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Master Thesis

Social Dimension of Edible Cities Solutions in Berlin's Disadvantaged Neighborhoods

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Abbreviations

ECS: Edible City Solutions
NBS: Nature Based Solutions
EdiCitNet: Edible Cities Network
CG: Community Garden
NGO: Non-Governmental Organization
SIA: Social Impact Assessment

1 Introduction

1.1 Motivation

The motivation for this master thesis comes from my desire to better understand contemporary challