapter 3.3 "Successful Migration" and 3.5 "Green spaces, allotment gardens and near-natural spaces", the establishment of intercultural gardens as "places for nature und environment protection as well as for social integration in the region" (Abgeordnetenhaus 2006:21) has been emphasized. Furthermore, the Berlin senate department's "city development plan climate" recognized neighborhood gardens as one way to connect green areas to each other and thereby improve the city climate by reducing the heat in the city (Senatsverwaltung für Stadtentwicklung 2011:47f.). Thus, the importance of community gardens has been recognized by the city of Berlin.

2.7 The development of community gardening in Berlin

Historically, the development of community gardens in North America and Europe has been closely related to changing socio-economic and demographic trends. In times of growing populations and economic recessions in the 19th century and first half of the 20th century municipal leaders used them as a way of producing cheap food and reserved spaces for the population. As the economic situation improved the spaces were often turned into construction sites and the number of community gardens decreased. (Saldivar-Tanaka et al. 2004:399f.; Draper et al. 2010:459f.; Senatsverwaltung für Stadtentwicklung und Umwelt 2012:4ff.) In the 1970s another form of community gardens developed in North America (Schmelzkopf 2002:327). Inhabitants of poor districts in New York started communal gardening activities as a way of opposing the decay of their neighbourhood, rather than seeing it as a way of producing sufficient amounts of food (Grünsteidel 2000:125). Thus, community gardens developed a priority on the social significance. Those new forms of community gardens developed as bottom-up initiatives as a reaction to diminished social liveability in cities in contrast to former top-down approaches initiated by municipal leaders during times of food crises. The movement affected other American cities as well and inspired German gardeners to start community gardens in their neighborhood (Werner 2012:59).

During the 1980s the people of both West and East Berlin started to turn brown fields into productive communally used gardens and children's farms which continued to grow as forms of urban agriculture even after the German reunification. Since the late 1990s / early 2000s new forms of community and intercultural gardens established. Their number grew well above 60 in the decade of 2004 – 2014 and Berlin developed to the German capital of a new gardening movement. (Meyer-Renschhausen 2010:33; Meyer-Renschhausen 2016:9f.)

Due to its history and demographic development Berlin features a high number of brownfields compared to other capitals and metropolitan areas, which is one explanation for the development of those projects in the city (Kather 2010:3). Urban brownfields are important spaces for the establishment and development of community gardens. According to Tobisch who analyzed the potential of community gardens to revive and beautify urban brownfields, those spaces are not only one potential area, but the primary space used by community gardens (Tobisch 2013:57).

As Tobisch further deplores there are benefits for the owner of the space as he can make a

revenue when asking for rent and the property increases in value due to the beautification. However, the income generated by renting it out to the community garden is usually much lower than the potential income of selling the property. Therefore, most of those areas are rented out for a limited amount of time. This assures that the owner can sell it for a good price when needed and the community garden has to find another space. (Tobisch 2013:73)

Berlin's population has constantly increased since 2003 and is expected to continue to grow for at least the next ten years (Senatsverwaltung für Stadtentwicklung und Umwelt 2016d:23f.). Along come challenges like providing enough housing options. One of the planning goals and part of the sustainability strategy of the federal government of Germany is "inner development before outer development" ("Innen- vor Außenentwicklung") (Hinzen et al. 2011:41). Hereby free space and cultural landscapes shall be spared and potential spaces in cities be developed. Brownfields in Berlin have therefore reduced between 1990 and 2010 due to new construction and infrastructure projects (Amt für Statistik Berlin-Brandenburg 2014:37). However, this also reduces the amount of potential spaces for community garden projects.

Some projects though are also situated on public green spaces. The economic crisis of Berlin in the late 1990's / early 2000's has led to a significant decrease in financial means for maintaining green areas (Rosol 2006). Thus, community gardens are seen as a way of compensating a lack of governmental services by providing those projects a space on city owned properties. In return the community gardens are usually obliged to take care of the space. Rosol states that those projects can provide a qualitative addition to existing free spaces. Nevertheless, community gardens cannot fully compensate them and a financial relief of the cities cannot and should not be expected from them (Rosol 2006). Thus, false expectations from local authorities can lead to diminished synergies, threatening the potential of community gardens as a contribution to urban sustainable development.

3. Methods

3.1 Case study selection

In order to be able to answer the research questions, 11 participants from three Berlin community garden initiatives were interviewed. The website "Stadtacker.net," an interactive internet platform that collects knowledge, experience, activities and projects in the field of urban agriculture and urban gardening (http://stadtacker.net/SitePages/Homepage.aspx; 17.04.2016) was used to identify possible community gardens. A search tool provided on the website allowed for the searching for urban gardening projects in Germany. By narrowing it down to the city of Berlin 112 projects were identified under the heading "Felder und Gärten" (fields and gardens) (day of search: 08.09.2015). It was further focused on the Berlin districts that had no border to Brandenburg. Those being Mitte, Friedrichshain-Kreuzberg and Charlottenburg-Wilmersdorf. This was relevant as the projects were supposed to be in an urban environment. If the garden would have been too close to the border of Brandenburg there might have been a risk of the garden being situated in a rural environment.

By focusing on the gardens that were characterized as "Gemeinschaftsgarten (gemeinschaftliche Nutzung)" ("Community garden (communal utilization)") a total number of 19 community gardens were identified. Two were situated in Charlottenburg-Wilmersdorf, eight in Mitte, and nine in Friedrichshain-Kreuzberg. One project in Mitte had been discontinued and another one was still in the planning phase. Thus, 17 community gardens in those three districts of Berlin were potentially available for further research.

In order to make sure that the gardens had already have the chance of experiencing problems and developing solutions for it, another criterion was the age of the initiative. It was determined that they needed to be in their third season by the beginning of the research. There was no information on the establishment of three of the 17 identified community garden projects. The other 14 projects were at least in their third season and therefore suitable for the study. In order to be able to develop a theory that would fit to different types of community gardens, those projects were deliberately consulted that seemed to have different organizational structures. This information was also provided on the website and made it possible to distinguish them before the visit.

After visiting six gardens on site, it was possible to convince four gardens to participate in the study. However, during the process of conducting the interviews it was not possible to gather sufficient amounts of data from two of the four community gardens because the gardeners did no longer reply to emails or got sick. Therefore, another garden was consulted in January 2016. Thus, a total of three gardens and 11 interviews were included in the study.

Criteria for choosing the community gardens:

- Situated in the Berlin district "Charlottenburg-Wilmersdorf", "Mitte" or "Friedrichshain-Kreuzberg" (urban environment)
- established in or before the year 2013 (already in the third season at the time of research)
- community garden with communal utilization of the space
- different forms of organization between gardens

3.2 Qualitative research

The present thesis focuses on the results of empirical qualitative studies conducted through semi-structured interviews, participant observation and conversations. The explorative character of my research was best met by using flexible qualitative methods as they focus on finding new insights in a field of research and develop an empirical grounded theory. (Flick 2014:5f.)

In contrast to the hypothesis testing of experimental and quantitative research the identification of a certain structure in often little structured qualitative data is important in qualitative research. Thereby the process of classification has descriptive and hypothesis-generating functions which helps to better understand social realities (Kelle et al. 2010:10). My thesis aimed at discovering new information and insights on the broader topic of community gardens instead of verifying existing knowledge.

As qualitative research is often taking place in dynamic contexts which the researcher is only able to control to a certain degree, openness is a central element. As not all steps can be predetermined a research design has to be used that is open to differing circumstances. Openness in qualitative research also includes the researcher's approach towards the person of

interest. This means that the researcher needs to have theoretical guidelines and a clear plan of the methodological strategy. Only then it is possible to be open and flexible during changing situations and still reach the set goals effectively. (Kruker et al. 2005:14)

3.3 Literature review

In order to find a research question on the topic of community gardens that had not yet been covered, literature was reviewed prior to the actual study. However, the grounded theory approach was planned to be used. Therefore, the literature was not read in detail to avoid an influence of too much information during the coding process.

3.4 Grounded Theory

In order to answer the research questions the so called "Grounded Theory" methodology was used. It describes a qualitative research process that is used to develop a theory. This theory is based or 'grounded' in the data used (Hildenbrand 2010:7). The methodology was developed by the two sociologists, Glaser and Strauss, who first presented it in their book 'The Discovery of Grounded Theory' in 1967 (Glaser & Strauss 1967).

In an interview in 2004 Strauss referred to grounded theory as being a methodology and a certain style to think about social phenomena in an analytical way rather than a method or a set of methods (Legewie et al. 2004). He also described three main points which are central to the methodology. The first one being the type of coding, the second one the so called theoretical sampling and the third one are the comparisons between the phenomena and contexts that lead towards theoretical concepts.

3.4.1 Coding process

Coding is the essential part of the grounded theory methodology. It is the process that conceptually abstracts the data and reintegrates it as theory. (Holton 2007:265) The coding process is divided into three steps, the so called open coding, axial coding, and selective coding which are continuously repeated throughout the research process. (Breuer 2010:77)

Open coding is an intense, detailed analysis of the data. Usually the interviews, field notes, or other documents are looked at line by line or even word by word. (Strauss 1987:32) Hereby, concepts in regard to the context are developed. (Krotz 2005:172) According to Strauss and Corbin:

> "Open coding constitutes the analytical process which identifies and develops concepts in relation to their characteristics and dimensions. The basic analytical process by which this is achieved are: asking questions towards the data and the comparison of each incident, event and other examples of phenomena in regard to their similarities and differences. Similar incidents and events are named and grouped in categories" (Strauss et al. 1996:54f.).

Axial coding is an advanced stage of open coding. Hereby the data is intensely analyzed around one category. "This category forms the 'axis' around which further coding and category building is done and may eventually become the core category of the emerging theory" (Kelle 2007:201). This process elaborates the relationships between the categories as the researcher continuously moves back and forth between inductive thinking (developing categories, concepts and relations from the text) and deductive thinking (testing the categories, concepts and relations against the text) (Flick 2009:311).

Selective coding is axial coding on a higher level of abstraction. (Breuer 2010:92) This step focuses on potential core variables or core concepts as the researcher is looking for further examples and evidence for relevant categories. (Strauss et al. 1996:95; Flick 2009:312) According to Glaser (2005) the researcher needs to find a single core category as the most significant and frequent code that describes and is connected to other codes more than any other potential codes.

The coding was done using the free computer assisted qualitative analysis software "QDA Miner Lite 4". Documents can be uploaded and intuitively be coded using coloured codes organized in a tree structure. Additionally, memos and other comments can be added to segments, cases or the whole project (see fig. 1).
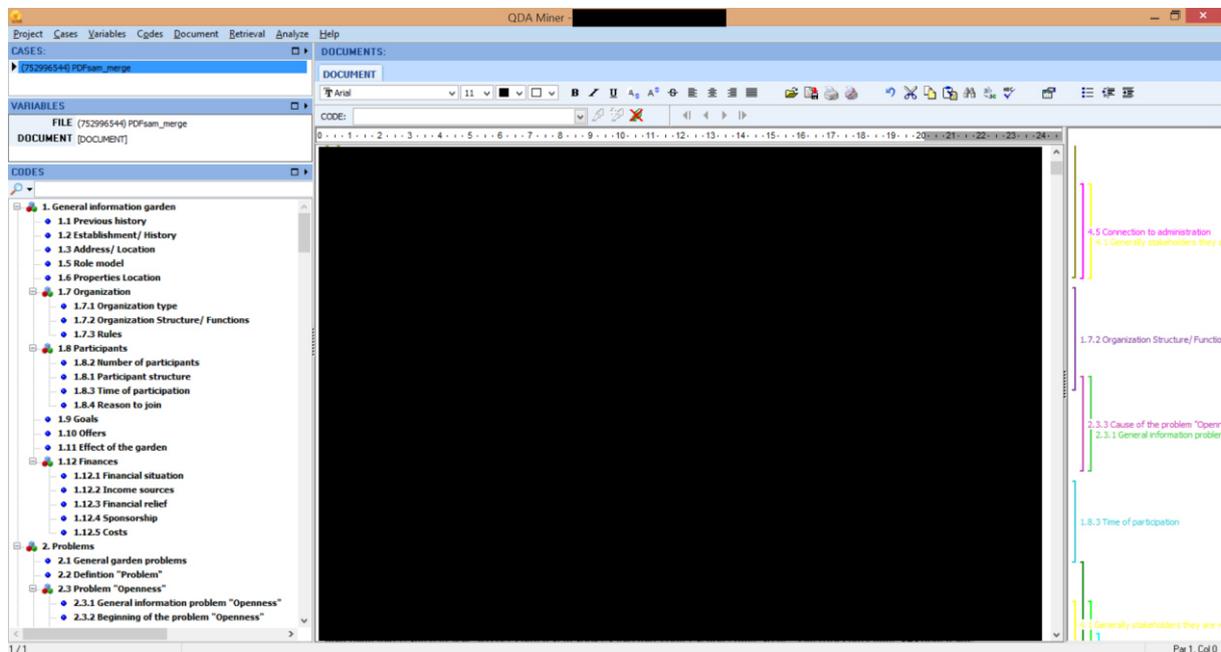
Fig. 1: QDA Miner Lite coding process

3.4.2 Memos

Memos are an essential part of the development of a grounded theory. They are "theoretical notes about the data and the conceptual connections between categories" (Holton 2007:281). Glaser stated that it is the "core stage in the process of generating grounded theory" and if the researcher is skipping this stage that he/she "is not doing grounded theory" (Glaser 1978:83). Memos were written throughout the whole process of developing the theory.

3.4.3 Theoretical sampling

In the process of gathering data to develop a theory, theoretical sampling was used. Glaser and Strauss define it as the "process of data collection for generating theory whereby the analyst jointly collects, codes, and analyses his data and decides what data to collect next and where to find them, in order to develop his theory as it emerges" (Glaser et al. 1967:45). This is the opposite of deductive oriented strategy of hypothesis testing which determines the design of the study before it begins. Deductive oriented research is usually inspired by the ambition to include a representative sample of objects of sufficient size in the study so that results under probabilistic theoretical calculus can be extrapolated at an acceptable risk of error on an entire population. In the study conception of grounded theory however the decision of the sample size is decided upon and dependent on the process of developing findings and the theory. (Breuer 2010:58)

3.5 Qualitative interviews

As a way of acquiring information from people of interest, interviews can be used to get an insight into the field of research. Before conducting the interviews it was important to decide what type of interview, such as non-structured, semi-structured or structured interview was most appropriate for the context. (Kruker 2005:64) It was decided that semi-structured interviews would be most suitable for the study. Semi-structured interviews allow the researcher to be open to changing situations during the interview whilst still having a set of questions that help to cover the desired topic. (Fylan 2005:65)

Prior to the interviews, three pretests had been conducted with three different individuals in order to adjust the questions and get a feeling for the time needed. The three persons did not explicitly have in-depth community garden knowledge, but were able to suggest changes due to their scientific background. According to the pretests the interviews were estimated to take around 1,5 to 2 hours. Therefore, face-to-face interviews were conducted in order to be able to include breaks which would help to concentrate on the topic for the entire time. A personal meeting also helped to go back and forth within the questionnaire, if necessary. This would have been difficult when conducting the interviews via telephone.

Eleven semi-structured interviews were conducted with participants of three Berlin community gardens in order to find sufficient information on their problem-solving strategies. A semi-structured questionnaire had been prepared as a guide through the interviews which had been sent to the interviewees prior to the meeting. This way the interviewees could get an idea of the questions being asked and were able to prepare themselves for it.

In order to ease the beginning of the interview some main facts about the garden and the interview partner were asked before the actual interview began. This also made sure that information found on their website had been up to date or could be corrected by the interviewee. The actual interview began with two introductory questions (part A "Introduction") about the history and goals of the initiative and were used to get the interview partner into a talkative mode before focusing on problems in part B "Problem identification". Part C "Problem solution" was focusing on the initiative's found or attempted solutions. The last part D, "Network analysis," focused on the important stakeholders working on the solution to the problem in the past and present and aimed at identifying the most important stakeholders for solving the specific problem. The questionnaire and interview had been developed in German in order to ease the conversation for the native German speakers. This ensured that no potential German interviewee was excluded due to a language barrier and all information could be delivered.

The interviewees were asked to sign a consent form prior to the interview. This allowed the interviewer to record the interview with an audio recorder and the use of the data for this thesis. The consent form also stated that the interviewee was allowed to withdraw his/her statements after the interview. This was included to give the interviewee a feeling of security and control which was hoped to help them to be more open during the interview.

During the analysis process more questions arose. Therefore, some interviewees had been contacted via email after the initial interviews.

3.6 Transcription

The interviews had been recorded using an audio recorder. The records were then transcribed using the free available software "Express Scribe Transcription Software". The free version supports audio formats like wav, mp3, wma and dct and allows the user to vary the speed playback. The transcriptions were written down using Microsoft Word 2010. The most prominent grammatical mistakes and repetitions of words were corrected, but certain dialects were not adjusted in order to be close to the original interview. Time stamps were set in irregular order to better identify certain parts of the interview during the coding process. Following the interviews field notes about the interview had been written down to capture the atmosphere and note new insights into the topic. The transcripts were anonymized due to the consent form that both the interviewer and interviewee had signed. The names of persons were replaced by their position in the initiative or their job.

3.7 Interviewees

The first interviewees had been found by directly approaching participants in the garden or during official meetings like plenums as well as writing general emails to the initiative. After conducting the first interview, the interviewees were asked if they could recommend other potential interview partners who had a different insight into the initiative. However, those recommendations could be influenced by a certain bias as the interviewees might have chosen like-minded gardeners who share the same opinion on problems and their solutions. Nevertheless, this procedure was repeated with the following interview partners in every garden. As it was stressed that following interview partners should be able to give different insight (they are in charge of a different task for example) it still helped to get a broad picture of the initiative's situation from different point of views and made sure that all problems and their solutions were covered until a saturation was reached. The interviews were conducted in different places, according to the desire of the interview partner. This was important to make the interviewee feel comfortable.

3.9 Observation

The method of systematic observation is especially useful when information about people and their everyday behavior is to be analyzed. (Kruker 2005:57) Therefore, in addition to the interviews conducted, each garden had been observed at least two times during the time of data collection.

Neighborhood Garden:

16.01.2016: observation before an official plenum

25.04.2016: observation during an official garden work day

10.05.2016: observation during a normal day; no active garden work day

Public Park Garden:

06.04.2016: observation during a normal day; no active garden work day

01.05.2016: observation during a normal day; no active garden work day

Social Enterprise Garden:

09.07.2015: communal cooking event

09.04.2016: official spring and opening festival

The observations helped to validate some findings that came up during the interviews and to gather additional data that would complement the findings at that stage.

3.8 Interviews – Experiences

It was easy to get gardeners to participate in the research from the Social Enterprise Garden and Public Park Garden initiative as they were interested in the study and a lot of people were potentially available. After conducting the first interviews the next partners were found via recommendations, direct contact in the garden, or via email. In order to prepare them for the study, the questionnaire was sent to them prior to the interview. For a better preparation the questionnaire had been slightly altered and descriptions of how to proceed with it were added. Between September 2015 and February 2016, twelve interviews were conducted. However, only eleven could be used as one garden that had been included in the study could not come up with additional interview partners. Thus, this garden had to be excluded from the study and the

Neighborhood Garden was chosen instead. During the process of finding potential gardens, another garden had also been contacted. However, on the day of the interview the first interviewee became seriously ill and other gardeners from this project were either only willing to give a one-hour-interview on the telephone or would fill out the questionnaire via email, but did not answer subsequent questions. Therefore, this specific garden was abandoned as it was not possible to get sufficient information on it. I was able to conduct three interviews with the Neighborhood Garden initiative, even though at least one more interviewee would have been helpful to be clear about a saturation of the information given by the first three interviewees.

Before the interviews were conducted every interviewee was asked to sign the consent form which also included the permission to use an audio recorder. All interviewees signed the consent form and agreed to using the audio recorder. During the interviews the interviewer did not recognize any negative influence from using the audio recorder despite checking on the battery once in a while to make sure that everything was recorded. Although the topic was referring to a negative aspect of the initiative, problems, the interviewees did not appear to mind answering questions about it. It was rather the opposite and the interviewer had the impression that the interviewees were happy to talk about it. Some interviewees also said that they hope to help other gardens with their information and were therefore open to talk about it. It also helped that the interviewer himself had started a community garden together with other people in spring 2015. Thus, there was a feeling of trust between the interviewee and the interviewer and the atmosphere was always friendly and relaxed. Nevertheless, there were also interviews that were disturbed by noises or other people who entered the room. This only happened during three interviews though and did not influence the situation too much as the recording was paused and continued shortly after the other people had left again.

Two interviews had to be divided into two separate meetings because the interviewees were going into detail and it took more time to go through all the questions with them. As it became apparent during the interview that it would not be possible to cover everything in time the interviewees were asked whether a second meeting would be possible, and they agreed. This helped to reduce stress during the first part of the interview and provided the opportunity to ask subsequent questions during the second interview that had resulted from the first discussion. The interviewer had also not tried to stop them during the first interview as the information proved to be valuable and complementary to the other interviews at that time. During the interviews the questionnaire was filled out by the interviewer and field notes were taken after

the interview had been conducted. This ensured that information was not lost due to potential technical difficulties with the audio recorder and that the atmosphere and interviewers thoughts were captured. Those fieldnotes were later part of the coding process.

The time needed to conduct the interviews varied from around 72 min to 182 min. The average duration was 112:40 min. The differences were mainly due to the experience of the gardeners, their time spent with the initiative and how much they were currently involved in it. The more they were involved the more they were able to explain. Part D "Network analysis" of the questionnaire also had a big influence on the time needed. The more stakeholders were mentioned, the longer the interview, as detailed questions about every stakeholder were asked separately.

4. Description Gardens

This chapter gives an overview of the analyzed Berlin community gardens, with a special focus on their historic development. The information has been collected during the interviews. The Neighborhood Garden initiative is the oldest of the three and was founded in the early 2000s. The Social Enterprise Garden and Public Park Garden started within the last four years. The space they are working on ranges from around 1200m² to 1850m². However, not the whole space is cultivated in any of the gardens. The number of participants varies throughout the year and ranges from around 10 to 20 people in the Neighborhood Garden to around 120 to 130 people being active in the Social Enterprise Garden, up to 200 gardeners at the Public Park Garden. The three community gardens are distinguished by their organization. The Neighborhood Garden is officially represented by another association, the Public Park Garden is working as an association and the Social Enterprise Garden as a social enterprise. Currently, the only initiative with an unrestricted lease contract is the Neighborhood Garden. The Public Park Garden is tolerated by the senate, but has not yet signed a lease contract. The Social Enterprise Garden's lease contract will expire within the next two years and the initiative does not yet know whether it will be extended (see table 1).

Table 1: Garden's characteristics

Feature\ Garden name	Neighborhood Garden	Public Park Garden	Social Enterprise Garden
Establishment	Early 2000s	Within the last 4 years	Within the last 4 years
Size property	1200m²	1900m²	1700m²
Member nr.*	Around 10 to 20	Around 200 gardeners,	Around 16 active members + around 90 tenants + volunteers and employees
Organization type	Officially represented by another supporting association	Association	Social enterprise
Legal situation concerning property	Other association signed lease contract with district office	Currently tolerated by senate; no lease contract yet	Lease contract signed with education authority; expires within the next 2 years

* The number of participants is constantly changing in all gardens. It also depends on the time of the year. There are more people involved during the summer than in winter. The interviewees could only give a rough estimation of the number of participants.

4.1 Neighborhood Garden

The neighborhood garden was founded in the early 2000s. It is currently situated in an inner courtyard in the district of Friedrichshain-Kreuzberg.

The initiative's history is characterized by its struggle to find a suitable space. The Neighborhood Garden had been established on a former vacant 2000m² space in the early 2000s. Neighbors adjacent to the property had come together and started the initiative. Their intention was to beautify the former rubbish-threwn space. The garden started as a so called guerilla garden as the gardeners did not ask for permission to work on the property. According to Reynolds "Guerilla Gardening is: the illicit cultivation of land that belongs to someone else" (Reynolds 2010:12). The gardeners worked on the land for a couple of years until the premises were auctioned off to investors. They were evicted from the first part of the property a couple of years after their establishment. A year later the rest of the eviction took place and the initiative had to move to another vacant space in the neighborhood. Shortly after they arrived at an agreement with the district office to use the current (third) space. Currently, they use about half of the 2500m² space.

The number of participants is constantly changing as new people join and former members leave the garden. Nevertheless, the garden was able to maintain a number of around 10 to 20 participants throughout its history.

The main objective of the initiative is to offer a place for neighbors to grow some vegetables, fruits, herbs and flowers. Most of the gardeners share the vision of shaping their own environment in contrast to the common way of using a space that had been predesigned by official institutions.

4.2 Public Park Garden

The Public Park Garden initiative is an intercultural garden situated in a public park and was established within the last 4 years (see table. 1). A collaborative network of local district initiatives initiated the process. This network generally aims at "Strengthening the local resilience via: strengthening the social interaction, inventing/testing/establishing common sustainable behaviors. Accompany the energy transition (towards a less energy intensive way of life) by means of a cultural transition (towards a more sustainable, more interconnected, more local culture)" (Berlin 21 e.V. 2016).

A group of interested people established that tried to start the garden. They successfully promoted their idea in several meetings with important stakeholders and decision makers. One important platform established during that process. The association was established as a precondition to be able to work on the space. The first two years were marked by an exponential growth of participants and raised beds. Currently, they have 100 raised beds and around 200 gardeners. 60 of those gardeners are club members. They do not plan to extend the number of raised beds at the moment.

They are offering raised beds to be cultivated by interested neighbors as well as occasional workshops with a focus on educating about food and other garden related topics and keep bees that are taken care of by experienced bee keepers. Furthermore, they work together with kindergartens, schools and other institutions with a social background. One of their goals is to educate people about organic gardening and food in general.

Currently, their objective is to get a contract that will change their status of using the property temporarily to using it permanently.

4.3 Social Enterprise Garden

The Social Enterprise Garden initiative is an intercultural garden and was founded within the last 4 years. The original vision was to create the garden on another area. There they began the project. Due to fire safety regulations and statics requirements they could not meet, the project could not be realized. They had to leave the area one year later. Nevertheless, the district officials liked the idea and managed to organize the current space for them. Here, they restarted their garden a couple of months after the first eviction.

Currently, the core team consists of around 16 members. They are being helped by interns, paid workers and volunteers.

The initiative's main goal is to have a positive impact on the neighborhood and improve the livelihood in the district. They are offering a variety of workshops ranging from the topics of food and cooking to environmental education and social integration. People can lease a raised bed for one season, buy fresh products in the garden and the café, or can even rent out the garden area for private events.

Currently, their lease contract with the owner has been renewed for the next two years. The space has been reserved for another use since the 1980s. Currently, the owner is in negotiations with a potential investor. The Social Enterprise Garden hopes to be part of the new concept and is therefore in close contact with the owner of the land.

5. Results

5.1 Summary Results

The analysis of the data revealed that community gardens are dealing with nine main problems which can be divided into "gardening problems" and "organizational problems". "Gardening problems" affect the realization and continuation of horticultural activities negatively and include the problems "space", "soil", "water" and "safety". "Organizational problems" combine problems threatening the performance of the group as an initiative and include the problems "participation", "difficult participants", "communication", "management" and "finances".

However, community gardens have developed key strategies to solving their problems. They are successfully working on them by improving their internal and external communication, dividing tasks among their participants and building up a network with neighborhood initiatives and administrative institutions.

Nevertheless, there are also important external stakeholders supporting community gardens during their problem solving process. Different administrative institutions help solving the problems "space", "water", "safety", "participation" and "finances". Other community gardens help with the problems "soil", "participation", "communication", "management" and "finances". Neighboring social institutions support the initiatives with the problems "space", "participation" and "management" and the media helps with the problems "space" and "participation". Several individual people help them with other problems as well.

5.2 Identifying the problems

The analysis of the initiatives revealed certain needs that are essential for the development of community gardens. As problems are defined as "anything which is between an individual and a goal" (Runco 1994:278) asking the interviewees for the initiative's main problems and their solutions automatically identified the garden's goals and what the interviewees thought is needed to reach them.

<u>Gardening needs</u>

In order to be able to start and maintain a garden according to the findings in the data analysis a community garden needs:

1. to find a space that allows a certain planning certainty to develop a long-lasting initiative
   → problem **"space"**
2. nutritious soil for the development of their plants
   → problem **"soil"**
3. water to water their plants
   → problem **"water"**
4. safety from the influence of other people's negative actions
   → problem **"safety"**
   (includes: "(A) theft", "(B) vandalism", "(C) dogs" and "(D) garbage")

<u>Organizational needs</u>

Furthermore the interviewees described problems which negatively influence the development of their garden as an institution. According to the findings in the data a community garden needs:

5. enough people to maintain and develop the project
   → problem **"participation"**
   (includes: (A) getting people to participate in the initiative, (B) keeping participants in the initiative)
6. a harmonized group of people that follow a certain communal goal
   → problem **"difficult participants"**
7. suitable means of transferring information
   → problem **"communication"**
8. a certain coordination of the initiative
   → problem **"management"**
9. the financial means to pay for basic needs
   → problem **"finances"**

Thus, nine problems were identified which will be further described for each garden, followed by the garden's strategy to solving them. A table for each problem and solution is presented to

show the differences between the three projects. The tables for the solutions are provided with a special feature. The bottom of each table declares whether the problem has been solved and is therefore coloured in "green", has not been solved and therefore coloured in "red", or the garden has found a solution, but the situation is not perfect yet (yellow).

5.3 Gardening problems & their solutions

"Gardening problems" are defined here as problems that are affecting the simple execution of gardening activities. Those problems are related to the property and its features as well as to difficulties caused by people who are not part of the garden group.

5.3.1 Problem "Space"

Problem "space" is defined by the difficulty of getting access to a space to work on and the legal regulations associated with it.

Summary problem "Space"

The core of the problem "space" lies within insufficient financial resources of the gardens to purchase a space for their project and the lack of legal spaces that secures their projects for several years. Thus, the projects are dependent on other property owners to let them use their space and the legal regulations associated with the property. In the case of the Neighborhood Garden it meant moving two times before they ended up on the current space and not being able to change the space according to their needs. This affected the gardeners' motivation and not all were willing to continue with the project. The Public Park Garden is situated on a space that will soon be redesigned and they will have to move during the development process. Thus, they are faced with uncertainty about the development which affects their motivation as they cannot realize all their projects. The Social Enterprise Garden needed to leave the first space due to legal regulations they could not afford and had to move to another, the current space. Presently they are faced with uncertainties concerning their development on the space as the owner has planned to use the area differently.

<u>Neighborhood Garden</u>

The Neighborhood Garden initiative started to work on the first space illegally as they did not have the financial background to purchase one and the brownfield had not been used. The owner did not mind and allowed them to work here. They were free to change the appearance of the space according to their needs and erected a fence to protect their garden from dogs and acts of violations (see problem "safety"). A couple of years later the space was auctioned off by the owner. As the group did not have sufficient amounts of money to compete for the (first) space against other investors they had to eventually leave and look for another one (see problem "finances").

After the eviction they were able to stay on an interim (second) space in the neighborhood. Unfortunately, they had to pay rent to the owner during that time (see problem "finances"). As they struggled with the financial burden and it was planned to also convert the interim space into yet another construction site for new housing projects the district office offered them the current (third) space. A contract with the district office secures their status on the current space, but it does not provide the best circumstances for a well working community garden as they are not allowed to change the appearance of the space according to their needs which includes the prohibition of building a fence as a way of protecting their garden from violations (see problem "safety"). The move from the original space also affected the number of participants. Not all members of the original team were willing to start over on a new location (see problem "participation (B) keeping participants in the initiative").

<u>Public Park Garden</u>

The Public Park Garden initiative has not yet had to move spaces. However, because they did not own a property and could not afford to buy one, they needed to convince several decision-makers of their concept to be able to work on the current public green space, which was also time-intensive. They are currently tolerated, but do not have a lease contract. They are working on a space that will soon be redesigned. Although it has been assured that they will be part of the new concept, they may have to move their garden to another close-by area within the park. Thus, the initiative is not allowed to build solid structures as they have to be able to move their garden in a short amount of time. This also affects their plans of building other structures they

could use, like solar panels for example. This has a negative effect on the motivation of some gardeners who would like to realize those projects in the garden.

Social Enterprise Garden

The Social Enterprise Garden needed to find a space to realize the project as the initiators did not own a space nor had the financial means to purchase one. During the process of promoting the project the owner of a property allowed them to use some of the space. Unfortunately, they had to leave it again after several months. Legal regulations and associated necessary changes and costs were prohibitive for the initiative at that time. Therefore, they had to move to another space. Currently, they have a lease contract that will expire within the next two years. The owner of the area allowed them to build up a fence which is an important difference compared to the other two gardens which struggle as they cannot protect their belongings at all times (see problem "safety"). However, the space's owner is in contact with a possible investor who may want to build something else on the property. The area has been slotted for this use since the 1980's. The gardeners knew that they will only be allowed to work on the current space for a certain amount of time. Thus, they share the Public Park Garden's uncertainty about the future development of their space.

Problem "Space"		
Neighborhood Garden	**Public Park Garden**	**Social Enterprise Garden**
- Lost original space due to change of ownership and construction of new house on site - Signed lease contract with district office for current space - Not allowed to put up a fence to separate their garden from the rest of the space which would help dealing with other problems - No uncertainty concerning future development	- Had to convince senate from their concept - Are tolerated on the space - Have not signed a lease contract yet - Uncertainty concerning future development	- Needed to leave original space due to legal regulations they could not afford - Signed lease contract for current space - Contract expires within the next 2 years - Uncertainty concerning future development

Table 2: Problem "space"

5.3.2 Solutions "Space"

<u>Summary solutions "Space"</u>

All three gardens received external help when dealing with the problem "space". They were in different situations, but in all cases it were government institutions that helped them to get a property. The Neighborhood Garden and Social Enterprise Garden were contacted by the government institutions because they had already gained popularity and were known in the district. This was after they had lost their original space. The Public Park Garden actively approached the government institutions to get their approval before officially starting to work on the space. It was important for all projects to get in contact with important neighboring initiatives and build up a supporting social and institutional network. In order to get a space on a legal basis it was also necessary to be organized in an official form or to be represented by an official institution. Thus, one part of the solution to the problem "space" also lay in the initiative's organization.

Although The Neighborhood Garden is not entirely satisfied with the features of the current property, they have come to an agreement with the property owner and signed a legal contract which ensures their future on the space. The Public Park Garden will be integrated into the future development of the surrounding park, but the gardeners are still uncertain about the details and therefore have to stay in continuous contact with all important stakeholders. The Social Enterprise Garden signed a lease contract for the current space until the end of season 2017, but still have to find a solution to the imminent eviction after their contract's expiration.

<u>Neighborhood Garden</u>

The participants of the Neighborhood Garden initiative had invested a lot of time and energy to fight for the former space and to find a new property. They printed flyers and organized demonstrations to make their case public. Their actions resulted in a local fame which did not help to keep the original space, but eventually led to the finding of a new property through a district office's employee. A Berlin networking association, which was founded by a former Neighborhood Garden gardener, helped them to get the new space by officially taking responsibility for the garden. The contract secures the group's status and does not have to fear an eviction.

The group was much more dependent on other external stakeholders to help them with the problem though. The media indirectly helped them by covering their story during the time of their eviction and therefore raising awareness for their situation. Other community gardens helped them to move their belongings from the original area with cargo bicycles and by adopting some of their plants. This did not directly help to keep the property nor to get a new one. Nevertheless, the movement was organized like a protest which helped to get attention for their cause which later helped them to get their current space.

The solution of staying on an interim space was the result of their already established network. Other gardeners had told them about the free space. Thus, networking was essential for surviving the time until the solution for the current space was found. The most important external stakeholder was an employee working for the district office who had the idea of giving them the current space. She contacted the group and arranged the connection to the district office.

A theoretical solution that was mentioned by the interviewees was to buy the first property or to get someone to buy it and preserve it for them. They tried to get the district to buy back the land, but it did not react.

For the Neighborhood Garden initiative the problem "space" was thereby solved mainly by external stakeholders, most importantly by governmental institutions which helped finding and providing them with a new space. Their former engagement of raising awareness for their cause and networking with other gardens was essential to end up with that solution though.

Public Park Garden

The Public Park Garden initiative was very active in finding a solution to their "space" problem from within the group. The initiators faced the problem that they did not own a property to start a community garden on. Thus, they looked for potential areas and found the current one. The initiators were already well connected to other people and initiatives in Berlin. Nevertheless, they needed to convince the senate (as the owner of the space) and other stakeholders from their concept and did so via presenting it during a citizens' workshop that is concerned with the

development of the surrounding park. They networked with other neighborhood initiatives which were part of the workshop and successfully convinced them to support their idea.

In order to get the space, they needed to found an official form of organization. They chose to become an association as it was their vision to do and decide everything communally and non-commercially. An association was seen as the best form of organization to fit those purposes. Thus, one part of their solution for their "space" problem influenced the way they organized themselves (see problem "management").

Once the initiators had the approval to work on the space they developed a constitution which included their purposes and how they plan to achieve them. This is their guideline and additionally they developed gardening rules. They did not have a master plan but a rough direction and some principles. This was important so that they were organized in such a way that the decision-makers can officially contact them. This is especially important now that the development of the space is uncertain.

Especially the association's board tries to stay on top of things and attends important meetings concerning the development of the park. They also communicated their progress and vision in a presentation during a following citizens' workshop. This way they want to make sure they are recognized by the decision makers. That is the only way they feel that they can influence the development at the moment. They have been assured that they will be part of the new concept for the park however. Nevertheless, the uncertainty concerning their future development on the space remains as long as they have not signed a lease contract.

According to one interviewee, neighbors had been extremely important for the ongoing debate concerning the development of the park as they had started a petition to protest against the planned construction of apartments on the part that the Public Park Garden is currently situated on. Not only due to this action have the plans been changed and the area has been saved for the development of the park instead of constructing apartments on site. This also saved the status of the Public Park Garden.

In 2012 an employee from the environment agency gave them advice on whom to contact. She also informed them about the citizens' workshop which eventually led to the solution. Another woman, who was already very active in the urban gardening scene also supported and promoted

their idea and connected them to important stakeholders. Thus, communicating with important stakeholders and thereby building up a local network was essential for the solution of the problem "space".

The Public Park Garden initiative actively connected itself with external stakeholders in order to find a solution to their "space" problem. This was especially important to convince the decision makers in order to get the current space.

Social Enterprise Garden

It is striking that the interviewees of the Social Enterprise Garden initiative, in contrast to the other two projects, were only referring to individuals when asked about important internal stakeholders concerned with the solution to the problem "space". Internal stakeholders were the initiator, one of the shareholders and the current executive secretary. The initiator got in contact with important stakeholders and promoted the concept of the garden. This was important for finding the first space on the parking garage. A supermarket agreed that the garden could be build up here. This was very important for the establishment of the initiative.

After it became clear that the garden could not afford the necessary requirements to stay on the first space it was essential to find a new property (see chapter 4.1 "Social Enterprise Garden" and problem "space"). The borough mayor was already in favor of the project and contacted the education authority. One shareholder who is also an architect presented a draft of the future development of the project on a potential new space. The education authority was convinced and offered the current space to be used by the initiative. Thus, a government institution was essential for the continuation of the project.

The current executive secretary is in close contact with the property owners. They only have a lease contract until the end of season 2017 though as an investor plans to build a sports hall on the area. The executive secretary is attending important meetings to stay on top of things and tries to have an influence on the development. They would like to be part of the new sports hall and try to find a compromise.

The solution to the problem "space" was therefore influenced by personal actions of the initiator and other founding members who built up a network and organized themselves as well as by governmental institutions who lease out the current space until an investor has been found to build up a sport hall on site. Thus, the initiative's future on the space is uncertain at the moment and the final decision and therefore solution is still pending.

Solutions "Space"		
Neighborhood Garden	**Public Park Garden**	**Social Enterprise Garden**
Internal contribution to solution		
- Raised awareness via demonstrations and handing out flyers which resulted in a local fame - Berlin association officially took over responsibility for them and signed the contract	- Applied for current space by presenting a concept - Networked with important neighboring initiatives - Are in contact with decision makers and try to stay informed about ongoing changes	- Individual people were important, especially the initiator networked with a lot of people - Applied for current space by presenting a concept - Are in contact with decision makers and try to stay informed about ongoing changes
External contribution to solution		
- Other gardens helped with the move - Press covered their eviction - District office offered current space and legal contract	- Senate agreed to giving them the space - Neighboring initiatives supported them during citizen's workshop - Neighbors fought against potential construction planned on the space	- Borough mayor connected them to education authority - Education authority provides the current space for free
Problem has been solved	Problem has been almost solved, but the exact details for the development of the space are still uncertain	Problem has been solved until end of season 2017, but they are still uncertain about the future development after 2017

Table 3: Solutions "space"

5.3.3 Problem "Soil"

Problem "soil" is defined by the difficulty of not being able to work directly in the ground soil or having to work with bad quality soil.

Summary problem "soil"

As a result of natural conditions and a lack of knowledge, communication and management, soil was mentioned as one of the main problems in the Neighborhood Garden and Public Park Garden initiative. It affected and still affects their development negatively and leads to frustration among the participants. The Social Enterprise Garden was also concerned with the problem of organizing soil as the original space did not provide the possibility of planting in the ground.

Neighborhood Garden

The Neighborhood Garden initiative is working directly in the ground soil. The soil is very sandy and not very fertile though. One interviewee of the Neighborhood Garden stated that this is due to the natural features of the area of Berlin. Some of them had a bad harvest because they did not know about it when they started to work in the garden. The other gardeners had also not told this specific gardener that the soil needed to be enriched somehow. Therefore, a lack of communication prevented some gardeners to react to the problem in time (see problem "communication"). This resulted in a bad harvest and frustration among some gardeners.

Public Park Garden

The Public Park Garden initiative is working on an area that had formerly been used by industrial enterprises. This resulted in a heavy contamination of the soil. Hence, the gardeners are officially not allowed to plant edible plants into the soil. This led them to the idea of working with raised beds and the first gardeners organized soil to fill those beds (see solutions "soil"). Unfortunately, the first soil they bought was also very sandy. A lot of gardeners were not satisfied with the quality and more good quality soil was organized. However, the amounts were

not sufficient and not all gardeners received good soil for their beds. This led to frustration among some gardeners as their harvest was not good. Some gardeners are also disappointed in the board because it is in charge of organizing good quality soil for all gardeners. During one of the observations one gardener declared that the board will buy more soil once they know more about the development of the space. Thus, the former history and the current development of the space as well as the group's organization and lack of knowledge of where to get good soil led to the problem.

Social Enterprise Garden

The interviewees of the Social Enterprise Garden initiative did not mention soil when asked for problems. However, they needed to organize soil as it was originally planned to work on the top level of a parking garage where no soil was available.

Problem "Soil"		
Neighborhood Garden	**Public Park Garden**	**Social Enterprise Garden**
- Natural features lead to sandy and infertile soil - Lack of communication and no measures being taken leads to bad harvest - Gardeners are frustrated	- Former use of space left soil contaminated - Bought bad quality soil - Insufficient amounts of good quality soil frustrates participants as some have bad harvest, others do not	- Original space did not provide the possibility of working in the ground, as it was planned to work on the top floor of a parking garage

Table 4: Problem "soil"

5.3.4 Solutions "Soil"

Summary Solutions "Soil"

All three gardens ended up working with raised beds as one solution to the problem "soil". The Public Park Garden and Social Enterprise Garden were working with it from the beginning as they did not have the option to work in the ground directly. The Neighborhood Garden initiative is starting to use them since 2015. The initiatives either organized additional soil or organic fertilizers from external stakeholders. Thus, they did receive indirect help from them. Some gardeners came up with individual solutions to enrich their soil and two projects produce their own compost as a measure to improve soil quality. The problem has mainly been approached by the gardeners individually, but they also received some minor help from external neighboring initiatives.

Neighborhood Garden

The participants of the Neighborhood Garden found several ways of working on the problem. One of their former gardeners, who is no longer participating, added clay granulate to improve the quality of the soil. He came up with the idea, organized the granulate and spread the knowledge in the group (communication). Additionally, the group started to organize horse manure to enrich the soil after discussing about the problem during their plenums. They are planning to organize it several times a year now. One solution that did not improve the soil itself, but helped with the gardening and kept the soil from being contaminated by garbage and dog excrements was a raised bed that they installed in 2015. It worked out very well. Thus, the group built more in early 2016.

So far they have not bought any good quality soil, but are thinking about it as a future solution. During one interview the possibility of approaching sponsors to support them with good quality soil was discussed. However, the core group consists of people who do not want to promote anything and who do not want to work together with commercial companies. Except for the farmer who gave them the horse manure for free there have been no external stakeholders involved to help with the problem.

The gardeners perceive the problem as being solved as they have found a way to continuously improve their soil quality.

Public Park Garden

The Public Park Garden initiative did not have the option of working in the soil directly like the Neighborhood Garden initiative. Therefore they had to come up with solutions to work without the ground soil before being able to start working in the garden. They also use raised beds and organized three tons of soil to fill them. They had received money for it from the "Anstiftung&Ertomis"[1] foundation which supports community gardens. Unfortunately the quality of the soil was not that good and they had to find ways of improving it. Two gardeners organized some compost soil from a children's farm, but the amount was not sufficient for all beds. Thus, some gardeners came up with independent solutions. One gardener used horn chips as an organic fertilizer for his bed which worked well. The gardeners also started to produce their own compost to enrich their soil. Nevertheless, it is not as fertile as the one they received from the farm, at least not at the moment. The amount of self-produced compost is also not sufficient for the whole garden, but can be seen as one part of the solution in the future.

They received external help with the problem from the "Anstiftung&Ertomis" foundation which provided them with money for the first soil and other community garden initiatives which gave them the information on where to get soil. The farm that provided them with additional compost is another external stakeholder that helped them with the problem.

The gardeners perceive the problem as not being solved as they are still waiting for the next delivery of good quality soil. Nevertheless, they have found ways of improving the soil quality.

Social Enterprise Garden

The Social Enterprise Garden interviewees did not mention "soil" as being one of their main problems, but like the Public Park Garden initiative they are working entirely with raised beds. In the beginning they bought their soil after properly informing themselves about the quality

---

[1] For more info on "Anstiftung & Ertomis": http://anstiftung.de/die-stiftung; last visited: 15.06.2016

and prices. The money was provided by the shareholders who started the project and had invested into the initiative. Thus, they did not let it turn into a problem by properly informing themselves and investing money in good quality soil. Currently, they are also producing compost to enrich their soil and sell it to earn money (see solutions "finances").

Solutions "Soil"		
Neighborhood Garden	**Public Park Garden**	**Social Enterprise Garden**
Internal contribution to solution		
- Communicate the problem in the group - individual gardener added clay to enhance soil quality - communally organized manure after communicating the problem in plenums - use of raised beds helps avoiding contamination of soil by garbage and dogs	- bought 3 tons of soil - work with raised beds as they cannot work in the ground which helps avoiding contamination of soil by garbage and dogs - gardeners organized additional compost soil from farm to enrich the soil - individual gardener uses horn chips as organic fertilizer - group is developing compost to enrich the soil	- money was provided by shareholders who started the initiative - invested time on the search for good quality soil and bought the right amounts - work with raised beds as they cannot work in the ground which helps avoiding contamination of soil by garbage and dogs - produce their own compost to enrich the soil
External contribution to solution		
- farmer provided them with horse manure	- received money from "Anstiftung&Ertomis" foundation to buy the first soil - other gardens provided information on where to get soil - farm provided them with compost soil	- no specific help from externals
Problem is perceived as being solved by continuously improving the soil	Problem has not yet been entirely solved	Problem has been solved

Table 5: Solutions "soil"

5.3.5 Problem "Water"

The problem "water" is defined by the difficulty of getting access to a sustainable water source.

Summary problem "water"

"Water" is currently perceived as a problem by the Neighborhood Garden and Public Park Garden initiatives only. The Neighborhood Garden initiative has a water problem due to a lack of communication with the property owner as they are afraid to be charged for it eventually. This results in an increased effort of organizing water. The Public Park Garden is affected due to a misuse of water, acts of vandalism affecting their capability of storing water and an increased effort of managing water in times of hot and dry weather according to the consumption.

Neighborhood Garden

The Neighborhood Garden has a water connection on site, but it is turned off during winter by the district office. Unfortunately it usually does not turn it back on until June the next year. Hence, during spring time the gardeners have to organize their water elsewhere. This is very labor and time intensive and affects their motivation negatively. The contract states that they have to pay for their water, but so far the group was never asked to actually pay for it. Thus, they try not to engage with the district office too much concerning the water supply and also do not ask them to turn it on earlier as they are afraid of having to pay for the water once the district office realizes that they have not paid for it yet.

Public Park Garden

The Public Park Garden has experienced even more problems with their water supply than the Neighborhood Garden initiative. In the beginning they received their water from a nearby water point. They used it illegally for around 1,5 years until "Grün Berlin" organized another water point for them in 2015. They now have to pay for it every year. Unfortunately, their water tanks were cut open which led to a loss of water (see problem "safety: (B) vandalism"), but they solved this part of the problem soon after the incident (see solutions "water" and "safety: (B)

vandalism"). Another reason for the problem are participants and children who do not watch their consumption and waste water. This affects the whole garden financially and increases the pressure on the board to save money for water each year (see problem "finances"). Now that they have to get water from a distant water point it is also a question of organizing people to manage it which is time-consuming. During hot summers the supply was not always adjusted to the water consumption. Thus, gardeners who could not wait much longer had to organize their water elsewhere which frustrated them. As they have to pay for water now they try to save as much as possible and do not water every part of their garden anymore. As a result their designed bee pasture dried out during hot seasons which affects the local biodiversity negatively.

Social Enterprise Garden

The analysis of the Social Enterprise Garden showed that water is not perceived as a problem by the initiative at the moment.

Problem "Water"		
Neighborhood Garden	**Public Park Garden**	**Social Enterprise Garden**
- Water connection available but is regulated by district office - Water is turned on too late during the year - Fear of having to pay for water keeps the gardeners from communicating with district office - Results in more effort of water supply during time of missing on-site water connection	- Vandalism led to a damage of water tanks - Water is wasted by participants and visitors - Water supply is not always adjusted to consumption which frustrates gardeners	- Is not perceived as a problem

Table 6: Problem "water"

5.3.6 Solutions "Water"

What kind of solutions did the initiatives come up with to overcome the problem "water"?

Summary Solutions "Water"

"Water" is a problem that has mainly been solved by all initiatives with the help of government institutions and investment into their infrastructure. Except for the Social Enterprise Garden which was able to solve the problem by installing a permanent water connection directly on their property, the gardeners still have to invest time and organize their water supply, but this is not perceived as being problematic. Times of water shortage do occur, but the individual gardeners use nearby water pumps to water their individual beds in those cases. This is not a perfect situation, but works for them at the moment.

Neighborhood Garden

During the time when their on-site water point is not turned on they organize water from a nearby water pump. In order to ease the transport some gardeners provide the group with their cargo bicycle. The gardeners are not entirely satisfied with the situation as the management of water from a water pump is time-intensive, but they have adjusted to it and do not want to risk running expenses by asking the district office for a longer time of water availability on site.

Public Park Garden

During the first two seasons the Public Park Garden installed water tanks that were filled up by "Grün Berlin", a state owned company taking care of green spaces in Berlin, with water from a nearby water point. The board had actively approached "Grün Berlin" to ask for help with the water. At that time the water was used without paying for it. As external people cut open the water tanks they had to come up with a solution to protect them from being damaged (see problem "safety: (B) vandalism). Hence, they built wooden boxes around their water tanks. Those were also equipped with a mechanism that would make it harder for externals to access the water and waste it for other uses.

In 2015 "Grün Berlin" organized another water point for the group. Since then the group has to fill up their water tanks on its own and needs to pay for it as well. From that moment on the board organized the water management. They inform the gardeners in their weekly newsletters and try to get gardeners involved to participate and help with the water management. One gardener who took over the responsibility for the water supply is extremely important as he is organizing the water together with other volunteers two to four times a month. Thus, communication and organization is important for solving the problem "water". Nevertheless, the refill of the water is not always adjusted to the water consumption. In this case the individual gardeners get water from a nearby water pump. In order to prevent this they installed another water tank in 2015 to meet the weekly demand which also reduces the organizational effort as they will not have to refill their tanks that often anymore. The board is also trying to appeal to the gardeners to not waste water and only use it when necessary.

"Grün Berlin" was the only external stakeholder who helped them with their problem "water". They were extremely important as they supplied the garden with water until mid 2014 and also organized the current water point for the initiative.

Other theoretical solutions to the initiative's water supply could be rain water harvesting systems as suggested by one interviewee. This however, would not work in dry summers, but they will try it in the near future as an addition to their current solution. Another proposed possibility to minimize the misuse of water could be the application of locks to the water tanks . That way people from outside the garden cannot access the water. This has already been discussed in the group, but they could not yet get to an agreement of whether to install it or not.

Despite the organizational effort and some minor incidents of water wastage the problem is perceived as being solved by the gardeners. The group has come to an official agreement of where to get their water and organizes it within the group. The only development that can be seen negatively is the additional financial burden and organizational effort associated with the solution.

Social Enterprise Garden

On the current space, the Social Enterprise Garden received their water from a fireplug until a permanent water connection was installed in May 2015. The installation of a permanent water connection cost some money, but they got funding for it. Since then they have not had problems with it so far. Thus, the water provision has been solved by investing money into their infrastructure.

Solutions "Water"		
Neighborhood Garden	**Public Park Garden**	**Social Enterprise Garden**
Internal contribution to solution		
- During times of no water connection on-site they organize water from a nearby water pump - Situation is not perfect but they have adjusted to the situation	- Pay for water now - Manage water supply communally - Invested in more water tanks	- Paid money for permanent water connection
External contribution to solution		
- District office provides on-site water connection during summer	- "Grün Berlin" filled up water for 1,5 years and then organized current water point for the group	- Received funding for water connection
Problem is solved, but the situation could improve	Problem is perceived as being solved	Problem has been solved

Table 7: Solutions "water"

5.3.7 Problem "Safety"

Problem "safety" describes difficulties with actions performed by persons not being part of the garden that have a negative impact on the horticultural activities and the infrastructure of the initiative.

The analysis revealed that the gardens are faced with certain actions performed by other users of their space that negatively affect the safety of the garden's plants and infrastructure. Four of those negative actions have been identified forming the "space" problem and will be described further:

(A) theft

(B) vandalism

(C) dogs

(D) garbage

Instead of presenting a solution table for each sub-problem a comprising table of all four "safety" problems can be analyzed at the end of chapter 5.2.4.2.

Problem "space: (A) theft"
The problem "space: (A) theft" describes difficulties with belongings being stolen.

Summary problem "safety: (A) theft"

The two affected initiatives have mainly experienced materials, plants and parts of their harvest being stolen which affects the motivation of their participants negatively.

Neighborhood Garden

One interviewee declared "theft" as being one of the initiative's main problems. Parts of their harvest, trees and materials have been stolen throughout their history. The problem affects them financially as they have to buy new material (see problem "finances"). It is also frustrating for them because they do not have the material available to be used in the garden anymore. This

makes the gardening activities harder. The frustration also led people to be less active in gardening activities and some have left the initiative because of it (see problem "participation"). Therefore, the problem affects their finances and participation.

Public Park Garden

The Public Park Garden initiative also experienced materials, plants and parts of their harvest being stolen. Especially the last two frustrate them because of the time and work they have invested into their plants rather than the financial loss. Some participants already considered dropping out of the initiative because of it.

Social Enterprise Garden

The participants of the Social Enterprise Garden also experienced materials getting stolen, however, so far it has been minor incidents. They do not feel urged to consider options of preventing it. Thus, it is not seen as a problem yet.

Problem "safety: (A) theft"		
Neighborhood Garden	**Public Park Garden**	**Social Enterprise Garden**
- Material, plants, harvest and locks got stolen - Demotivates the participants	- Material, plants and harvest got stolen - Demotivates the participants	- Only minor things get stolen - Not perceived as a problem yet

Table 8: Problem "safety: (A) theft"

<u>Solutions "space: (A) theft"</u>

What kind of strategies have been found to deal with the problem of belongings getting stolen?

<u>Summary solutions "space: (A) theft"</u>

"Theft" has been experienced by all three initiatives. However, only the Neighborhood Garden and the Public Park Garden initiative saw a necessity of coming up with strategies to avoid the problem because it was affecting them that much. They have tried to work on the problem with individual internal solutions, mainly by improving their infrastructure and communicating with potential perpetrators. So far they have not been successful as to solving the problem completely. However, they also do not expect it to ever be solved completely as long as the space is open to the public at all times and the legal regulations permit the erection of a fence. They have not received external help yet. However, the situation is improving for the Public Park Garden, but worsening for the Neighborhood Garden initiative, despite similar ways of approaching the problem. The Social Enterprise Garden is not affected in a way that they feel the urge to implement further preventative measures at the moment as their solution of opening hours and erecting a fence has been proven successful already.

<u>Neighborhood Garden</u>

The Neighborhood Garden initiative reacted to the problem "theft" by installing locks on their tool shed. Unfortunately those locks were also stolen. Thus, their solution approach did not work. They recognize the problem and talk about it during their meetings, but have not found a solution yet. The core group is suspicious concerning the other groups that are also working on the area. The locks have not been broken. They were removed while being open. Thus, one interviewee assumed that other gardeners might have stolen the locks and other material, but was not sure if that is true.

The core group has some theoretical solutions that they will try in the near future. One is to store the tools and materials elsewhere. Another idea is to get more people involved that can look after the space and therefore also their belongings. Unfortunately they are experiencing a membership decline at the moment (see problem "participation"). Another theoretical solution could be a fence so that only gardeners can access the property. However, this is not permitted

as they are working on a public green space that has to be accessible for everybody. A fence would also not be a solution if it turns out to be true that their own gardeners steal the materials as assumed by one interviewee. Another suggested approach that they are considering is to actively involve the district office to come up with a solution together. So far no external stakeholder has actively helped them with the problem.

The initiative tried to improve their infrastructure by locking up their belongings, but it has not been proven successful. Therefore, the problem is considered as not being solved yet and the group is looking for other ways of securing their belongings. Actually, the situation is even getting worse as more acts of theft have been reported.

Public Park Garden

The participants of the Public Park Garden came up with the idea of building furniture which would be hard to steal. Thus, they built big and heavy benches and screwed and chained them onto each other and their raised beds. They also built sheds that are secured with combination locks. Additionally, they can use a close-by area which is secured with a fence where they store their most valuable belongings. This has been working fairly well. There have been no measures of how to protect their harvest from being stolen though. However, they communicate with potential perpetrators and try to convey the importance of their project. Nevertheless, they just expect it to happen as they are situated on an open green space that everyone has access to and they cannot protect their garden at all times.

A theoretical solution suggested by some interviewees could be a fence that would make it harder to enter the garden once the gardeners are gone. However, the legal regulations concerning the property do not allow it (see problem "space") and some gardeners are also not in favour of building a fence as the charm of the garden would be lost by. They do think about putting up more information boards and improve the visibility of their garden. According to the interviewees this could help to show the importance of the area. One possible solution stated by one interviewee could also be to employ security services who would look after the park, including the garden. Nevertheless, this option is not seen as being very realistic, due to the costs. The interviewee hopes that the current construction of some apartments northwest of the park will add some lighting during the night. This will make the garden less hidden and might

help with the problem.

The group is profiting from the availability of an enclosed area where they can keep their most valuable belongings. They also improved their infrastructure by building locked up sheds and screwing their furniture onto the raised beds. Although the problem could not entirely be solved at the moment, they see a change for the better.

Social Enterprise Garden

The Social Enterprise Garden is only slightly affected by the problem "space: (A) theft", but it does not affect them that badly. They have opening hours during which their space is watched by their participants. During their time of absence a high fence is successfully protecting their property from potential perpetrators.

Problem "safety: (B) vandalism"
Problem "safety: (B) vandalism" describes difficulties resulting from people destroying the initiative's belongings.

Summary problem "safety: (B) vandalism"

"Vandalism" is another problem mainly experienced by the Neighborhood Garden and Public Park Garden initiative. Their belongings are destroyed which frustrates the gardeners and leads to some participants being less active or leaving the initiative.

Neighborhood Garden

The Neighborhood Garden initiative experienced some cases of new people who see themselves as being part of the garden group, but do not work together with the other participants. According to the interviewees some are mentally challenged (see problem "participants") and develop ideas of how to change the space. Sometimes those actions are in contrast to the arrangements that the initiative made with the district office. One being that they are not allowed

to alter the appearance of the hills on the area as they are part of the overall architectural concept of the place. Nevertheless, one "difficult participant" started to demolish one of the hills. This can be seen as a form of vandalism. Other forms of vandalism performed by other users of the space were the damage of their tool shed, people urinating throughout the property, plants being destroyed and their nicely arranged graffitis were sprayed over. All those actions make the property look less appealing and frustrate the gardeners. It discourages some participants from continuing to grow vegetables. "Vandalism" is another reason some participants are no longer active in the initiative. Therefore, the problem mainly affects the participation (see problem "participation").

Public Park Garden

The Public Park Garden has experienced even worse cases of vandalism than the Neighborhood Garden initiative. Broken material and furniture and the damage of their water tanks affected them heavily. The water tanks had been cut open and could no longer hold the water (see problem "water"). Therefore, they had problems watering their plants for a certain amount of time. Their self-made furniture had been burned and the door of one of their sheds been damaged several times. This affected the social life in the garden as seating facilities got scarce and groups could no longer sit together for workshops. Thus, they had to rebuild it again. This was time consuming as they had to organize and buy new material and rebuild it. The door was not replaced after several incidents and the shed can therefore not be used anymore, which has a negative influence on the gardener's motivation. Thus, those actions affect their finances and their motivation (see problem "finances" and "participation").

Social Enterprise Garden

The Social Enterprise Garden has not experienced any form of vandalism on the current space. However, on the former one people had thrown plants and pots off the roof. Nevertheless, those were minor incidents and did not affect them very much.

Problem "safety: (B) vandalism"		
Neighborhood Garden	**Public Park Garden**	**Social Enterprise Garden**
- Plants, shed and material gets damaged - Demotivates the participants	- Material and furniture is burnt and damaged - Demotivates the participants	- Minor incidents on former space - No cases of vandalism on the current space - Does not affect them

Table 9: Problem "safety: (B) vandalism"

Solutions "safety: (B) vandalism"
What kind of strategies did the community gardens develop to deal with the problem of belongings being damaged?

Summary solutions "safety: (B) vandalism"

Both initiatives that are affected by the problem "vandalism" try to come up with internal solutions which rather focus on repairing broken things and through communication with potential violators. However, this does not prevent vandalism. A fence is seen as the only constructive solution by the interviewees of the two affected gardens. Nevertheless, due to the legal regulations concerning the property they are working on, this is not an option. No external stakeholders have helped them finding a solution to the problem yet. There are possibilities of involving external partners, but the gardeners of the Neighborhood Garden are still waiting for a reaction from the district office. However, the situation is improving for the Public Park Garden, but worsening for the Neighborhood Garden initiative, despite similar ways of approaching the problem. The Social Enterprise Garden has been successful in preventing acts of vandalism by erecting a fence and watching the property during their opening hours.

Neighborhood Garden

The Neighborhood Garden initiative does not really see a way of preventing vandalism at the moment. They think that only a fence could help, but are bound to the contract that keeps them from building one (see problem "space"). At the moment they only talk about the problem during their meetings and repair the broken tools and materials if possible. They do consider

similar ways of working on the problem like they do with the problem "theft". This includes finding other places to store their materials during their time of absence. However, this does not help them preventing vandalism affecting their plants. They might see a possibility if there were more people involved to look after the space. They have also discussed the possibility of putting up signs to inform people about the garden in order to raise awareness for their project. However, the long-term members do not believe that it would help.

The gardeners have already tried to contact the district office several times to ask them for help as the broken infrastructure officially belongs to it. However, the district office had not replied. One interviewee assumed that administrative institutions are currently overburdened and cannot deal with it. However, some gardeners attended an official meeting in early 2016 and got in contact with employees of the district office and talked about their problems. Thus, the group has not come up with a solution yet, but consider some options which they have not performed so far. They did not receive any help from external stakeholders yet, but the group is trying to involve the district office as a potential source for solutions. Currently, they experience a worsening of the problem.

Public Park Garden

Compared to the Neighborhood Garden gardeners, the Public Park Garden members are a bit more active when it comes to preventing vandalism in their garden. They built wooden boxes around their water tanks to protect them from being cut open (see solutions "water"). Those boxes also serve as storage room. As well as the Neighborhood Garden initiative, they repair broken materials themselves. Due to continuous vandalism concerning some parts of the garden they also stopped repairing it. It was just too frustrating and not worth the effort. There are some people in the team who are motivated to repeatedly repair things. This is important to not let the whole group give in to frustration about the violating acts. They also put up information material to let people know about the garden. They hope that this will show the worth of the initiative and keep people from damaging their belongings. The gardeners also directly approach groups who are using the garden area for parties and other recreational activities to prevent them from destroying things.

Theoretical solutions to the problem match with the ones for solving the problem "theft". They could create more visibility of the garden's size, distinguishing between the garden and the rest of the park. However, this is only an option once they sign a contract that ensures their future on the property. Otherwise it is not worth the effort as perceived by the interviewees. According to one of them a security service could be helpful, but is not seen realistic at the moment due to financial reasons. The interviewee could also see lighting helping with the problem.

They have not asked for external help yet and try to solve the problem on their own. Thus, their way of approaching the problem is to communicate directly with potential violators and by putting up signs as an indirect way of communication. Although the problem could not entirely be solved at the moment, they see a change for the better.

Social Enterprise Garden

The Social Enterprise Garden did not experience forms of vandalism once they moved to the current space and erected a fence. This prevents those acts during their times of absence. During their opening hours the property is continuously watched by their participants which prevents people from vandalizing their belongings.

Problem "safety: (C) dogs"
Problem "safety: (C) dogs" describes difficulties with dogs and their owners.

Summary problem "safety: (C) dogs"

Dogs were mentioned as a problem by interviewees of the Neighborhood Garden and Public Park Garden initiative. The main concern is the dog's feces which is not taken care of by the dog owners and pollutes the garden. Furthermore, the dogs dig up the beds and thereby destroy the plants growing in them. This affects the motivation of the gardeners negatively.

<u>Neighborhood Garden</u>

The Neighborhood Garden gardeners perceive dogs as a problem because the dogs dig up, defecate and urinate in their vegetable beds. Those actions harm the plants. The problem rather lies with the dog owners who do not clean up after their pets. They also do not watch after them carefully to prevent them from digging up the beds. Additionally, there have also been cases during which neighbors used their dogs to threaten or at least scare the gardeners, as they were not in favor of the gardening activities. Unfortunately for the initiative, the space is used by a lot of dog owners. It had already been used by them before the initiative started here in 2010.

The interviewees mentioned that due to ongoing construction on former brownfields and the change of regulations concerning other areas in the neighborhood (dogs are not allowed there anymore) the pressure by dogs on their space has increased. As the gardeners try to keep their garden area clean, in contrast to the other half of the 2500m² space, the garden area is also more attractive for dogs and their owners to be used. The problem also lies within the structure of the garden. Most of their beds are prepared directly in the ground and lack visual barriers between them and the rest of the green area. This makes it hard for people (and dogs) to distinguish the beds among the wild plants.

The problem resulted in gardeners changing from growing edible plants to ornamental ones because they are afraid of a contamination of their plants. It is also seen as being less work to take care of flowers than of vegetables. Others are scared by dogs and do not feel comfortable around them. This also led to participants being less active in gardening activities. Others might not join the initiative because dogs are around. Some of the gardeners' dogs were also attacked by "external" ones. It must be addressed though that the dogs are perceived differently among the gardeners themselves even. Some see dogs as a big problem, others (dog owning gardeners) do not see them as a problem within the garden.

<u>Public Park Garden</u>

The Public Park Garden is also confronted with dogs as the space is publically accessible for everyone. The interviewees mentioned that the dogs are not walked on a leash and the dog owners are not cleaning up after their pets. It is annoying them more than it is affecting them

negatively during their gardening activities and was also not mentioned as being one of their main problems. The interviewees did not mention problems with digged up beds or being afraid of a contamination of their plants.

Social Enterprise Garden

The gardeners of the Social Enterprise Garden never mentioned dogs throughout the interviews. During the observations dogs were present in the garden. However, the raised beds were too high for them to be reached and the owners also seemed to take more care of their dogs while being on the property than was the case at the other gardens.

Problem "safety: (C) dogs"		
Neighborhood Garden	**Public Park Garden**	**Social Enterprise Garden**
- Dogs defecate and urinate in the beds and dig them up - Dog owners do not look and clean up after their pets - Participants are less active or leave the initiative	- Dog owners do not look and clean up after their pets - Cleaning up of feces frustrates gardeners	-Not perceived as a problem - No struggles

Table 10: Problem "safety: (C) dogs"

Solutions "safety: (C) dogs"
What kind of solutions have been found to deal with the problem of dogs in the garden?

Summary solutions "safety: (C) dogs"

The gardens have found a way to keep dogs off their plants by working with raised beds. Additionally the gardeners of the Neighborhood Garden and Public Park Garden initiative try to communicate with the dog owners, but it has only minor effects. As they are bound to the contract they do not see too many possibilities to change the appearance of the space in a way that would help to avoid the problem. The initiatives have not received help from external

stakeholders yet. The situation is not a problem for the Social Enterprise Garden, is improving for the Public Park Garden, but increasing negatively for the Neighborhood Garden initiative.

Neighborhood Garden

The group of the Neighborhood Garden initiative is mostly trying to solve the problem "safety: (C) dogs" by communicating with the dog owners and raise awareness for their garden. They also tried to create natural barriers with bushes, but it has not been very successful. Moreover, working on a solution communally is difficult as not all gardeners perceive dogs as a problem. Currently, they are building more raised beds which are also seen as becoming a physical and visible barrier to the dogs and their owners. The dogs can also not urinate or defecate into them because they are too high. However, they have not talked about this solution with the district office. According to two interviewees their contract states that they are not allowed to change the appearance of the garden. Nevertheless, they continue to work with raised beds until the district office intervenes.

They did have a good working solution on their first site, some years ago. Here they had erected a fence to divide the property into a garden area and a dog area. This is no longer possible as the contract states that they are not allowed to put up a fence. Other theoretical solutions mentioned were putting up informative signs, but long-term members doubt the efficiency of those measures. One interviewee proposed to change the legal regulations concerning the space and officially ban dogs from it. This would solve the problem for her. Another possibility mentioned is to get more people involved who can look after the space more frequently. Unfortunately the initiative is currently struggling with a membership decline (see problem "participation"). Thus, the solution to the problem "safety: (C) dogs" is pending at the moment, but the raised beds are seen as a possible solution to keep the dogs off most of their plants. They have not received help from external stakeholders yet. Generally, the problem "dogs" is increasing. Whether or not the raised beds are a long-lasting solution could not be estimated by the interviewees and gardeners at the time of data collection.

Public Park Garden

The Public Park Garden gardeners do try to talk to dog owners about their pets, but they are less affected by the problem than the Neighborhood Garden initiative as they are mainly working with raised beds which prevent dogs from harming most of the garden's. An effective solution to avoid dogs from defecating in the garden has not been found yet. A fence could help, but the legal regulations of their space do not allow it and the gardeners also do not want to build one as the garden may lose its charm.

Social Enterprise Garden

The Social Enterprise Garden is not affected by the problem "dogs" as dogs cannot reach the plants in their raised beds. Thus, a well-working solution has been found.

Problem "safety: (D) garbage"

Problem "safety: (D) garbage" describes problems with garbage on the property.

Summary problem "safety: (D) garbage"

Garbage is perceived differently by the initiatives and is dependent on external factors like the availability of other green areas in the neighborhood and the resulting use pressure and the legal possibilities of protecting the garden area from users who might not act in favor of the initiative. If the garden is enclosed by a fence and overseen by garden members during the opening hours, it does not develop into a problem. The problem affects the motivation of the gardeners negatively and influences the way they are gardening.

Neighborhood Garden

"Garbage" is a problem that the Neighborhood Garden initiative is mainly struggling with. Different groups of people use the area, and many leave their garbage behind, despite available garbage cans. Additionally, the area and especially the hidden spaces covered by bushes are

used by drug addicts to consume their drugs. They leave used needles behind, which is another form of garbage that the gardeners have to deal with. Furthermore, the property is used as a shortcut between two streets by many people who then leave their garbage behind. One interviewee mentioned the so called "broken-window-effect" as a cause of the problem. "And I think it is a problem, when there is garbage in one place, so the broken-window-effect, even more [garbage] is added and the area looks more untended".

The area looks rubbish-thrwen and less attractive for possible new gardeners and current gardeners alike. This affects the participation as potential new members might not be willing to work in the garden (see problem "participation (B)"). Furthermore the same reason keeps current gardeners from being active in the garden any longer as they are frustrated from picking up the garbage.

The gardeners are also afraid that the soil may be contaminated by the garbage. Hence, some of them stopped cultivating edible plants and turned to growing flowers and other ornamental plants. Some gardeners even decided not to be active in the garden itself anymore, but to only support the initiative by organizing events for example. Therefore, the problem affects the way they garden and the overall participation (see problem "participation").

Public Park Garden

The Public Park Garden initiative is also experiencing problems with garbage. Especially during the summer, the park and the garden with its seating facilities attract many people. Not all of them clean up after themselves. Thus, the gardeners have to take care of it which is frustrating. They have to spend time on collecting garbage instead of working on their beds.

Social Enterprise Garden

The interviewees of the Social Enterprise Garden initiative barely mentioned garbage. Only one interviewee said that they try to clean up in the garden and the surrounding sidewalks to leave a good impression on visitors. It is just another task, but not a problem to them because it does not affect the space they are working on, but only the surrounding area.

Problem "safety: (D) garbage"		
Neighborhood Garden	**Public Park Garden**	**Social Enterprise Garden**
- Other users of the space leave garbage behind - Frustration among the gardeners - Participants are less active or leave the initiative	- Other users of the space leave garbage behind - Frustration among the gardeners	-Not perceived as a problem -Cleaning up days in the district as one way to improve their reputation - No struggles

Table 11: Problem "safety: (D) garbage"

Solutions "safety: (D) garbage"

What kind of solutions have been found to deal with the problem of garbage being left behind in the garden?

Summary solution "safety: (D) garbage"

The "garbage" problem could not be entirely solved by the Neighborhood Garden and Public Park Garden initiatives. As part of the problem-solving process they try to communicate with the polluters, improve the infrastructure by putting up garbage bags, work with raised beds, and organize regular clean-up days. They have received only minor to no help from external stakeholders. The problem is increasing for the Neighborhood Garden initiative and changing for the better for the Public Park Garden initiative. The Social Enterprise Garden is barely concerned with garbage and clean up their area every day which prevents garbage from turning into a problem. During their time of absence their space is protected by a fence.

Neighborhood Garden

The Neighborhood Garden group is frequently working on the problem by cleaning up the area as part of their gardening work, but have difficulties finding ways to avoid new garbage. As the space is used by a lot of different people and groups, they do not have an overview of who is actually causing the garbage problem. In order to take care of the drug waste and to offer more opportunities for people to dispose their garbage they installed additional buckets on the property. They also had organized a gripper for a better and safer handling of the waste, which

is especially important when handling used needles, but it got stolen. Thus, the "safety: (A) theft" problem is influencing the solution to the "safety: (D) garbage" problem as they cannot use the tool anymore (see problem "safety: (A) theft").

As no group member owns a car they have difficulties taking care of the bulky waste. Thus, as said by the interviewees, a car could help with the removal of the garbage as one part of the solution. In an attempt to tackle several problems at once, the group started to work with raised beds (see also solution "soil" and "safety: (C) dogs"). This helps avoiding garbage pieces from flying into their beds and possibly contaminating it. Other theoretical solutions stated were to actively approach the people throwing out the garbage. Unfortunately, their group is too small to always be present in the garden and the gardeners do not communicate well with each other which could help working on the problem (see problems "participation" and "communication"). It is also time-intensive and frustrating with a rather small number of participants. Thus, information boards about the garden are seen as a potential solution to raise awareness for their project.

The green areas department is an external partner who is taking care of the garbage during winter times, which helps with the problem. During one interview the possibility of working closer together with the green areas department and the district office had been discussed as a way of dealing with the problem. A couple of weeks after the interview the gardeners actually took part in a meeting with neighboring initiatives and the district office and addressed their problem. They are now hoping that they will receive some help as the garden group cannot handle the problem alone.

Hence, a satisfying solution to the problem "safety: (D) garbage" has not yet been found by the initiative, but they are working on it. The group is organizing garbage collection days as one part of the solution. However, they have not come up with a solution to avoid people from leaving their garbage on the property. Due to legal regulations concerning the property, they are not allowed to put up a fence (see problem "space"). According to the interviewees this would help them with the problem. Their small participant number as well as a lack of communication among the gardeners is hindering them to tackle the problem on a regular basis. Despite their efforts two interviewees perceive the problem as getting worse.

<u>Public Park Garden</u>

The gardeners of the Public Park Garden initiative are constantly approaching people who use the garden for recreational reasons and ask them to take care of their own garbage. They have also put garbage bags close to the seating areas that are used the most by external visitors. Additionally, they put up information material in the garden and a wall chart to let people know about the garden. Despite those attempts of working on a solution for the problem the interviewees stated that it is a problem that they cannot entirely solve. They are not allowed to build a fence (see problem "space") and would also not be willing to do so as the character of the garden would be altered. Due to the height, their raised beds already avoid most of the garbage from landing in the beds and does not affect their gardening activities.

A theoretical solution had been mentioned by one interviewee. They are thinking about making the outline of the garden more visible by planting low growing hedges or install other means that will make it more obvious that people enter an area that is worked on by other people. However, as long as the future development of the space has not been decided upon by the senate, this is not an option as they might have to start their project on a slightly different space of the new developing part of the park (see problem "space") and the effort would have been to no avail.

There have been no external stakeholders involved in finding a solution to the problem. The initiatives attempts of solving the problem by improving the infrastructure (more garbage bags for example) and constant communication with the polluters have had some effects. However, just like the Neighborhood Garden gardeners, they know that this problem will persist as they are working on a public green space. The only solution to totally prevent it would be a fence which they are not allowed and willing to erect as it would negatively influence the charm of their garden. Nevertheless, the problem is perceived as changing for the better. It does not affect them as negatively as the Neighborhood Garden garden. One reason mentioned by the interviewees was the increasing acceptance towards their initiative. According to the interviewees, neighbors and other people get used to the project and value it as a beautiful place that should be taken care of.

Social Enterprise Garden

The Social Enterprise Garden space is surrounded by a fence which avoids people leaving garbage behind during the gardener's time of absence. As part of their daily routine they clean up the garden and surrounding area in order to leave a good impression on the visitors. Thereby, they prevent garbage from turning into a problem.

Overview solutions "safety" problems

The Social Enterprise Garden is successfully avoiding the "space" problems by working with opening hours, raised beds and the erection of a fence. During the opening hours the property is watched by the gardeners which prevents destructive actions described in this section. During their time of absence a high fence and a gate is preventing anyone from entering the property. Their raised beds prevent dogs from destroying their plants. The other gardens are situated on a public green space which prevents them from erecting a fence. Therefore they had to come up with different strategies of dealing with the problems. It has shown that their strategies are mainly identical as they are communicating with potential perpetrators, improve their infrastructure and work with raised beds to avoid any destructive actions. However, the situation is improving for the Public Park Garden and worsening for the Neighborhood Garden garden. The Neighborhood Garden gardeners had stated that the problems are increasing due to the ongoing construction of houses on former brownfields in the neighborhood. These areas had previously been used by people for recreational reasons. Now that they are no longer available, it is putting pressure on the remaining green areas in the district, including their garden space which increases the problem. Furthermore, a close-by park has recently been closed for dogs to be used. Thus, their owners are now using the Neighborhood Garden space as well. The neighborhood of the Public Park Garden on the other hand experienced an increase in open green spaces as former brownfields have been opened up to the public in 2012. Therefore, the neighborhood experienced an increase in recreational area. Furthermore, the Public Park Garden is part of a much bigger park and not just an "oasis between concrete" as stated by one of the Neighborhood Garden interviewees.

		Solutions "safety" problems			
		(A) Theft	**(B) Vandalism**	**(C) Dogs**	**(D) Garbage**
Neighborhood Garden	Solution individual problem	- secured shed with locks but those were also stolen	- repair broken things	- had a fence on the first space - start working with raised beds	-installed additional garbage cans - work with raised beds
	Solution affecting all problems	- communication with potential perpetrators - communicated their problems with the district office and hope for their support			
	External contribution				- Green areas department cleans up once a year
	Problem solved?	Problem not solved and situation is worsening	Problem not solved and situation is worsening	Problem not solved and situation is worsening	Problem not solved and situation is worsening
Public Park Garden	Solution individual problem	- improvement of infrastructure - built sheds secured with a lock -store most valuable possessions at a close-by fenced-in area	- improvement of infrastructure helps -repair things	- work with raised beds	-installed additional garbage bags - work with raised beds
	Solution affecting all problems	- communication with potential perpetrators - information boards inform about the importance of the garden			
	External contribution	- Green areas department provided fenced-in area			
	Problem solved?	Problem not solved, but situation is improving	Problem not solved, but situation is improving	Problem not solved, but situation is improving	Problem not solved, but situation is improving
Social Enterprise Garden	Solution individual problem			-work with raised beds	
	Solution affecting all problems	- have opening hours → garden is watched by participants during that time - have a fence to protect their space during time of absence			
	External contribution				
	Problem solved?	Problem does not exist	Problem does not exist	Problem does not exist	Problem does not exist

Table 12: Solutions "safety" problems

5.4 Organizational problems & their solutions

"Organizational problems" are defined as problems threatening the performance of the group as an initiative.

5.4.1 Problem "Participation"

The problem "participation" describes difficulties with the acquisition of new members and the struggles of keeping them in the initiative.

For a better understanding of the "participation" problem it was further subdivided into two categories. The first one "(A) getting people to participate in the initiative" describes the struggles of convincing potential new participants to engage in their organized activities and becoming part of the group. The second one "(B) keeping participants in the initiative" is referring to the difficulties of keeping participants from leaving the initiative.

Problem "participation: (A) getting people to participate in the initiative"

Summary Problem "participation: (A) getting people to participate in the initiative"

The three gardens are facing different difficulties referring to the problem of convincing people to join their initiative and events. The Neighborhood Garden is currently struggling with the results of their "safety" problem which keeps many people from joining the initiative. The Public Park Garden never struggled to get people interested in their initiative and therefore do not perceive it as a problem. The Social Enterprise Garden on the other hand is very much concerned with part (A) of the "participation" problem as they have set themselves the goal of organizing many events as a way of strengthening the neighborhood. Unfortunately, they do not reach all of their target groups yet and struggle to get enough people to join and help them with their projects on a regular basis.

<u>Neighborhood Garden</u>

The problems "safety" and "soil" lead to an unappealing garden which keeps people from joining the initiative. According to one interviewee families with children especially are not well represented in the group as the space is rubbish-threwn and drug addicts leave their used needles behind (see problem "safety: (D) garbage"). As everything is organized on a voluntary basis and they do not have the financial means to pay for the garden or organizational work, they have to try to be attractive and interesting for possible new participants as well as for the current gardeners in other ways. The other problems are overwhelming and have to be solved first before they can be attractive to new gardeners. The difficulty is that they may be able to solve those other problems better and faster if they had more participants in the core group to work on them communally. However, they also do not promote the initiative actively at the moment, besides updating their website and being active in the garden.

<u>Public Park Garden</u>

The Public Park Garden is currently not faced with a lack of interest in their garden. Throughout their history they experienced a constant growth of participants. Actually, people who are applying for one of their hundred raised beds outnumber the people leaving the initiative. Thus, they have a waiting list and give a free raised bed to the first one on the list. Nevertheless, they are not planning to extent the amount of raised beds at the moment as they are comfortable with managing the current number of participants and might be overwhelmed by the organization of a much bigger initiative. Their workshops are usually attended by a variety of people. However, they do not always reach their target groups with them.

<u>Social Enterprise Garden</u>

The Social Enterprise Garden is especially striking as three out of four interviewees directly or indirectly mentioned it as being one of their main problems. The more activities the initiative is organizing on a regular basis, the more they are dependent on active participants to manage those events. Thus, if certain positions cannot be filled the initiative is not capable of realizing all its intended projects. During the first two years, the initiative received a lot of support from

different people because the tasks were clear and the project was still easily manageable. After becoming larger, more people were needed, but at the same time, the project was not that new and interesting anymore and less people actually volunteered. It is getting harder to inspire people to join now. Sometimes they have too many tasks and not enough people. As a result of it some participants are overworked.

The Social Enterprise Garden is offering even more events and possibilities for people to take part in their initiative than the other two gardens. Their main goal is to be active within the district itself and strengthening it by bringing people together. Therefore they aim at including different kinds of people and initiatives and try to convince them to participate in their activities and jointly organize events with them. This can be a problem for several reasons. Other initiatives do not have time to come by with their people or have another focus and working together with the Social Enterprise Garden is not their main priority. The Social Enterprise Garden on the other hand does not have enough time and participants to actively involve other initiatives regularly (see problem "management").

Furthermore, the Social Enterprise Garden group is too homogenous in terms of social and cultural background and does not reach all of its target groups. Thus, they have difficulties getting in contact with all social and cultural groups in the neighborhood which leads to homogenous groups of visitors and participants during their events. Especially people with migration backgrounds are underrepresented. The communication problem also affects the relationship with other institutions. Sometimes the other institutions do not communicate well enough, sometimes the Social Enterprise Garden does not (see problem "communication"). According to the interviewees, external people also do not participate or are hesitant because they still have to get used to the project. One interviewee mentioned that the initiative's bottom-up approach of using a public space communally and creating something that has not been planned by an official institute, for example, is new to some residents. Furthermore, the initiative is also criticized for making money on public land. According to the interviewee this criticism keeps people from participating in the initiative and/or its events.

Problem "participation: (B) keeping participants in the initiative"

Summary problem "participation: (B) keeping participants in the initiative"

All three gardens experience the situation that participants are dropping out of the initiative. The Neighborhood Garden lost a lot of old members due to their eviction from two former spaces as not all participants were willing to start over new on yet another space. The problem "safety" is also frustrating a lot of gardeners who are considering to leave the garden or have left already. The Public Park Garden is not really concerned with that part of the problem, but there are people who leave the initiative because of time restraints. A crisis also led to participants dropping out, which still affects them as some knowledgeable gardeners are missing now (see problem "Difficult participants"). The Social Enterprise Garden is affected by the problem of participants leaving the initiative mainly because of overwork and too much stress.

Neighborhood Garden

The Neighborhood Garden is currently experiencing a decline in their participant numbers as mentioned by one interviewee. The causes for the problem are manifold, but are mainly a result of the negative results of the problems "safety" and "space". The eviction from the first space, the move to the interim space and to the current space led to a decline in participants as not all gardeners were willing to start over on a new space which is less suitable for gardening activities than the original one (see problem "space"). The "safety" problems are also causing people to leave the initiative at the moment. There have also been cases of elderly participants (retirees) passing away which was a great loss because of their life-long gardening knowledge.

Public Park Garden

The Public Park Garden is not concerned with a decline of their participant number as there are more people interested in joining their initiative than leaving it (see problem "participation: (A) getting people to participate in the initiative"). However, participants do leave the initiative. The interviewees said that some people move to other places or have false expectations about

the time required to be active in the garden. They are just not capable of taking care of their bed or being active in the organizational part of the initiative in addition to their regular job or having a family. Other problems like "safety" affect the motivation of some participants negatively who then leave the initiative (see problem "safety"). One time several long-time gardeners left the initiative at once. In 2014 and early 2015 there was a crisis due to the behaviour of participants which divided the initiative (see problem "difficult participants"). Some of their most engaged gardeners left because of it and almost the whole board resigned. Thus, their knowledge and experience is now missing in the initiative which could help solving current and future problems.

Social Enterprise Garden

The Social Enterprise Garden is generally struggling to receive enough help from volunteers to organize all their different events (see problem "participation: (A) getting people to participate in the initiative"). As a result participants are stressed and overworked and do not return after their official time of voluntary service which increases the problem. Those participants would be especially helpful as they know the way the initiative works.

Problem "Participation"		
Neighborhood Garden	**Public Park Garden**	**Social Enterprise Garden**
- Currently experience decline in participant number - Fail to convince more people to join mainly because of "safety" problems - Less people leads to a decreased working force to work on other problems	- They have enough participants for their beds - Some knowledgeable gardeners left due to a crisis and their input is missing now	- Organize many events and struggle to have enough participants executing them - Participants are overworked and do not return after a while which increases the problem

Table 13: Problem "participation"

5.4.2 Solutions "Participation"

<u>Solutions "participation: (A) getting people to participate in the initiative"</u>

<u>Summary solutions "participation: (A) getting people to participate in the initiative"</u>

The importance of active engagement of the three gardens to reach out to potential new participants is different among them. The Neighborhood Garden gardeners are not actively promoting their initiative at the moment, but do receive new members by showing presence in the garden and by updating their website regularly. Although the Public Park Garden is currently not concerned with a lack of interest in their initiative they are much more active in promoting their initiative than the Neighborhood Garden initiative. They do so by handing out flyers, using social media and their website and by offering workshops on varying topics. They have also received help from external stakeholders which promoted their initiative and included the garden into their social network. The Social Enterprise Garden is even more concerned with getting people involved in their initiative and activities as they also organize more events than the other two gardens. They generate income and use parts of it to employ people which distinguishes them from the other two initiatives. Furthermore, they are offering a big variety of events to appeal to different social groups in their neighborhood. The Social Enterprise Garden also founded specialized groups to take care of their external communication which is important for their public reputation as this influences the perception of visitors towards the initiative and therefore the likelihood of them becoming new participants.

<u>Neighborhood Garden</u>

The interviewees of the Neighborhood Garden initiative did not mention "participation" as one of their main problems, even though one interviewee stated that they are experiencing a decline in participants at the moment. However, they are not actively trying to involve more people at the moment as could also be observed during one of the visits in the garden (see problem "participation: (A) getting people to participate in the initiative"). Nevertheless, it was also observed that new neighbors joined the gardening activities without an active promotion by the gardeners. They had just seen the gardeners on the space and got interested and therefore started to plant something as well. Another interested person on that day had seen their website and

had come by to ask about the conditions of participation in the garden. Thus, although the garden experiences a decline in participant numbers, the remaining gardeners do not actively promote the initiative other than being active in the garden and keeping their website up to date which helps attracting new participants.

Public Park Garden

During the first two years, as the initiative was still growing, the gardeners offered a variety of workshops which helped to get people interested and involved in the initiative. Currently, the initiative is not struggling with a low interest of new participants as people are actually waiting to get a bed. Nevertheless, the gardeners still try to promote their initiative by a continued offer of workshops. One of their goals is to educate people about the importance of their initiative and the positive impacts that are related to it. One member who is active in a Berlin university organized professional meetings with neighbors as one way to reach out to people. The initiative also uses its website, flyers, and social media to inform people about their initiative and connect to them. That way people can also inform themselves independently, which, according to the interviewees, helps to get people interested and involved in their activities. In order to avoid the situation of people not being able to participate because of their financial situation the garden also makes exceptions concerning the membership fee, if necessary.

Other gardens as well as employees of the district management helped them with information and their experience on how to get people involved in the initiative and its activities. "Transition Town Pankow" helped them to get people involved by using its network and promoting the initiative. Thereby the Public Park Garden also became part of their network which was especially important in the beginning of their development. The bigger their network, the more people they can reach who eventually become a part of their initiative.

Social Enterprise Garden

Involving enough people in their initiative is a big issue for the Social Enterprise Garden. They are organizing many events and need people to prepare and execute them.

The Social Enterprise Garden initiative is creating an income (see solution "finances") and can therefore use the money to employ some people to fill certain positions that cannot be staffed with volunteers. This distinguishes them from the other two initiatives which are counting on voluntary involvement only. However, their financial means are insufficient to pay every person involved at the moment. Therefore, they are still dependent on volunteers to help them prepare and execute their different events.

According to one interviewee the initiative generally benefits from the fact that everyone can relate to the topic of food. This makes it easier for them to reach people and get them interested and involved. Time also helps as people get used to the initiative when walking by reguarly. According to the interviewees at first some people had reservations regarding the new project in their neighborhood. The interviewee assumed that those people are more willing to participate now that they see the initiative's progress and will to change the neighborhood for the better.

The professional gardeners (who are actually employed as gardeners) are very important to get new people involved as they are usually the first people who get in contact with visitors. Therefore, they try to be always polite and friendly as a way of representing the initiative as a whole. Furthermore, the initiative tries to improve its public relations activities by being active in cleaning campaigns in the neighborhood. They hope that this will leave a positive impression and will attract more people to participate in their project and convince them to attend their events. They have also founded a group that is only concerned with public relations and another one which is only concerned with the press. Those groups are focusing on the external communication and how they are perceived in the public. The executive secretaries write applications to get funding for new positions and try to reach out to people via email and social media which helps to get people involved.

One of the initiative's main goals is to improve the life quality of the neighborhood by offering events for different social groups. In order to reach certain social groups they write funding applications for special events and workshops addressing them which then take place in the garden. The Social Enterprise Garden also offers open team meetings every two weeks to give interested people a chance to get to know the initiative better. They also introduced another event that informs interested people about the initiative, the so called "Newcomer-Days". This is similar to the option of attending organizational meetings, only that the "Newcomer-Days"

are not only intended to inform people about the ongoing development of the Social Enterprise Garden, but also show people how they can get involved. There they hand out questionnaires which are used to gather information on the availability of interested people. However, the group does not always find the time to evaluate all the questionnaires properly afterwards and reacts too late. If they would focus more on the evaluation they may get more support as well.

One interviewee also stated that it could help to reintroduce so called "garden work days" ("Gartenarbeitstage"). Those had been used to gather people for special events in the past. Thus, a workshop-series was introduced in spring 2016 which is focusing on that approach and is addressing people who would like to help with special tasks that the initiative needs support with. The same approach can also help to engage better with neighboring social institutions, like senior homes for example. Here, the social workers do not always have time to come by with their people. More volunteers can now fill those positions on specific dates.

At the beginning of season 2016 they developed new projects and possibilities for people to be active. In addition to other already existing cooperations with neighboring institutions the Social Enterprise Garden is now working together with the "Lebenshilfe", a social association working with and for people with mental deficiencies and their families (Bundesvereinigung Lebenshilfe für Menschen mit geistiger Behinderung e.V. 2011:5). The association offers parts of their property in the Berlin district of Wedding to be used as a herb garden. People can join and do not have to pay for a bed. Another possibility of being active in the initiative is a new established booster club. People are asked to financially support the initiative, but also to attend organizational meetings and thereby have the chance of actively influencing the initiative's development.

The initiative's tenants are required to render so called "tenant hours", as is stated in their contracts. According to two interviewees this helps the tenants to better identify with the project and so they are more willing to help beyond the required tenant hours and promote the initiative. Then again the promotion helps to get more people interested who potentially like to participate in the initiative.

External stakeholders are also important for helping with the problem. Volunteers promote the project by word-of-mouth advertisement. Other initiatives in the neighborhood help by organizing events with them and the Social Enterprise Garden is becoming part of their

networks which helps promoting the garden and getting more people to participate. The sponsors indirectly help with the problem as they support the events financially which attract potential participants and volunteers. Additionally, the sponsors use their networks to help the initiative and connect them to other initiatives and stakeholders. Several politicians are in favor of the community garden and promote the project by visiting it and the press is regularly covering those visits and the initiative's development which has an influence on many people's perception of the garden. Other community gardens give them advice on how they have solved their participation problems. The visitors are multipliers through word-of-mouth advertisement and also help with the problem indirectly by purchasing the initiative's products as the money can then be used to finance another position.

Hence, the Social Enterprise Garden initiative has several strategies to work on the problem "participation: (A) getting people to participate in the initiative". They generate an income and can therefore employ people to help them with their initiative. This is different from the other two initiatives which do not pursue such an economic focus. However, they are still very much dependent on voluntary engagement of other people and try to offer a variety of events and possibilities of getting to know them and becoming an active participant in the garden. Thus, the Social Enterprise Garden is positioning itself more broadly to appeal to a bigger variety of people. The way they present themselves to the public is important for them. The better their reputation, the more likely it is that people are in favor of the project and may be willing to actively participate as a volunteer or just visit one of their events. Therefore, they founded a public relations group to take care of their public reputation and external communication. Furthermore, they are also active in social campaigns in the district and organize events with other neighborhood initiatives. This helps expanding their social network and reach out to more people.

Solutions "participation: (B) keeping participants in the initiative"

Summary solutions "participation: (B) keeping participants in the initiative"

The initiatives developed different strategies of avoiding participants from leaving the project. The Neighborhood Garden gardeners improved their infrastructure by using raised beds and avoided other problems which kept gardeners from leaving the initiative. The Public Park

Garden uses means of management and communication to work on problems that may otherwise be the cause for participant's frustration and exit. Especially their democratic way of decision-making is important for a lot of gardeners to still be active in the project. The Social Enterprise Garden is working on the problem by evenly distributing the workload and thereby reduce overwork stress among their participants. Additionally, they improved their internal communication and thereby flow of information to avoid frustration in the initiative.

Neighborhood Garden

The Neighborhood Garden interviewees did not especially describe how they try to convince participants to remain in the initiative. During the observation in the garden it was only mentioned that one gardener did not leave the initiative because they continue to work with raised beds after a successful implementation in 2015. Thus, raised beds are seen as a way of motivating people to remain active as they are a solution to some other problems (see solutions "soil", "safety: (C) dogs" and "safety: (D) garbage") which had frustrated the gardeners in the past.

Public Park Garden

Before interested people are joining the Public Park Garden initiative the existing group informs them about the time and work needed to be able to be an active member. Two interviewees IV see this as a preventive measure to obviate false expectations which may lead to participants leaving the initiative later. Additionally, they introduced icebreaker sessions for new participants in order to avoid them from being overwhelmed by too much information and possibly being scared off from current discussions in the group. They also try to improve their overall management and communication (see solutions "management" and "communication") and try to find solutions to their "safety" problems to avoid frustration among the gardeners which may also lead to their exit. An important aspect of keeping participants motivated and to remain a part of the community garden is the democratic structure of the initiative. Everyone is asked to attend organizational meetings and make use of his/her right of influencing the development of the initiative.

<u>Social Enterprise Garden</u>

The Social Enterprise Garden's main reason for the loss of qualified workers is the amount of work which leads to stress and overwork. In order to reduce stress and avoid overwork they try to distribute the workload evenly among their participants. Therefore, the initiative is separated into working groups, has a clear hierarchy and tries to involve more volunteers and paid employees (see solutions "management" and "participation: (A) getting people to participate in the initiative"). During a convention ("Klausurtagung") in early-2015 they founded an advisory board to support the new executive secretaries. This helped to manage the participants better and lowered the work load on individual people. Over the years, some people in the initiative have worked in different groups within the project and know about them quite well. Thus, those people are a link to different groups which helps with the problem indirectly as they can mediate between the groups and avoid problems among the participants which may otherwise cause them to leave the project. Their different working groups also meet regularly to exchange the latest development. This avoids frustration resulting from a lack of communication (see solutions "communication") which may otherwise lead to people leaving the initiative.

Solutions "Participation"		
Neighborhood Garden	**Public Park Garden**	**Social Enterprise Garden**
Internal contribution to solution		
- Being present in the garden helps getting interested to join - Update their website regularly - Raised beds as a solution to other problems convinced gardeners to stay active	- Promotes itself via their website, workshops and other events - Networks with other initiatives - Inform new participants about time needed to avoid false expectations - Improve communication and management	- Pay employees - Offer a big variety of events to appeal to potential visitors - Founded specialized groups to work on public relations - Connect to other neighboring initiatives and become part of their network - Distribute workload - Improve their communication

External contribution to solution		
- No help received yet	- District management and other gardens share their experience of how to get people involved - "Transition Town Pankow" uses its network to promote the initiative	- Volunteers help them - People spend their ÖBFD or FÖJ with them - Sponsors connect them to other initiatives and support them financially - Politicians promote the initiative - Press promotes initiative's events - Other community gardens support them with their experience
Problem is not actually perceived as a main one, but they currently experience a decline in participants	Problem never really existed for them as they have more interested people than people leaving the initiative	Problem is constantly worked on, sometimes they still struggle with it though

Table 14: Solutions "participation"

5.4.3 Problem "Difficult participants"

The problem "difficult participants" describes difficulties among the participants and the effect on the initiative if certain goals are not shared by everyone.

Summary problem "difficult participants"

"Difficult participants" is a problem mainly referred to by the Neighborhood Garden and Public Park Garden initiative. People who are mentally ill or just not capable of interacting in social groups become part of the initiative and create tensions in the group. Both groups have experienced negative results which almost led to the division of one of the groups. Therefore, this problem should not be underestimated. The Social Enterprise Garden has not faced problems with "difficult people" so far.

Neighborhood Garden

The Neighborhood Garden initiative faces the problem that some people start working in the garden who have psychological problems and difficulties to adapt to groups. They usually just focus on themselves and their own goals. Thereby, they change the appearance of parts of the garden in drastic ways. Often this does not work well with what the rest of the group had planned or started to work on. The initiative is open to anyone who wants to work in the garden. They do not have rules of how to become a part in their initiative and their organizational structure is quite loose (see problem "management"). Additionally, the property is accessible for everyone throughout the whole year as the group is not allowed to put up a fence due to legal regulations concerning the space (see problem "space"). However, the problem also occurred on the first space (where they had some kind of fence) and is therefore not a new phenomenon to the group or explicitly bound to the properties of the current space.

One interviewee related to those people as being "difficult participants" because of their rather destructive actions and the inability of talking to them in a rational way due to their lacking mental health. This can result in frustrated ("regular") participants who are demotivated by those actions. It can also scare off possible new participants. Thus, the problem has an effect on the participation of the Neighborhood Garden initiative (see problem "participation"). On the other hand the actions performed by those "difficult participants" are also amusing to the rest of the group because some are very random as collecting all the stones on the property and sorting them by size across the garden.

Public Park Garden

The Public Park Garden shares the same approach of being open to anyone who wants to join their initiative. However, they are better organized and have an overview over their participants as every new member has to apply for a bed first before joining, in contrast to the Neighborhood Garden initiative. Nevertheless, according to the interviewees, they also have problems with "difficult participants" who are mentally ill. One interviewee stated that those "difficult people" tend to show up in community garden projects as it is usually quite easy to become a member. The interviewee mentioned that the people of community gardens are fairly open to anyone who is interested in working with them. The problems with "difficult participants" only surface after a certain amount of time when challenging situations add up. According to interviewee

most of them are lacking social capability of relativization. As said by the interviewees, those people do not and/or cannot conform to other people and hold on to their own beliefs and opinions. Those participants have difficulties with adapting to other people and therefore also failed to fit in in other collectives. Obviously this is a problem when working in a group. On the other hand another interviewee mentioned that the initiative's board has also lacked confidence in showing those people limits in the past. Some of those "difficult people" have profound gardening knowledge which is beneficial to the whole group. However, in 2014 some participants felt not comfortable around them anymore and said that they would leave the initiative if those problematic people would stay. This created a lot of tension in the whole group and almost separated them at one stage of their history. It was even called a "crisis". At the end almost the whole board had resigned and "difficult people" had been actively excluded. Other core initiative members thought about leaving the group and a few of them actually did leave voluntarily because of it. Therefore it can be said that this problem threatened the existence of the garden!

Social Enterprise Garden

The interviewees of the Social Enterprise Garden did not mention "difficult people" specifically. They mentioned disagreements among participants, but they were not referring to people having psychological problems or difficulties of integrating themselves into the existing group. Only one interviewee said that some visitors do not agree with the concept of the garden and complain about it. This is annoying to the active members, but does not influence the initiative in a negative way. They rather see it as part of their goal to educate the visitors about topics related to the garden and try to convince them of their concept.

Problem "Difficult participants"		
Neighborhood Garden	**Public Park Garden**	**Social Enterprise Garden**
- Mentally challenged people start being active in the garden and change the appearance of the garden - Annoys the other gardeners	- Mentally challenged people start being active in the garden - They create tensions in the group which led to conflicts - Resulted in a crisis - Problem affected initiative's organization, communication and participation	-Did not experience this problem yet

Table 15: Problem "difficult participants"

5.4.4 Solutions "Difficult participants"

Summary solutions "Difficult participants"

The three initiatives have found different ways of facing the problem "difficult participants". They are mainly trying to solve it internally and via means of communication. The Public Park Garden had to come up with more drastic solutions and actively expelled people from the initiative. They also received minor help from a mediator. The Neighborhood Garden experienced that "difficult people" leave the garden after a while and therefore did not see a necessity of coming up with a strategy at the moment. The Social Enterprise Garden initiative prevents "difficult people" from joining by conducting job interviews and one-day work trials and thereby figuring out if they fit in the team or not. Furthermore, people have to apply for a raised bed and pay money for it. Opening hours also prevent mentally challenged people from violating the garden as is the case in other gardens.

Neighborhood Garden

The gardeners of the Neighborhood Garden initiative deal with "difficult participants" by inviting them to join the plenums. That way they try to communicate with them, but usually those "difficult participants" join one or two meetings and then it becomes apparent that it is

hard to interact with them. Afterwards they usually do not show up for plenums anymore. Some participants mention the problem to new members in order to prepare them for it.

No external stakeholders have been asked to help them with the problem. Usually those "difficult participants" leave the garden after a while without any further notice. That way the problem is solved by the causer themselves.

Public Park Garden

The Public Park Garden is more active when it comes to dealing with "difficult participants". As a first measure they are organized in such a way that they have an overview of who is active in the garden. People have to apply for a raised bed and only get one if someone else is leaving the garden. Participants then have to sign a garden regulation and pay an affiliation fee of 20 to 40€ per year. This does not prevent "difficult people" from becoming part of the group, but it allows the group to have a better overview of who is active in the garden than the Neighborhood Garden initiative. When there are problems with certain people they try to communicate with them in order to prevent problems from becoming worse.

During the crisis at the end of the year 2014 and beginning 2015 (see problem "difficult participants" and "communication") an external mediator was asked for help as the group had divided into sub-groups which could no longer communicate with each other. They organized a meeting to bring the whole group back together. This only helped them to stay in contact, but could not solve the problem itself. Therefore, the mediator was not that helpful as perceived by three interviewees. Nevertheless, another meeting during that crisis was used to talk about the motivation of the gardeners. This meeting revealed a deep connection to the initiative on the part of most participants. Thus, they were dedicated to continue the project despite the hard times. Hence, communication helped to overcome the crisis. Nevertheless, some "difficult participants" were actively expelled by the rest of the group as other solutions could not be found at that time to work together with them any longer.

One gardener of the "Public Park Garden" organized a workshop on communication together with a foundation that is concerned with urban gardening as a way to be better prepared for situations with "difficult people". This can be seen as an indirect way of dealing with the

problem.

At the moment the initiative has solved its difficulties with most of their problematic participants by expelling or trying to communicate with them.

Social Enterprise Garden

The Social Enterprise Garden initiative conducts individual job interviews and one-day work trials in order to see whether potential participants fit in the initiative. This also prevents false expectations on the applicant's part. Thus, the initiative seems to have found a way of preventing "difficult people" from joining the initiative which may otherwise cause problems.

Solutions "Difficult participants"		
Neighborhood Garden	**Public Park Garden**	**Social Enterprise Garden**
Internal contribution to solution		
- Communicate with "difficult participants"	- Keep record of active participants for a better overview - Communicate with "difficult participants" - Communication helped them to overcome crisis - They also had to actively expel people	- Conduct interviews and one-day work trials to find out whether a new participant is suitable for them - Fence prevents violating acts during time of absence
External contribution to solution		
- No help received yet	- Mediator helped during crisis but it had not been that successful	- No help necessary
Problem is reoccurring but usually "difficult participants" leave after a while	Problem is reoccurring and they try to deal with "difficult participants" once at a time	Problem does not exist for them

Table 16: Solutions "difficult participants"

5.4.5 Problem "Communication"

The problem "communication" describes the difficulty of delivering information to the right person(s) in the right time.

<u>Summary problem "communication"</u>

All three gardens are affected by the problem "communication" and it was named as one of the main problems by one interviewee from each garden. The initiatives mainly struggle with their intragroup communication. Their means of communication are either not used properly or used at all by the participants. Communication highly affects the management and therefore the overall performance of the community garden and thus do not use their whole potential. There are also difficulties with the communication towards external stakeholders, but it has less of an impact than the internal one.

<u>Neighborhood Garden</u>

The cause of the problem "communication" in the Neighborhood Garden initiative is that the (core) group wants to work on a direct democratic basis. This means that everyone should have information about everything in order to be able to intervene when something is going into a direction that is not desired. This is very time-consuming and not everyone is willing to invest the time in organizational issues (see problem "management"). Everyone is working on a voluntary basis and too much information can be overwhelming.

They try to organize themselves in monthly plenums where they communicate current developments of the garden (see solution "management"). Unfortunately not all gardeners attend those meetings and read the following emails. Especially older participants who do not own a computer and do not know how to use the internet are excluded from digital means of communication. The initiative also lacks means of analogous communication within the garden area. Thus, information flow is not guaranteed for everyone. This has already resulted in misuse of material that had been saved for other people.

One interviewee mentioned that the potential of the group is not entirely used because of lacking internal communication and that they could accomplish more. They might be able to tackle

other problems in a better way if they could reach out to the people that actively do not use their means of communication, or cannot use them.

Public Park Garden

One interviewee said that communication *"is definitely a problem that can be underestimated"*. The Public Park Garden is confronted with different interests that are not communicated well enough between the people. They try to integrate everyone who is interested in the initiative. They have means of communicating with each other, like plenums. However, during those plenums some people disrespect the others in a way that they are only talking about their own topics and do not let other people communicate their opinion.

During the interviews it has also been stated several times that the group consists of "doers" and "talkers". The "doers" just want to get things done and do not want to talk about every detail. The "talkers" want to communicate about everything before it is put into action. Those different ways of working in the initiative creates tensions and frustration among the participants.

The board also has to decide how much information should be communicated. Too much information is overwhelming and too little can result in complaints. Additionally, a lack of communication resulted in board members not showing up to official meetings in the garden. This is crucial for the reputation of the initiative as the meetings are meant for interested people to be informed about the garden on a regular basis. Badly handled communication during their meetings can lead possible new members to get a false impression and not show up anymore (see problem "participation").

In 2014 the initiative experienced a crisis as a result of some participant's behaviour who had problems integrating themselves into the group (see problem "difficult participants"). As the problems with them increased subgroups formed around them as they had a profound gardening knowledge which some other participants saw valuable for the initiative despite the problems that came along with those persons. The situation became worse and the situation ended up in a crisis as the whole group was separated into subgroups which did no longer communicate with each other.

Thus, the Public Park Garden initiative is mainly concerned with its lacking internal communication which results in tensions between the participants.

Social Enterprise Garden

The Social Enterprise Garden also struggles with internal communication. The interviewees mentioned several causes for a lack of communication within the initiative. They are organized in working groups. Despite regular team meetings, there is a lack of communication sometimes because of different perceptions concerning the importance of communication. According to an interviewee some people think that certain information is not important to be communicated while others do. He further states that some participants have false expectations and are relying on others to communicate certain information. Furthermore, the project is mainly organized with volunteers (see problem "management") and not everyone is involved with a lot of engagement and emails are not answered immediately or due to poor time management people do not show up to meetings during which important information is communicated. This affects the management of the initiative as some information has not been communicated in time which slows down processes and they have to reschedule their plans and some projects cannot be realized (see problem "management"). A lack of communication can also lead to conflicts, harassment and tensions between people in the initiative. This can also influence their productivity during meetings.

At some stage of their development they had used too many means of communicating with each other. It was hard to follow up on all of them. Thus, information was not communicated in time because the emails (for example) had not been checked regularly.

Poor communication can also leave a bad impression on potential new participants. Therefore, the reputation can suffer if information is not communicated well enough (see problem "participation: (A) getting people to participate in the initiative"). There is also a communication problem with some external stakeholders like neighborhood initiatives that they would like to work with. Sometimes the Social Enterprise Garden lacks to communicate with them in time, sometimes the other initiatives do. This results in less projects being realized together.

Problem "Communication"		
Neighborhood Garden	**Public Park Garden**	**Social Enterprise Garden**
- Means of communication are not used by every participant as it is very time intensive or cannot be used - Core group is frustrated and tries to find ways to reach out to the other gardeners - Initiative is less productive	- Difficulty of handling the amount of information that should be communicated - Bad communication leads to bad management which can affect the initiative's reputation - Some gardeners are frustrated	- Rather problem of individual communication - Can result in bad management and less productivity - Some projects cannot be realized

Table 17: Problem "communication"

5.4.6 Solutions "Communication"

Summary solutions "communication"

The "communication" problem is improving for the Public Park Garden and Social Enterprise Garden initiatives. They changed their means of communication, inform the group regularly and structured meetings better by distributing certain tasks to specific participants or groups. Thus, the solution of the "communication" problem is dependent on the way they are organized. The Neighborhood Garden is still struggling as some gardeners refuse to use their means of communication or do not have access to the internet and do not know how to solve those problems.

Neighborhood Garden

The gardeners of the Neighborhood Garden initiative know that they are struggling with their internal communication, but have not found a solution to the problem yet. The core group talks about the issue during their monthly plenums and send informational emails, but they have not found a way to involve the other groups who are active in the garden, but do not use their means of communication (plenums, emails, website). They have a website which is updated regularly and helps with the external communication as interested people can inform themselves about ongoing activities in the garden which has proven successful (see solutions "management").

Nevertheless, this is not helping with the internal communication problem. It also does not help to reach people who are not using the internet or cannot use it.

So far they have not tried to contact external stakeholders to ask for help to solving this problem. Involving external stakeholders also does not seem helpful at the moment as certain gardeners actively avoid the "developed" means of communication. Thus, those means have to be changed in order to potentially reach out to those gardeners. The core group has already put information sheets onto their tool shed, but it is not protected against rain. Two interviewees mentioned that a water and wind proof information board could help within the garden area if it would be updated regularly. This could be one possibility to inform the other groups working in the garden as well as giving external people a chance to be informed of upcoming events, despite their lacking access to the internet. Thus, this could be a possibility to improve the internal and external communication. However, the core group is still arguing whether to implement it or not at the moment. They are also planning to actively work on the communication with the other groups in the garden and approach them directly.

Hence, the Neighborhood Garden initiative is struggling with the internal communication and has not found a way to reach those gardeners who are not willing to use or are not able to use their means of communication. Therefore, the problem has not yet been solved. The external communication on the other hand is working well.

Public Park Garden

The Public Park Garden initiative is much more organized than the Neighborhood Garden group (see problem "management"). In order to improve their communication they started to meet for plenums every two weeks to discuss the current situation and upcoming events. As they also experienced problems with the communication during their meetings they implemented communication rules to better structure the meetings. Additionally, they try to focus on some main topics and sort some problems out before the meeting. Throughout their development, they have benefited from their growing experience as how to handle problems with communication during their meetings. Moreover, the improved organizational structure helps them to save time during those meetings (see solutions "management"). Although not all gardeners use their means of communication the situation is not as critical as for the

Neighborhood Garden as they are a bigger group. Therefore the number of people still attending their meetings and using their means of communication is sufficient to be able to smoothly run the initiative (see solutions "management").

They also introduced a weekly newsletter as a central mean to communicate current developments. In 2015 a new board was elected after an internal crisis that had led to the demission of the former one (see problems "difficult participants" and "communication"). The new people in charge put more emphasis on communicating with each other in order to prevent difficult situations from turning into problems and try to stay in contact with the gardeners through the means mentioned.

In order to improve their external communication they developed a website as well as a Facebook page and flyers which they hand out during events and in the neighborhood. In order to avoid new possible members from being put off from ongoing intensive discussions they organize separate meetings with them. That way not too much time is spend on introducing people during informational meetings and new participants are not overwhelmed by the information during their first meeting(s). This makes the communication easier.

In 2015 they had an internee who was very active in the initiative and contributed greatly to solving communication problems within the group. She prepared plenums and contributed her knowledge of how to handle groups from her recent studies. She talked with all the active individuals to get an overview of the current situation. She tried new communication and organization methods during meetings as well as bringing in examples from other processes and groups. She connected the garden to other gardens again and activated new garden members to take over responsibility and be more active.

Some members also organized a workshop on the topic of "communication". The workshop was co-organized with another foundation (Anstiftung&Ertomis) which supported them as an external stakeholder. During their crisis with "difficult participants" in 2014/2015, mediators helped them to talk to each other again as the group was divided into several factions that were unable to communicate with each other any longer (see problem "difficult participants" and "communication"). However, the importance of those mediators for the process of coming up with a solution to the problem was perceived as rather minor by the gardeners.

One interviewee mentioned the possibility of improving their communication by introducing an emailing list or forum with which everyone could write each other. However, according to the interviewee, this would only work if someone is actively taking care of it. This has not yet been the case.

Thus, the group improves their communication mainly by structuring their meetings, setting up communication rules and informing the members via plenums and emails. The importance of external stakeholders is rather little. The problem is perceived as being solved at the moment. However, they have to continuously work on it to not let it turn into a problem again.

The problem could not be solved from within the group at the time of crisis with some difficult participants and they needed external help to solve it (see solutions "communication" and "difficult participants").

However, they distinguish themselves from the Neighborhood Garden initiative as they already succeeded in improving their communication over the years and the problem is changing for the better.

Social Enterprise Garden

The Social Enterprise Garden is highly organized. In order to guarantee a good organization they improved their communication. In that process, the change of executive secretaries in 2015 was an important and necessary step as perceived by two interviewees. The new ones implemented a novel system of direct communication. There were explicit instructions and emails to confirm everything which eased the work. They now have a clear hierarchy of whom to ask for certain questions (see solutions "management"). The working groups also meet regularly to discuss the development in each other's group which makes the communication more efficient. A new website also helped communicating with external stakeholders as well as among the participants. Furthermore, they reduced their means of communication.

The Social Enterprise Garden did not receive any help from external stakeholders with the problem "communication".

Thus, they improved their means of communication, structured their organization and inform everyone regularly about important tasks. They also benefitted from a change of leadership.

The problem is perceived as being solved at the moment. However, they have to continuously work on it to not let it turn into a problem again.

Solutions "Communication"		
Neighborhood Garden	**Public Park Garden**	**Social Enterprise Garden**
Internal contribution to solution		
- Meet in plenums to talk about ongoing developments - use emails to inform group about decisions in plenums - update website regularly	- meet in plenums every two weeks to talk about ongoing developments - new board focuses more on communication than the former one - introduced communication rules during meetings - update website regularly - introduced weekly newsletter - organize workshops on communication	- new executive secretaries introduced novel system of direct communication - introduced explicit instructions and confirmed them via email - clear hierarchy helps addressing the right persons - regular working group meetings - improved their website - reduced means of communication and focus on less now
External contribution to solution		
- No help received yet	- "Anstiftung&Ertomis" association prepared communication workshop with them	- No help received yet
Problem of gardeners not using their means of communication has not yet been solved	Problem is constantly worked on, but perceived as being solved at the moment	Problem is constantly worked on, but perceived as being solved at the moment

Table 18: Solutions "communication"

5.4.7 Problem "Management"

Problem "management" describes the problem to organize the initiative and get the participants involved in it.

Summary problem "management"

All three initiatives are organized in an official form (association, gGmbH) or are represented by another official association. Their self-set goals are influencing their management and how they are affected by a badly managed organization. The Neighborhood and Public Park Garden are solely working on a voluntary basis which makes it hard to find people to fill certain positions sometimes or just getting them to attend regular meetings. The Social Enterprise Garden is working with volunteers and employees alike. Their different time resources and expertise makes it difficult to evenly organize everything according to it though. This can, in the worst case, result in projects not being realized.

Neighborhood Garden

The Neighborhood Garden initiative does not want to be hierarchically organized, but meets in voluntary plenums once a month and is officially represented by a supporting Berlin association. Unfortunately not all gardeners attend the organizational meetings. However, they also cannot force anyone to be informed all the time because everyone is working on a voluntary basis. Thus, the garden group is not one combined group, but consists of a core group that organizes most of the events, and several small groups that work side by side on the area. This makes organizing events and action days more difficult.

The problem is also a result of their lacking communication (see problem "communication"). They cannot organize themselves if their communication is not working well. This results in a less combined working force that may be able to accomplish more and solve other problems better as well.

One of the gardeners who is not much involved in the management of the initiative stated that she just wants to garden and is not interested in too much organization as the project (in her opinion) is supposed to evolve naturally and not too planned. However, she also did not know

much about the contract with the district office. Thus, some participants are relying on the core group to take care of those issues. However, this poses a risk as the core group of five to ten people is rather small and if too many of them leave and not enough people take over some organizational responsibility the initiative ceases to exist as the district office needs to be able to contact them. Thus, the initiative is struggling to stay true to their vision of being open to anyone and let everything run on a voluntary basis and to get enough people to join organizational meetings in order to sustain some kind of management structure.

Public Park Garden

The Public Park Garden experienced a rapid growth in participant numbers during the first two years. In the beginning, they were loosely organized and the management structure could not keep up with the growing number of participants. The more people joined, the more tasks had to be distributed. Thus, getting organized was essential at this stage.

As a precondition for them to be able to work on the space, they had to officially organize themselves (see solutions "space"). They chose to become an association. This brought along other management difficulties. It is required to have three to five board members that will be elected for two years (as stated in their constitution). As the whole initiative is working on a voluntary basis it is sometimes hard to fill those positions. Board members, as well as any other participant of the initiative can leave the garden at any time. However, they have to fill those positions in order to meet the requirements of the district office and to be able to stay on the property.

Despite having around 60 to 70 club members and even more gardeners, there is only a small group of around 20 people who are actively engaged in the management of the initiative. This has been criticized by two interviewees. It does get problematic if participants with certain tasks leave the garden as it can be difficult to find someone who takes over this task (board members for example). The Public Park Garden is dependent on being well-managed as they have to attend organizational meetings, prepare presentations, e.g. in order to be integrated into the future concept of the Park (see solutions "space"). If no one is taking over responsibility the community garden ceases to exist. On the other hand, it is less critical currently if some people are not that much involved because it can be compensated by others. In the beginning, with

fewer people involved, this was more crucial. Nevertheless, it can become a problem if too many people from the core team that manage most of the activities in the garden drop out (see problem "participation").

According to two interviewees the management of the initiative can also be a problem when "doers" and "talkers" disagree. The interviewees define "doers" as participants who just want to create something and "talkers" as participants who want to discuss everything before it is put into action. Sometimes the "doers" put something into action before it has been sufficiently organized. As experienced in the beginning of the initiative, too little organization resulted in a bit of a chaos as raised beds were built without properly managing and communicating it with the whole group. People joined the group without officially applying for a bed, for example. Too much management on the other hand also scares away people because it takes too much time. This is particularly true for the "doers" who can get frustrated over too much organization (and communication) and too little action.

Social Enterprise Garden

The Social Enterprise Garden is organized as a gGmbH and with that come certain responsibilities that have to be met. This, for example, includes the provision of financial and other records (see solutions "finances"). Those have to be handled frequently and therefore need to be managed by the participants as the owner of the property (education authority) is checking them on a yearly basis. The education authority wants to make sure that the initiative is working as a social company on their property and is not creating profit.

The Social Enterprise Garden faces difficulties with its management structure as they try to be a combination of the company's hierarchy and democratic decision making structures. In the beginning the management of all the different working groups was done by the initiator. It was a major challenge for her to stay on top of things. As the initiative developed, more tasks were distributed among the participants and they formed working groups for special tasks. It worked fairly well but was still not perfect.

In the beginning a lot of people invested their time in addition to having a regular job. Now there are different types of employment arrangements within the project that have to be

coordinated. There are volunteers, ÖBFDs, FÖJs, paid workers, shareholders and the executive secretary. However, they still have problems to evenly distribute the work load among those different groups of people according to their time and profession. Sometimes this is also an effect of their lacking communication as information that is required for a smooth management does not reach the right person in time (see problem "communication").

Finances are another cause for the "management" problem. As the initiative has to be able to pay its employees and afford the upcoming events solving finances is a major concern for the Social Enterprise Garden (see problem "finances"). Thus, many participants are involved in generating income or writing funding applications. Those people are missing in other parts of the project.

The volunteers also tend to work on tasks that they like rather than on tasks that are more important for the initiative at that moment. The interviewees mentioned that this can also affect the management of the initiative negatively or slow it down as important tasks are not worked on in time. That way they lose time for important projects if they are poorly organized.

Problem "Management"		
Neighborhood Garden	**Public Park Garden**	**Social Enterprise Garden**
- Loosely organized, but officially represented by another initiative - There is a core group and several other groups that work alongside each other - Regular plenums are not attended by everyone which makes it hard to organize events and tackle problems communally	- Organized as an association - Certain positions need to be filled as one condition to being allowed to garden on the space - There is a core group of organizers and board members - A lot of gardeners are inactive in the management - Frustration among gardeners if organization is not managed well	- Organized as a gGmbH - Need to fulfill certain requirements - Struggle with the management of different kinds of employees - Participants are overworked and stressed - Some projects cannot be realized

Table 19: Problem "management"

5.4.8 Solutions "Management"

<u>Summary solutions "management"</u>

All gardens are trying to split up their tasks to improve their organization and limit the individual work load. As an important aspect of management they improved their means of direct communication. That way important information is delivered better and the management improves. Two of the initiatives also benefitted from an active change of leadership. In contrast to the other initiatives the Social Enterprise Garden also uses its finances to employ people who then help them with the management of the initiative. It is striking that the more overall tasks an initiative is dealing with, the more they are structured and have specialists for certain tasks in contrast to having the whole group working on it together. The Public Park and Social Enterprise Garden continuously work on their management and perceive it as being solved at the moment. The Neighborhood Garden still struggles to involve more of its gardeners to take over certain management tasks as they are not willing to use their means of communication which is critical due to their relatively low number of participants.

<u>Neighborhood Garden</u>

A Berlin association officially represents the garden group and works together with the Neighborhood Garden to make decisions. This was important to get the current space as the initiative needed to be represented by an official organization or association taking responsibility for them (see solutions "space"). Two gardeners are now in the board of that association. Therefore, the Neighborhood Garden and its cooperating association have connected more closely. This ensures a certain organizational structure of the initiative which is run by the core group. This is important to be able to be contacted by the district office which is the owner of the space.

The core group of five to ten persons meet for plenums once a month and occasionally try to organize events. As they experience difficulties with the communication towards other gardeners they cannot use their whole potential of managing events on a regular basis (see problem "communication"). As the solution to the "communication" problem is pending at the moment they also have difficulties to improve their management.

Although their poor management is influencing their potential of working on other problems, it does not threaten their existence yet as they are officially represented by another supporting association and have found enough people to take care of the most important management issues for now. However, they have still not developed a strategy to involve more active gardeners into their management, which will be important for the future if gardeners of the core group leave the initiative and will not be able to manage it any longer.

Public Park Garden

The Public Park Garden on the other hand is more structured and has tried to improve its management throughout its history. They needed to be officially organized in order to get the permission of working on the space (see solutions "space"). Therefore they decided to become an association which involves specific organizational positions that have to be staffed.

In order to improve their management they divided certain tasks among the participants, like preparing the weekly newsletter or organizing the water supply. They also formed working groups which meet regularly. All gardeners are called upon attending plenums taking place every two weeks. This assures that the development can be influenced by everyone in a democratic way. They also introduced a weekly newsletter and update their website regularly. This ensures that information is communicated and that the management runs smoothly (see solutions "communication"). Additionally, the informal communication within the garden helps with the management as information is spread among the participants. Nevertheless, the initiative does not reach all participants, but compared to the Neighborhood Garden initiative it is not as critical because the number of participants is fairly high and there are always enough people attending their meetings. This guarantees a well working management of their initiative.

After the crisis in 2014/2015 the change of board helped to get the group reorganized (see problems "difficult participants" and "communication") as the new board members are increasingly focusing on communication which helps to get clear about deficiencies in the management of the group (see solution "communication").

The group is receiving indirect help from external stakeholders to work on the problem. Throughout the garden's history several neighborhood initiatives and organizations offered

them their rooms to use at no cost. This helped the initiative to get organized as the group grew and meeting in bars or in private homes were no option any longer. Currently they use the rooms of a neighboring social initiative on a weekly basis which is especially helpful for their general assemblies or when meetings in the garden are not the best option due to bad weather conditions for example.

A theoretical solution mentioned by an interviewee is to pay people for certain jobs which could help with the management. However, this cannot be realized at the moment because they lack the financial resources to pay for such a position. They are also not planning to find a way of financing it at the moment as they try to solve the problem differently and agreed on not emphasizing an economic approach with their initiative.

The Public Park Garden distributes certain management tasks among the gardeners and organizes regular meetings (plenums) that every gardener is called upon to attend. A focus on an improved communication assures a constant flow of information which helps the management to run smoothly. The gardeners perceive the "management" problem as being solved at the moment, but they have to continuously work on it to not let it turn into a problem again.

Social Enterprise Garden

Throughout the season the initiative is organizing many events, needs to organize the daily routine of their garden and café as well as taking on jobs to earn money needed for its development. In order to be able to manage all those different tasks the participants split the team in specialized organizational groups and thereby distribute the workload evenly. Although they are trying to work together on one level there is a certain hierarchy with the executive secretary on top of the initiative. Furthermore, they have persons responsible for a certain department and group that they manage. Thus, a certain specialization helps them with their management.

In 2015 there was a change of executive secretaries. The new executive secretaries introduced a novel system of managing the initiative. An important part was to increase the communication among the participants (see solution "communication"). They also improved their time-

management and their documentation and determined the responsibility for certain tasks. This helped to organize the group better. In the same year the initiative also founded an advisory board to support the new executive secretaries and split the work among advisory board members. One shareholder is intensively working together with the executive secretaries and gives his opinion on certain developments and decisions. He tries to give input as an outer view. He contributes his experience and knowledge about project management from his main job.

Currently, the initiative is trying to create a position for someone who will exclusively manage the volunteers and will be a contact person for other initiatives that want to work together with the Social Enterprise Garden. In 2014 and 2015 they already had a position for this job, but due to increasing amounts of work the person was involved in too many other projects and could not fill this position any longer. The new one is planned to be better integrated in the management and shall solely work on specific tasks. The group plans to apply for a special funding to be able to pay a person for this specific task. Thus, finances are one way of working on that part of the problem.

Throughout its history the initiative reduced some tasks and now focuses on the main ones which are important for its future development. Additionally, they implemented "tenants hours" ("Pächterstunden"). The tenants have to work a certain amount of time in the year in the garden. The team introduced a deposit that the tenants have to pay. They only get it back if they clean up their beds at the end of the season. Those measures help the team to have less work and focus on other parts of the management.

As the initiative can only rely on volunteers to help them for some hours in a month they also work together with ÖBFDs and FÖJs who support the initiative for several months. Due to the amount of time spending with the initiative they can take over responsibility which lowers the pressure on the other participants. According to the interviewees, the ÖBFDs are more helpful than the FÖJs as they are older[2], often more committed due to their age and in general spend more time with the initiative[3] (an ÖBFD can take up to 18 months (ÖBFD 2016)). However, the ÖBFDs cost the initiative money. Therefore, finances are important to involve ÖBFDs and other employees as part of the solution to their "management" problem (see solution "finances"). However, a lot of participants are involved in generating income and writing

---

[2] ÖBFDs have to be age >26 in contrast to FÖJs who are between 16-26 years of age (cf. Ijgd 2016:2)
[3] FÖJ generally lasts 12 months (cf. Ijgd 2016:2)

funding applications (see solutions "finances"). Those people are then missing in other parts of the initiative which increases the management problem. Thus, once the finances are managed for the current season, participants that had been involved in generating those incomes can then help to manage other parts of the initiative. This is different from the other two initiatives which do not pursue such an economic focus.

The group receives help from external stakeholders as well. Another community garden initiative had sponsored a coaching on "how to establish a community garden" for the initiator of the Social Enterprise Garden. This input helped them to develop further when starting the project. Another external stakeholder that helps them with the problem is the supermarket they are collaborating with as it is letting them use an office for free (see solution "finances"). The office provides them with the infrastructure to work on their "management" problem, but does not directly help to solve it. Visitors and tenants give their outward opinion on the way events are organized and give advice of how to do things better or different. This can help as the team can be stuck in a rut sometimes.

Thus, the Social Enterprise Garden's strategy to solving the "management" problem is to distribute the workload among specialized groups, reduce unnecessary tasks, improve the internal communication and use its finances to employ people to take over certain management jobs. The contribution of external stakeholders to the solution is rather little. The problem has to be continuously worked on, but the gardeners perceive it as being solved at the moment.

Solutions "Management"		
Neighborhood Garden	**Public Park Garden**	**Social Enterprise Garden**
Internal contribution to solution		
- Core group meets for plenums and communicates about the future development	- Distribute tasks among their participants - Organize regular meetings - They improved their means of communication	- Distribute the workload among specialized groups - Reduce unnecessary tasks - Organize regular meetings - Improve the internal communication - Use finances to employ people to take over certain management jobs
External contribution to solution		
- A Berlin association is representing them officially and therefore takes over certain management responsibilities	- Neighborhood initiatives offer them rooms for official meetings and offices to work on their management	- Another community garden coached them at the beginning of their development and provided them with know-how - Supermarket offers office for free for them to work on management issues - Visitors contribute outward opinion on potential solutions to management problem
Problem is partly solved, but they still struggle to involve more gardeners	Problem is continuously worked on, but is working out good at the moment	Problem is continuously worked on, but is working out good at the moment

Table 20: Solutions "management"

5.4.9 Problem "Finances"

The problem "finances" describes the difficulties of generating enough money to support the initiative and its employees.

Summary problem "finances"

"Finances" are mainly a problem for the Social Enterprise Garden which is organized as a social enterprise and therefore needs to generate money if they want to implement their projects and pay their employees. This creates stress in the team and leads to overwork as a lot of their participants are concerned with managing the finances of their events and employees. Those people are then missing in organizing other tasks for the initiative. The other two gardens have also experienced difficulties with finances at some stage of their development, but as they do not pay anyone or organize big events regularly, they struggle less with finances. Thus, the goals that the initiatives want to achieve highly influence the importance of the problem "finances".

Neighborhood Garden

The Neighborhood Garden gardeners stated that they had to pay rent for using the interim space in 2009/2010 until they moved to the current area. That was seen as bit of a problem as they did not generate any money with their gardening activities (and still don't). Therefore, they had to come up with other ways of being able to afford the rent. Another time when they lacked sufficient amounts of money was when the first space was auctioned off. If they would have had the money to buy the area, they could have probably stayed there and would not have been forced to look for an alternative. Thus, finances were always related to the legal regulations concerning the space they were working on. Finances therefore could have helped to deal with the "space" problem on the first property and was also necessary to help the initiative "survive" on the interim space.

On the current space they are not faced with financial problems as they do not have running expenses and only pay for minor things like plants, seeds and broken and stolen material (see problems "safety: (A) theft" and "safety: (B) vandalism"). The contract states that they have to pay for the water, but the district office has never sent them a bill yet and they also try to not remind it of that (see problem "water").

Public Park Garden

The interviewees of the Public Park Garden initiative mentioned that finances are important, but not their main concern. Only in the beginning, when they started the initiative, they lacked finances. Currently they have to pay for their water and repair broken materials and furniture which are the only running expenses at the moment (see problems "water" and "safety: (B) vandalism"). This has an influence on their gardening activities as they do not water everything anymore which, for example, affected their bee pasture (see problem "water").

Social Enterprise Garden

The Social Enterprise Garden is a gGmbH and therefore concerned with making money and paying their employees. Two of the four interviewees named "financing" as one of the three main problems of their initiative. They have running expenses and need to generate income to be able to pay for them. They pay their employees and invested in infrastructure and material to build up the garden. However, they also have to consider the consecutive material costs. As a result of lacking orderliness and minor theft, materials also go missing which they have to buy new (see problem "safety: (A) theft"). Nevertheless this is not affecting them in a way that they have to consider strategies to avoid it (see solutions "safety: (A) theft").

The initiative also organizes a lot of events. The more activities are planned, the more time and people they need to realize them. However, they cannot only count on voluntary workers who spend their free time in the garden, in addition to their regular jobs (see problems "participation and "management"). If they want to reach their goals they need people who invest most of their time in the initiative and those people have to be paid. "Finances" is also a problem because they have not enough people to work on big construction contracts which would help them financially (see problems "participation" and "management"). Another reason are their imbalanced income sources. Market gardening is the section that is the most profitable, but also the one that is the least stable. They have found several income sources (see solutions "finances"), but one interviewee mentioned that they can still improve their knowledge and possibilities in that field.

The problem affects them greatly. They had to leave the first space on top of the parking garage

because they could not afford to pay for the necessary safety requirements (see problem "space"). One nterviewee deplores that the focus of the initiative has shifted from a social to a financial one, especially since the café was built.

The problem also resulted in stress in the team (see problem "participation: (B) keeping participants in the initiative"). There is a lot of pressure to earn money somehow to be able to finance everything. They also have to be flexible in terms of their goals. Sometimes they cannot meet their expectations because they do not have enough money to pay for everything and everybody. Unfortunately, the employees are often overworked (see problem "participation: (B) keeping participants in the initiative"). Organizing and managing finances takes up a lot of working time. Those working hours are missing in other fields of the initiative. Overwork then often leads to people leaving the initiative after a while. Some just do not return after their official time is over. This is a big loss for the initiative as those people are usually very much involved in the activities and know how everything is working (see problem "participation: (B) keeping participants in the initiative").

Theoretically the Social Enterprise Garden could have also just founded an association without an economic focus, like the other two gardens. However, the initiator had planned to start a social enterprise that would create jobs and would be able to finance itself to some extent. The idea was to realize the project on the parking garage. Due to liability reasons they needed to be organized in a way that they can be held liable in case something happens. Therefore, it was necessary to find a way that this will work and at the same time minimize the risks for individual people. Thus, they started to work as a company with limited liability and insufficient share capital which later turned into the gGmbH. Thus, the problem "finances" is in some way self-imposed and was influenced by their goals. Now they have to find ways of dealing with it.

Problem "Finances"		
Neighborhood Garden	**Public Park Garden**	**Social Enterprise Garden**
- Only had to pay rent on the interim space - On the current space they do not pay running expenses - Finances are not important for the initiative at the moment	- Only had financial concerns at the beginning of their development - They have running expenses for water and repairing broken furniture and material - Finances are not perceived as a big problem	- Problem is highly affecting the initiative - They have several running expenses and are under pressure to afford everything - Struggle to find enough people to take care of finances and also managing the rest of the initiative

Table 21: Problem "finances"

5.4.10 Solutions "Finances"

Summary Solutions "Finances"

All three initiatives are organizing events and ask for donations to pay for some of their expenses. Moreover, the Public Park Garden and Social Enterprise Garden are charging a member fee or rent for using their raised beds. The Social Enterprise Garden has an incentive of making money to pay their employees and is organized as a gGmbH which allows to create income. Furthermore, they are relying on a variety of income sources. The Public Park Garden and Social Enterprise Garden received or are still receiving financial help from external stakeholders. All three gardens are profiting from the free use of the space as they do not have to pay rent. This helps them greatly as they can either invest the saved money into other projects or are not forced to generate money somehow and can focus on their gardening activities.

Neighborhood Garden

During their time on the interim space the gardeners organized themselves and sold things at flea markets to pay for the rent. Additionally, they collected voluntary donations during events in their garden. Once they were allowed to work on the current space they did not have running expenses and only collect money to, for example, pay for broken material (see problem "safety:

(B) vandalism"). Plants and seeds are usually bought by the individual gardeners themselves as they are working on individual beds.

They are mainly supported by the owner of the space as the district office does not ask for rent. However, they are supposed to take care of the space in return. This has become more of an issue due to the increased "safety" problem (see problem "safety"). They have also not been asked to pay for their water yet, although the contract states that they have to. This is helping them and they try not to remind the district office of that part of the contract.

The gardeners do not perceive finance as a problem any longer as they do not have running expenses and can pay whatever is needed from the money collected during their summer events.

Public Park Garden

The Public Park Garden has not been asked to pay rent for using the space which cuts down on their running costs. Thus, they can invest their money into other projects and do not have to worry about creating an income too much. The expenses for the new arrangement of water connection is financed by their membership fee. As they want to be open to any person interested and do not want to exclude people who cannot afford the fee they have also made exceptions for those people. Occasionally, they organize workshops and ask for donations. However, this is not the main objective of offering those workshops.

They received funding from "Anstiftung&Ertomis", a foundation that supports urban gardens, repair cafés and other initiatives active in communities, at the beginning of their development which helped them to build the raised beds and buy the necessary soil (see solution "soil"). Thus, the Public Park Garden received external help through funding to get the initiative started, does not have to worry about rent and manages to pay continuing expenses through their membership fee and donations. The interviewees perceive the problem as being solved at the moment.

<u>Social Enterprise Garden</u>

The foundation as a "gGmbH" was essential for the Social Enterprise Garden as the status allows them to create an income. The founding shareholders contributed 25.000€ which helped to purchase the necessary infrastructure to start the project. The Social Enterprise Garden has found several strategies to finance their events and pay their employees. They actively generate money by leasing their raised beds to tenants, selling vegetables, food, beverages and self-produced compost, offering workshops and taking on market gardening jobs. They also produce short commercial movies for companies and earn money by that. They apply for funding which is often related to workshops. They also offer their garden to be used for festivities and take money for it. They have already invested in big projects like their café. Therefore, they do not have to worry about those costs anymore and can use it to create an income.The initiative also benefits from its rising publicity which makes it easier to get funding for certain projects. Nevertheless, they want to keep their independence and do not want to rely too much on just one large private sponsor. The team created costs and income projections which helped to structure the finances better and identify potential ways of minimizing their costs.

When asked for important stakeholders the interviewees distinguished between individual people rather than talking about the initiative in general. This is much more important in this initiative than in the other two. The executive secretary generally has the chief responsibility concerning decision-making and is in charge of the fundraising and finances of the initiative. The executive secretary got in contact with a lot of possible sponsors, promoted the concept of the initiative and wrote applications for funds, especially in the beginning of the initiative's development. The shareholders contribute their time and knowledge in specific fields which helps with the finances. The market gardening is the most unstable department, but is also the most profitable one. The person in charge of this department arranges the duties and is important to running it financially. The café team is essential for running the café. The café is hoped to be a stabilizing factor for the financial sector of the project.

They also have a person in their team who brought in a lot of knowledge and experience concerning finances. He contributed creative ideas to the applications and wrote a lot of them himself. Additionally he talks to sponsors and built up a network. He is also in contact with political stakeholders and tries to involve important people who can help to ease certain processes and developments, such as getting permissions.

The Social Enterprise Garden divides the tasks among the participants. There are experts for several fields. They all contribute to solving the finance problem in their specialty. The Social Enterprise Garden therefore has a very structured way of dealing with their finances.

Additionally, they are supported by external stakeholders. The volunteers help by contributing their time and energy to keep the project running and make money with the events the initiative plans and puts into action (see solutions "management"). Sponsors support them directly with money, commodity contributions and jobs. Those are also helping them indirectly by raising the level of awareness for their initiative. Thus, it becomes easier for them to get more sponsors. Ideally supporters help them by introducing them to politicians and sponsors and making the initiative more well-known. Some of them also donate money directly to the initiative. One of the ideally supporters is the borough mayor who helps them indirectly by organizing funding for the project. The district office funded them in 2012 and 2013. Other Berlin community gardens share their experience and pass on jobs to the Social Enterprise Garden initiative. They also organize projects together which help to raise awareness for their initiative (see solutions "participation: (A) getting people to participate in the initiative") and directly helps them by making an income during those events.

The education authority, as the owner of the space, does not ask for rent for the current space which helps the initiative as they can invest the saved money into projects. Another stakeholder who is not charging rent is the supermarket they have worked with since 2012. Here, they can use a room for their office work. They do not have to pay for basic rent which helps them financially. The supermarket also prints flyers for them for free which cuts down on their costs.

Some theoretical solutions mentioned by the interviewees include applying for large government funding which would guarantee their finances for a longer period of time. They have heard of other garden projects doing this to stabilize the economic part of the management. They are considering it for season 2016. Another possibility stated could be to cooperate with other initiatives in the neighborhood to apply for funds together. Thus, sharing the work load of the application process and building up their network to raise their publicity. They have done that already, but would like to improve that possibility. Another aspect that may help with finances could be a change of regulations in favor of initiatives like theirs. An interviewee mentioned that certain regulations are very costly which can be a burden for rather small initiatives. This however is not seen as being able to be changed by the initiative itself, but they

can raise awareness for it.

The Social Enterprise Garden is very structured when it comes to solving the problem "finances". They do not rely too much on one way of generating income, but in contrast try to come up with several solutions and involve experts to help them with those tasks. They are also very much dependent on external stakeholders like sponsors to help them with their finances. Despite their difficulties of generating sufficient income, they do perceive the problem as being solved at the moment.

Solutions "Finances"		
Neighborhood Garden	**Public Park Garden**	**Social Enterprise Garden**
Internal contribution to solution		
- Ask for donations during their events - Gardeners invest personal money on their individual beds	- Ask for affiliation fee - Ask for donations during their events	- Status as gGmbH allows to create income - Founding shareholders invested 25.000€ - Ask - for rent (raised beds) - Sell plants, food, beverages, compost - Offer workshops and ask for money there - Take on market gardening jobs - Produce commercial films - Apply for funds - Divide the task of generating money among their participants - Employ people to help them with their finances - Communicate with external stakeholders

External contribution to solution		
- Property owner does not charge money for water and rent	- Property owner does not ask for rent - Received donation from "Anstiftung&Ertomis" to start the initiative	- Property owner does not ask for rent - Receive donations from different sponsors - Volunteers help them execute events which generate money - Other community gardens pass on jobs to them - Supermarket rents out office room for free
Problem is not perceived as one by the gardeners as they do not have running expenses	Problem is solved	Problem has to be constantly worked on, but is perceived as being solved at the moment

Table 22: Solutions "finances"

6.   Summary & Conclusion

This chapter summarizes the essential findings on community garden's problem solving strategies and will further discuss them. Thus giving recommendations on solving and avoiding problems for a better performance of existing and future projects.

This thesis analyzed three research questions, which aimed at providing an insight in community garden's problem solving strategies:

1. *What are the main problems community gardens are dealing with throughout their development?*

2. *What are the key strategies community gardens developed to deal with their main problems?*

3. *Who are important external stakeholders supporting community gardens during their problem solving process?*

Community gardens are dealing with nine main problems which can be divided into "gardening problems" and "organizational problems". "Gardening problems" affect the realization and continuation of horticultural activities negatively and include the problems "space", "soil", "water" and "safety". "Organizational problems" combine problems threatening the performance of the group as an initiative and include the problems "participation", "difficult participants", "communication", "management" and "finances".

Community garden's key strategies to solving their problems are the improvement of their internal and external communication, dividing tasks among their participants and building up a network with neighborhood initiatives and administrative institutions.

Important external stakeholders are different administrative institutions as they contribute to the solution of problems "space", "water", "safety", "participation" and "finances". Other community gardens help with the problems "soil", "participation", "communication",

"management" and "finances". Neighboring social institutions support the initiatives with the problems "space", "participation" and "management" and the media helps with the problems "space" and "participation".

Using the grounded theory approach has proven successful in answering the three research questions stated in the introduction of this thesis. Eleven interviews and seven observations in three community gardens have been analyzed in this study. Thus, allowing new insights in the phenomenon of community gardens as the findings show the garden's main problems, their solutions as well as the role of external stakeholders in the problem solving process. As a conclusive result of the analysis a theory could be developed describing community garden's key problem solving strategies:

The more community gardens focus on improving their internal communication and management and build up a network with neighborhood initiatives and administrative institutions the better they handle their problems!

The analysis revealed that administrative institutions are playing an important role in the problem solving process of community gardens. This shows that the goals set by the Berlin Agenda 21 are supported by them. Local authorities contribute to the success of the initiatives as they are in charge of many free spaces in the city and can help find a property for them. Thus, people who want to start a community garden should consider contacting district offices or other local administrations to help them find a space. They are also a potential source for funding or can support funding applications and thereby help to establish a garden. Hereby it is advisable to develop a concept for the future use if the community garden is to be established new.

Often, brownfields are the first choice for urban community gardens in cities, as they usually provide enough space and the rent is low or non-existent. However, they pose the risk of being turned into construction sites and the community garden has to move elsewhere which can potentially lead to their termination. Therefore they build up a social network of partnering gardens and neighboring institutions in order to raise awareness for their situation and try to

convince important stakeholders from their initiative as they usually lack the financial means to purchase a space. However, they are not always successful and need to find other solutions.

As it is important for a community garden project to have some planning security a contract should be signed which secures their status on the property. Here, the legal regulations of the space have to be considered though. Being situated on an open green space makes the garden accessible for anyone interested or curious about the project and can help getting people interested to join the initiative as the erection of a fence is usually prohibited. Thus, it also poses the risk of destructive actions performed by individuals who are not respecting the initiative's work and its belongings.

People still need to get used to community gardens as it is a rather new way of using public space. Direct communication with potential perpetrators and signs informing about the project may help, but other factors have to be considered as well. If the availability of other green spaces in the neighborhood is low or even diminished due to constructions on former brownfields, which had been used for recreational activities, the use pressure on the remaining green areas increases. This can lead to more violating acts in the garden, which frustrates the gardeners and may result in reduced activity, threatening the development of the project. The analysis has shown that the best way of avoiding violating acts is the erection of a fence. If that is not possible due to legal regulations of the space, close communication with the property owner is essential. Only if the needs and problems of the project are communicated, misconceptions and false expectation of the initiative's ability of taking care of a space can be avoided and solutions be found.

For the initiation and development of a garden it is essential to have sufficient amounts of soil and water. For community gardens it is important to find good quality soil if they cannot work in ground soil. Therefore they should properly inform themselves before purchasing it in order to avoid frustration after a bad harvest. However, soil can also be enriched by using organic fertilizer. Working with raised beds helps to avoid the negative influence of dogs and garbage.

If the initiative's space belongs to the government, administrative institutions can support community gardens by not charging rent and money for water as community gardens are generally not creating an income. However, if the community garden is creating an income it may be handled differently. Although it is suggested to reduce the financial burden until the

initiative is able to afford those running expenses it was not part of the study to identify the right time frame of reducing the financial burden. It can only be advised to stay in continuous contact with the initiative to determine the right moment of charging money and discuss about the rent.

It is important to distinguish between community gardens with an economic focus and other community gardens as there are different goals and therefore different demands that define the success of the initiative. If a garden wants to employ people there is a higher pressure of generating income than in others that only have to deal with minor expenses. For projects with an economic focus it is advisable to identify different kinds of income sources to stabilize the initiative financially. Therefore public relations is important and media and local stakeholders like politicians and neighborhood initiatives should be contacted as they can help promote the initiative which is beneficial for funding applications.

Economically oriented community gardens have the advantage of being able to employ people to help them with certain tasks. This also includes involving experts which may not otherwise be part of the initiative. This can help to work more efficiently and create additional income which helps to develop the initiative. However, the constant pressure of generating sufficient income can also result in changing the focus of the initiative from a social towards an economic one. This may not be desired and has to be paid attention to. The financial pressure can also lead to stress and overwork. Thus, participants may leave the initiative which increases the stress on the remaining participants. Therefore it can be considered to reduce certain tasks and focus on important ones that help develop the initiative and do not overwhelm the participants.

However, a more diverse initiative is also more interesting as it appeals to a broader public and thus reaches new groups of people. Nevertheless, it should be considered that a group can also consist of people who may not be able to integrate themselves well in a community. This can create tensions which should be taken seriously as they can evolve into crises threatening the community and therefore the whole project. Communication is therefore crucial to manage those situations before they turn into a problem. Nevertheless, it should also be considered to expel participants if the initiative is at risk. Avoiding those situations may only be possible when conducting interviews with new participants. However, this may not be an option for community gardens which try to be open to anyone, but should be considered by gardens with an economic focus as they have to rely on a well working group to plan and execute several

events. A change of leadership can also be helpful if the initiative is no longer evolving as it is stuck in a rut and no longer capable of managing important tasks.

The management of community gardens is often influenced by the organizational form. Therefore it should be considered what is to be achieved with the initiative as certain organizational structures have benefits, but also imply certain requirements, such as filling the position of a board, which can be a challenge if the initiative is working with volunteers only.

As the management of the initiative is highly dependent on the gardener's ability to communicate with each other, communication should be emphasized as one of the most important aspects and it should not be underestimated. Workshops can help to sensitize the group and help to pay attention to it. Furthermore information should be exchanged on a regular basis via emails and meetings. This also ensures that individuals have the feeling of being able to influence the initiative's development which can be crucial for their motivation and future participation and thus, the performance of the initiative as a whole.

The thesis thereby delivered an insight into community garden's main problems and how to solve or avoid them.

However, the reader should bear in mind that the study has limits also. The network analysis including the rating system was originally planned to be more precise. It was attempted to get details about individual stakeholders like companies and individual initiatives, but it could not be realized as the interviewees were not willing to give detailed information on every stakeholder involved in the problem solving process. In some cases there were just too many stakeholders involved and could not have been covered in the amount of time planned for the interview. Therefore the interviewees were referring to a group of stakeholders instead of naming every single one.

Before conducting the interviews the size of the community garden's network could not be estimated. Therefore, it could be helpful to conduct further research on the networks of community gardens to identify potential important stakeholders for the problem solving process before the interview and thus prepare the analysis according to it. Hereby, one problem could be solely analyzed instead of identifying all main problems. The main problems have been identified in this thesis already. Therefore, this study can be used to get an overview of the main

problems and then choose one for a more detailed study focusing on the analysis of the stakeholders involved with one problem and its solution process.

The analysis of three community gardening projects in Berlin therefore revealed different problems they are dealing with and their problem solving strategies. This new knowledge can help supporting established and new community gardening projects to prepare for difficulties and show them how to overcome or even avoid them. This will help to sustain those projects with their many benefits and thereby improve urban life and support cities to start and continue a sustainable development.

7. Acknowledgements

I want to thank my two supervisors, Prof. Dr. Susanne Stoll-Kleemann and Stefanie Lyn Becker for their support during the project. Especially Stefanie Lyn Becker who I could contact any time and was a constant support.

Furthermore, I would like to thank all the gardeners who took their time and were so open to talk about their initiative's situation and thereby provided the basis for my research.

I would also like to thank my friends, who made the time in between the working sessions so enjoyable which gave me the strength to continue writing.

I also want to thank my family who is always there for me and I can always count on. Hereby, the most important thanks goes to my parents who supported me, especially during times of crises. You have given me the opportunity to live the abundant life I am currently living and I would have not been able to finish this thesis without you. Thank you!

8. References

Abgeordnetenhaus (2006): Beschlussempfehlung des Ausschusses für Stadtentwicklung und Umweltschutz vom 17. Mai 2006. Drucksache 15/5221. Berlin. Online: https://www.google.de/url?sa=t&rct=j&q=&esrc=s&source=web&cd=1&ved=0ahUK EwiKierv0MDNAhWCXCwKHe9bBKgQFggeMAA&url=http%3A%2F%2Fwww.sta dtentwicklung.berlin.de%2Fagenda21%2Fde%2Fservice%2Fdownload%2Fd15-5221.pdf&usg=AFQjCNF-DLwbwo8x-aaUDMjVVdCnteT_rA&cad=rja; last visited: 24.04.2016.

Amt für Statistik Berlin-Brandenburg (ed.) (2014): Kernindikatoren zur nachhaltigen Entwicklung Berlins Datenbericht 2014. Berlin. Online: http://www.stadtentwicklung.berlin.de/planen/foren_initiativen/nachhaltige_stadtentwi cklung/download/kernindikatorenbericht_2014.pdf; last visited: 12.06.2016.

Amt für Statistik Berlin-Brandenburg (ed.) (2016): Statistischer Bericht A I 5 - hj 2 / 15. Potsdam. Online: https://www.statistik-berlin-brandenburg.de/publikationen/stat_berichte/2016/SB_A01-05-00_2015h02_BE.pdf; last visited: 03.05.2016.

Alaimo, K.; Packnett, E.; Miles, R.A.; Kruger, D.J. (2008): Fruit and Vegetable Intake among Urban Community Gardeners. In: Journal of Nutrition Education and Behavior. Vol. 40, Number 2. pp. 94-101.

Berlin 21 e.V. (2016): Transition Town Pankow. Online: http://berlin21.net/vielfalt/projekte/transition-town-pankow; last visited: 16.05.2016.

Breuer, F. (2010): Reflexive Grounded Theory. Eine Einführung für die Forschungspraxis. 2. Auflage. VS Verlag für Sozialwissenschaften / Springer Fachmedien Wiesbaden GmbH.

Bundesvereinigung Lebenshilfe für Menschen mit geistiger Behinderung e.V. (ed.) (2011): Das Grundsatzprogramm der Bundesvereinigung Lebenshilfe. Marburg. Online: https://www.lebenshilfe-berlin.de/media/docs/Ueber_uns/Grundsatzprogramm_Bundesvereinigung_Lebenshilf e.pdf; last visited: 12.06.2016.

Caldwell, J.C.; Schindlmayr, T. (2002): Historical Population Estimates: Unraveling the Consensus. In: Population and Development Review. Vol. 28, no. 2. pp. 183-204.

Camps-Calvet, M.; Langemeyer, J.; Calvet-Mir, L.; Gomez-Baggethun, E. (2016): Ecosystem services provided by urban gardens in Barcelona, Spain: Insights for policy and planning. In: Environmental Science & Policy. Volume 62. pp. 14-23. Online: https://www.researchgate.net/publication/293017112_Ecosystem_services_provided_b y_urban_gardens_in_Barcelona_Spain_Insights_for_policy_and_planning; last visited: 14.06.2016.

Chrysanthou, A.; van der Schrier, G.; van den Besselaar, E. J. M.; Klein Tank A. M. G.; Brandsma, T. (2014): The effects of urbanization on the rise of the European temperature

since 1960. Geophys. Res. Lett., 41. pp. 7716–7722. Online: https://www.google.de/url?sa=t&rct=j&q=&esrc=s&source=web&cd=4&cad=rja&uact=8&ved=0ahUKEwi34cP4-8DNAhVDLhoKHTkpAm8QFgg1MAM&url=http%3A%2F%2Fwww.ecad.eu%2Fdocuments%2Fchrysanthou2014.pdf&usg=AFQjCNFJI4tGuoykAouMOP0Whek--pm-kA; last visited: 16.05.2016.

Coinmill (2016): German Mark (DEM) and Euro (EUR) Currency Exchange Rate Conversion Calculator. Online: http://coinmill.com/DEM_EUR.html#DEM=4900000; last visited: 25.05.2016

Cook, J.; Oreskes, N.; Doran, P.T.; Anderegg, W.R.L.; Verheggen, B.; 8 , Maibach, E.W.; Carlton, J.S.; Lewandowsky, S.; Skuce, A.G.; Green, S.A.; Nuccitelli, D.; Jacobs, P.; Richardson, M.; Winkler, B.; Painting, R.; Rice, K. (2016): Consensus on consensus: a synthesis of consensus estimates on human-caused global warming. In: Environmental Research Letters, volume 11, no. 4. pp. 1-7. Online: http://iopscience.iop.org/article/10.1088/1748-9326/11/4/048002/pdf; last visited: 14.06.2016.

Clark, G.; Cummins, N. (2012): Urbanization, Mortality, and Fertility in Malthusian England. In: The American Economic Review (2009). Vol. 99, No. 2. Papers and Proceedings of the One Hundred Twenty-First Meeting of the American Economic Association. pp. 242-247.

Crossan, J.; Shaw, D.; Cumbers, A.; McMaster, R. (2015): Glasgow's Community Gardens: Sustainable Communities of Care. University of Glasgow. Glasgow.

Dihlmann, M. (2003): Recherche: "Vergleich und Differenzierung der Kosten für Grünflächenpflege in Berlin". Kooperations- und Beratungsstelle für Umweltfragen, Zentraleinrichtung Kooperation, Technische Universität Berlin. Berlin. Online: https://www.google.de/url?sa=t&rct=j&q=&esrc=s&source=web&cd=9&ved=0ahUKEwiL-56f3KXNAhXPJSwKHQY1A_gQFghhMAg&url=https%3A%2F%2Fwww.tu-berlin.de%2Ffileadmin%2Ffl2%2FDownloads%2Fkubus%2F27_Gruenflaechenpflege_WV_vMD_1_.pdf&usg=AFQjCNEEDcx2Xzl0EYkrBERIYZa_hJHjyg&bvm=bv.124272578,d.bGg&cad=rja; last visited: 13.06.2016.

Draper, C.; Freedman, D. (2010): Review and Analysis of the Benefits, Purposes, and Motivations Associated with Community Gardening in the United States. In: Journal of Community Practice. Volume 18, Issue 4, 2010. Taylor & Francis Group. pp. 458-492. Online: http://www.tandfonline.com/doi/abs/10.1080/10705422.2010.519682#aHR0cDovL3d3dy50YW5kZm9ubGluZS5jb20vZG9pL3BkZi8xMC4xMDgwLzEwNzA1NDIyLjIwMTAuNTE5NjgyYQEBAMA==; last visited: 23.05.2016.

Duden (2016): Problem. Online: http://www.duden.de/rechtschreibung/Problem; last visited: 12.06.2016

Egli, V.; Oliver, M.; Tautolo, E.-S. (2016): The development of a model of community garden benefits to wellbeing. In: Preventive Medicine Reports 3, 2016. pp. 348-352. Online: http://www.sciencedirect.com/science/article/pii/S2211335516300249; last visited: 03.06.2016.

Eizenberg, E. (2013): From the ground up – Community Gardens in New York City and the Politics of Spatial Transformation. Ashgate. New York.

Ernwein, M. (2014): Framing urban gardening and agriculture: On space, scale and the public. In: Geoforum 56 (2014). Elsevier. Geneve. pp. 77-86.

European Commission (2015): Towards an EU Research and Innovation policy agenda for Nature-Based Solutions & Re-Naturing Cities. Final Report of the Horizon 2020 Expert Group on Nature-Based Solutions and Re-Naturing Cities. Brussels. Online: https://www.researchgate.net/profile/Claudio_Cecchi/publication/274666772_Towards _an_EU_research_and_innovation_policy_agenda_for_nature-based_solutions_re-naturing_cities_Final_report_of_the_Horizon_2020_expert_group_on_nature-based_solutions_and_re-naturing_cities/links/5525047b0cf22e181e73bdc2.pdf?origin=publication_detail&ev= pub_int_prw_xdl&msrp=v4kL3RTjB7xk3IroVnFsBIC6-Nxh9hXCCWneqNXFLHRO2xFV_RwTRc-VUxK4vklNwehusiic3CvAnWfxVcZzLL8-oaS-yvxG2hvha9v7ws0.yVYaxJ5wn-MMR6mnIPtnLWTll8XGTQHOrkpz7wmBqs24uoSk8lP97nTCM4gSdmT_Xr11rjgxx 7jJF6fSpHC0Kg.8aSuw-MluAYR1P5TcCHIhpk5ibWrAk_MMeVqwS8KIon1WQPHrcjX2ad3MlBLy8fUg1O SpNQyhZYG9b62EZjY3Q; last visited: 14.06.2016.

Ferris, J.; Norman, C.; Sempik J. (2001): People, Land and Sustainability: Community Gardens and the Social Dimension of Sustainable Development. In: Social Policy & Administration ISSN 0144-5596. Vol. 35, No. 5, December 2001, pp. 559-568. Blackwell Publishers Ltd.

Flick, U. (2009): An introduction to qualitative research. Rowohlt Taschenbuch Verlag. Reinbek bei Hamburg.

Flick, U. (ed.) (2014): The SAGE Handbook of Qualitative Data Analysis. SAGE Publications. Los Angeles. London. New Dehli. Singapore. Washington DC.

Foxon, T.J.; Reed, M.S.; Stringer, L.C. (2009): Governing long-term social-ecological change: what can the adaptive management and transition management approaches learn from each other? Environmental Policy and Governance, Volume 19. pp. 3 – 20.

Fylan, F. (2005): Semi-structured interviewing. In: Miles, J.; Gilbert, P. (2005): A Handbook of Research Methods for Clinical and Health Psychology. Oxford University Press. New York.

Glaser, B.G.; Strauss, A.L. (1967): The Discovery of Grounded Theory: Strategies for Qualitative Research. Aldine de Gruyter. Hawthorne, New York.

Glaser, B.G. (1978): Theoretical Sensitivity: Advances in the Methodology of Grounded Theory. Sociology Press. Mill Valley.

Grünsteidel, I. (2000): Community Gardens - Grüne Oasen in den Ghettos von New York. In: Meyer-Renschhausen, E., Holl, A. (eds.) (2000): Die Wiederkehr der Gärten –

Kleinlandwirtschaft im Zeitalter der Globalisierung. Studien Verlag. Innsbruck. pp. 125-139.

Hildenbrand, B. (2010): Geleitwort. In: Glaser, B.G.; Strauss, A.L. (2010): Grounded Theory – Strategien qualitativer Forschung. Verlag Hans Huber. Bern. pp. 7-13.

Hinzen, A.; Preuß, T. (2011): Reduzierung der Flächeninanspruchnahme und nachhaltiges Flächenmanagement. In: Bock, S.; Hinzen, A.; Libbe, J. (eds.) (2011): Nachhaltiges Flächenmanagement – Ein Handbuch für die Praxis. Ergebnisse aus der REFINA-Forschung. Deutsches Institut für Urbanistik gGmbH. Berlin.

Holton, J. A. (2007). The coding process and its challenges. In: Bryant, A.; Charmaz K. (eds.), The SAGE handbook of Grounded Theory. Thousand Oaks, CA: SAGE. pp. 265-289.

Hou, J.; Johnson, J.M.; Lawson, L.J. (2009): Greening Cities - Growing Communities – Learning from Seattle's urban community gardens. University of Washington Press.

IPCC (2013): Climate Change 2013. The Physical Science Basis. Working Group I Contribution to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change. Cambridge University Press. New York. Online: http://www.ipcc.ch/report/ar5/wg1/; last visited: 11.06.2016.

IJGD (2016): Freiwilliges Ökologisches Jahr – FÖJ. Online: http://www.ijgd.de/fileadmin/content/ijgd/dokumente/02_freiwilliges_jahr/FOEJ/ijgd-flyer_foej_3-2014_web.pdf; last visited: 01.06.2016.

Kather, M. (2010): Revitalisierung urbaner Brachen – Der Landschaftspark Herzberge auf dem Weg zum multifunktionalen Freiraum? Ernst-Moritz-Arndt-Universität Greifswald. Greifswald.

Kelle, U. (2007): The Development of Categories: Different Approaches in Grounded Theory. In: Bryant, A.; Charmaz K. (eds.), *The SAGE handbook of Grounded Theory*. Thousand Oaks, CA: SAGE. pp. 191-223.

Kelle, U.; Kluge, S. (2010): Vom Einzelfall zum Typus – Fallvergleich und Fallkontrastierung in der qualitativen Sozialforschung, 2. überarbeitete Auflage. VS Verlag für Sozialwissenschaften / Springer Fachmedien Wiesbaden GmbH.

Krotz, F. (2005): Neue Theorien entwickeln – Eine Einführung in die Grounded Theory, die Heuristische Sozialforschung und die Ethnographie anhand von Beispielen aus der Kommunikationsforschung. Herbert von Halem Verlag. Köln.

Kruker, V.M.; Rauh, J. (2005): Arbeitsmethoden der Humangeographie. Wissenschaftliche Buchgesellschaft. Darmstadt.

Kropp, C. (2012): Gärtner(n) ohne Grenzen: Eine neue Politik des >>Sowohl-als-auch<< urbaner Gärten? In: Müller, C. (ed.) (2012): Urban Gardening. Über die Rückkehr der Gärten in die Stadt. oekom. München. pp. 76-87.

Kubesh, K.; McNeil, N.; Bellotto, K. (2008): The Industrial Revolution. In the Hands of a Child.

Lafferty, W.M.; Eckerberg, K. (1998): From Earth Summit to Local Agenda 21. Working towards sustainable development. Earthscan. New York.

Landesverband Berlin der Gartenfreunde e. V. (2014): Organisation der Kleingärtner, Siedler und Eigenheimbesitzer. Online: http://www.gartenfreunde-berlin.de/de/landesverband/zahlenundfakten; last visited: 24.05.2016.

Legewie, H.; Schervier-Legewie, B. (2004): "Forschung ist harte Arbeit, es ist immer ein Stück Leiden damit verbunden. Deshalb muss es auf der anderen Seite Spaß machen". Anselm Strauss im Interview mit Heiner Legewie und Barbara Schervier-Legewie. Forum Qualitative Sozialforschung/Forum: Qualitative Social Research, Volume 5, No. 3. Online: http://www.qualitative-research.net/index.php/fqs/article/download/562/1218; last visited: 20.03.2016.

Lienemann, A.J. (2015): Urban Gardening im Fokus informeller politischer Bildung und die Bedeutung für die Sozialpädagogik. Münster. Online: http://anstiftung.de/downloads/send/15-forschungsarbeiten-urbane-gaerten/100016-urban-gardening-informelle-bildung; last visited: 02.05.2016.

Macmillan (2002): English Dictionary For Advanced Learners. Macmillan Publishers Limited. Oxford.

Maller, C.; Townsend, M.; Pryor, A.; Brown, P.; Leger, L.St. (2005): Healthy nature healthy people: 'contact with nature' as an upstream health promotion intervention for populations. In: Health Promotion International. Volume 21, No. 1, 2005. Oxford University Press. Online: http://heapro.oxfordjournals.org/content/21/1/45.full.pdf+html; last visited: 06.06.2016.

Meadows, D.; Meadows, D. (eds.) (1972): The Limits to Growth. Universe Books.

Mertens, J (2015): Eine neue Welle der Umweltbewegung?. Eine explorative Studie. Technische Universität Dresden. Dresden.

Meyer-Renschhausen, E. (2010): The next big Trend. Urban Agriculture – Rückkehr der Subsistenzwirtschaft? In: Kommune 28, 2010, no. 3. Online: https://www.google.de/url?sa=t&rct=j&q=&esrc=s&source=web&cd=1&ved=0ahUK EwjKhqGw7qrNAhWB1RQKHVPqBgIQFggfMAA&url=http%3A%2F%2Fla21-trier.de%2Fwp-content%2Fuploads%2F2015%2F04%2Fstadtgaerten.pdf_jApDYb.pdf&usg=AFQjC NGWZ2SENLpOf6GTepopFKGc868psg&bvm=bv.124272578,d.d24&cad=rja; last visited: 10.06.2016.

Meyer-Renschhausen, E. (2016): Urban Gardening in Berlin – Touren zu den neuen Gärten der Stadt. be.bra Verlag. Berlin.

Miller, J.R. (2005): Biodiversity conservation and the extinction of experience. In: TRENDS in Ecology and Evolution, vol. 20, no. 8. pp. 430-434. Online: https://www.google.de/url?sa=t&rct=j&q=&esrc=s&source=web&cd=1&ved=0ahUK Ewi_7KmEjsHNAhUElxQKHZkmDFwQFggjMAA&url=http%3A%2F%2Fwww.life

.illinois.edu%2Fib%2F451%2FMiller%2520(2005).pdf&usg=AFQjCNEe4z0SDJ2sb
MtllMLgixvRikjFvA&cad=rja; last visited: 26.05.2016.

Mitchell, R.; Popham, F. (2008): Effect of exposure to natural environment on health
inequalities: an observational population study. In: The Lancet, 372 (9650). pp. 1655-
1660.

Müller (2009): Zur Bedeutung von Interkulturellen Gärten für eine nachhaltige
Stadtentwicklung. In: Gstach, D.; Hubenthal, H.; Spitthöver, M. (ed.): Gärten als
Alltagskultur im internationalen Vergleich. Arbeitsberichte des Fachbereichs
Architektur Stadtplanung Landschaftsplanung, Heft 169. Universität Kassel 2009. pp
119-134. Online:
https://www.google.de/url?sa=t&rct=j&q=&esrc=s&source=web&cd=7&ved=0ahUK
EwjF1o6Mpb_NAhUEPBQKHRiPDs8QFghNMAY&url=http%3A%2F%2Fanstiftun
g.de%2Fjdownloads%2FPublikationen%2FChrista_Mueller%2FMueller_Uni_Kassel.
pdf&usg=AFQjCNHuBoQNF5g4LRW-V07ralzdeL0LBQ&cad=rja; last visited:
26.05.2016.

Müller, C. (ed.) (2012): Urban Gardening. Über die Rückkehr der Gärten in die Stadt. Oekom.
München.

ÖBFD (2016): Ökologischer Bundesfreiwilligendienst – Informationen. Online: https://oeko-
bundesfreiwilligendienst.de/informationen/; last visited: 01.06.2016.

Peters, E. T.; Kirby, E. (eds.) (2008): Community Gardening (Brooklyn Botanic Garden All-
Region Guide). Brooklyn Botanic Garden Inc. New York.

Revi, A., D.E. Satterthwaite, F. Aragón-Durand, J. Corfee-Morlot, R.B.R. Kiunsi, M. Pelling,
D.C. Roberts, W. Solecki (2014): Urban areas. In: Climate Change 2014: Impacts,
Adaptation, and Vulnerability. Part A: Global and Sectoral Aspects. Contribution of
Working Group II to the Fifth Assessment Report of the Intergovernmental Panel on
Climate Change [Field, C.B., V.R. Barros, D.J. Dokken, K.J. Mach, M.D. Mastrandrea,
T.E. Bilir, M. Chatterjee, K.L. Ebi, Y.O. Estrada, R.C. Genova, B. Girma, E.S. Kissel,
A.N. Levy, S. MacCracken, P.R. Mastrandrea, and L.L. White (eds.)]. Cambridge
University Press, Cambridge, United Kingdom and New York, NY, USA, pp. 535-612.
Online:
https://www.google.de/url?sa=t&rct=j&q=&esrc=s&source=web&cd=1&ved=0ahUK
Ewj-2Zfcp8HNAhUC0RQKHTV9ArcQFgghMAA&url=http%3A%2F%2Fipcc-
wg2.gov%2FAR5%2Fimages%2Fuploads%2FWGIIAR5-
Chap8_FINAL.pdf&usg=AFQjCNGBVEB9RL8GsPenD9wYmvdfnRmLrg&cad=rja;
last visited: 11.04.2016.

Reynolds, R. (2010): Guerilla Gardening - Ein Botanisches Manifest. Orange-press GmbH.

Rosol. M. (2006): Gemeinschaftsgärten in Berlin. Eine qualitative Untersuchung zu Potenzialen
und Risiken bürgerschaftlichen Engagements im Grünflächenbereich vor dem
Hintergrund des Wandels von Staat und Planung. Humboldt-Universität zu Berlin.
Berlin.

Runco, M.A. (ed.) (1994): Problem Finding, Problem Solving and Creativity. Ablex Publishing

Corporation. Norwood, New Jersey.

Saldivar-Tanaka, L.; Krasny, M.E. (2004): Culturing community development, neighborhood open space, and civic agriculture: the case of Latino community gardens in New York City. Agric Human Values. Number 21. Kluwer Academic Publishers. pp. 399-412. Online: http://link.springer.com/content/pdf/10.1023%2FB%3AAHUM.0000047207.57128.a5.pdf; last visited: 25.05.2016.

Scheromm, P. (2015): Motivations and practices of gardeners in urban collective gardens: The case of Montpellier. In: Urban Forestry & Urban Greening 14. Elsevier. pp. 735-742. Online: http://www.sciencedirect.com/science/article/pii/S1618866715000151; last visited: 04.06.2016.

Schmelzkopf, K. (2002): Incommensurability, Land Use, and the Right to Space – Community Gardens in New York City. In: Urban Geography (2002), vol. 23, no. 4. pp. 323 – 343. Online:https://www.researchgate.net/publication/250171424_Incommensurability_Land_Use_and_the_Right_to_Space_Community_Gardens_in_New_York_City_1; last visited: 04.06.2016.

Senatsverwaltung für Stadtentwicklung (ed.) (2011): Stadtentwicklungsplan Klima. Urbane Lebensqualität im Klimawandel sichern. Berlin. Online: https://www.google.de/url?sa=t&rct=j&q=&esrc=s&source=web&cd=1&ved=0ahUK Ewiz4afhm7_NAhULaRQKHWfqDOkQFgghMAA&url=http%3A%2F%2Fwww.stad tentwicklung.berlin.de%2Fplanen%2Fstadtentwicklungsplanung%2Fdownload%2Fkli ma%2Fstep_klima_broschuere.pdf&usg=AFQjCNGdaB5ct1Qg9uU4VUQAIf7T0amr Ug&cad=rja; last visited: 15.04.2016.

Senatsverwaltung für Stadtentwicklung und Umwelt (2016a): Agenda 21. Berlin. Online: http://www.stadtentwicklung.berlin.de/agenda21/de/berlin_agenda.shtml; last visited: 13.05.2016.

Senatsverwaltung für Stadtentwicklung und Umwelt (2016b): Berlin-Agenda: Berlin zukunftsfähig gestalten. Berlin. Online: http://www.stadtentwicklung.berlin.de/agenda21/index.shtml; last visited: 13.05.2016.

Senatsverwaltung für Stadtentwicklung und Umwelt (2016d): Bevölkerungsprognose für Berlin und die Bezirke 2015-2030. Berlin. Online: http://www.stadtentwicklung.berlin.de/planen/bevoelkerungsprognose/download/2015 -2030/Bericht_Bevprog2015-2030.pdf; last visited: 13.06.2016.

Senatsverwaltung für Stadtentwicklung und Umwelt (2016e): Ausgewählte Grünanlagen in Pankow – Park. Online: http://www.stadtentwicklung.berlin.de/umwelt/stadtgruen/gruenanlagen/de/gruenanlag en_plaetze/pankow/park/index.shtml; last visited: 25.05.2016.

Seto, K.C.; Fragkias, M.; Güneralp, B.; Reilly, M.K. (2011): A Meta-Analysis of Global Urban Land Expansion. PLoS ONE 6(8): e23777. doi:10.1371/journal.pone.0023777. Online: http://journals.plos.org/plosone/article/asset?id=10.1371%2Fjournal.pone.0023777.PD F; last visited: 14.05.2016.

Stiftungsgemeinschaft anstiftung & ertomis (2016): Die urbanen Gemeinschaftsgärten im Überblick. München. Online: http://anstiftung.de/urbane-gaerten/gaerten-im-ueberblick; last vistited: 12.06.2016.

Strauss, A.L. (1987): Qualitative Analysis for Social Scientists. Cambridge University Press. Cambridge.

Strauss, A.L.; Corbin, J. (1996): Grounded Theory: Grundlagen Qualitativer Sozialforschung. Beltz/Psychologie Verlags Union. Weinheim.

UNDESA (2012): Challenges and way forward in the urban sector. Sustainable Development in the 21st century (SD21). Online: https://sustainabledevelopment.un.org/content/documents/challenges_and_way_forwar d_in_the_urban_sector_web.pdf; last visited: 13.06.2016.

United Nations (1987): Report of the World Commission on Environment and Development. Online: http://www.un.org/documents/ga/res/42/ares42-187.htm; last visited: 12.04.2016.

United Nations (1992a): Report of the United Nations conference on environment and development. Rio de Janeiro. Online: http://www.un.org/documents/ga/conf151/aconf15126-1annex1.htm; last visited: 12.03.2016.

United Nations (1992b): AGENDA 2. United Nations Conference on Environment & Development. Rio de Janeiro, Brazil, 3 to 14 June 1992. Online: https://www.google.de/url?sa=t&rct=j&q=&esrc=s&source=web&cd=4&ved=0ahUK EwjAw_WWo8bNAhWHBBoKHeP8A78QFggsMAM&url=https%3A%2F%2Fsustai nabledevelopment.un.org%2Fcontent%2Fdocuments%2FAgenda21.pdf&usg=AFQjC NHutYWD-DCIJlc276gqSZqOF3nWzg&cad=rja; last visited: 04.05.2016.

United Nations (2008): United Nations Expert Group Meeting on Population Distribution, Urbanization, Internal Migration and Development. Technical Report January. United Nations. New York. Online: http://www.un.org/en/development/desa/population/publications/pdf/urbanization/pop ulation-distribution.pdf; last visited: 11.03.2016.

United Nations (2015a): World Urbanization Prospects: The 2014 Revision. United Nations, Department of Economic and Social Affairs, Population Division. New York. Online: https://www.google.de/url?sa=t&rct=j&q=&esrc=s&source=web&cd=3&ved=0ahUK Ewibn-qH4afNAhUGyRQKHRa0CDMQFggtMAI&url=https%3A%2F%2Fesa.un.org%2Fun pd%2Fwup%2FPublications%2FFiles%2FWUP2014-Report.pdf&usg=AFQjCNGjJKG7cGRomwbLGdgNBpwUEAcU0Q&cad=rja; last visited: 11.03.2016.

United Nations (2015b): World Population Prospects: The 2015 Revision. Key findings & advance tables. United Nations, Department of Economic and Social Affairs, Population Division. New York. Online: https://www.google.de/url?sa=t&rct=j&q=&esrc=s&source=web&cd=7&ved=0ahUK EwimnbPG36fNAhUKwBQKHffNA4gQFghLMAY&url=https%3A%2F%2Fesa.un.o

rg%2Funpd%2Fwpp%2FPublications%2FFiles%2FKey_Findings_WPP_2015.pdf&us
g=AFQjCNEDu0SqRISgx0T1oZt6vqdjSrCJog&bvm=bv.124272578,d.d24&cad=rja;
last visited: 13.05.2016.

WCED (1987): Our Common Future. World Commission on Environment and Development.
Oxford University. Oxford.

Werner, K. (2012): Eigensinnige Beheimatungen. Gemeinschaftsgärten als Orte des
Widerstands gegen die neoliberale Ordnung. In: Müller, C. (ed.) (2012): Urban
Gardening – Über die Rückkehr der Gärten in die Stadt. oekom Verlag. München. pp.
54 – 75.

WMO (2016): 2015 is hottest year on record. Press Release Number: 2. World Meteorological
Organization. Geneva. Online: http://public.wmo.int/en/media/press-release/2015-
hottest-year-record; last visited: 13.05.2016.

Wolf, D. (2016): Zusammenwachsen. Interkulturelles Gärtnern in Gemeinschaftsunterkünften
als Integrationsstrategie für Flüchtlinge. Universität Rostock. Online:
http://anstiftung.de/downloads/send/15-forschungsarbeiten-urbane-gaerten/100027-
zusammenwachsen; last visited: 17.06.2016.

Wunder, S. (2013): Learning For Sustainable Agriculture: Urban Gardening In Berlin with
particular focus on Allmende Kontor. SOLINSA Show Case Report. Ecologic Institute.

Zacharias, M.; Hehl, F.; Halder, S.; Martens, D. (ed.) (2014): Sustainable Community
Gardening in Cities. Hortis. EU. Online:
https://www.google.de/url?sa=t&rct=j&q=&esrc=s&source=web&cd=1&ved=0ahUK
EwiU59Wph4_NAhXMjCwKHQ-
zDHgQFggcMAA&url=http%3A%2F%2Fwww.hortis-
europe.net%2Ffiles%2Fdocumenti%2Finglese%2Ffinal-e-
books%2Fhortisebook1en.pdf&usg=AFQjCNHWfl1XtX5LLrawIXPQLJIHEDLwFw
&cad=rja; last visited: 20.03.2016.

Zick, C.D.; Smith, K.R.; Kowaleski-Jones, L.; Uno, C. Merrill, B.J. (2013): Harvesting More
Than Vegetables: The Potential Weight Control Benefits of Community Gardening. In:
Research and Practice. American Journal of Public Health. Vol. 103, Number 6. pp.
1110-1115. Online:
http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3698715/pdf/AJPH.2012.301009.pdf;
last visited: 20.05.2016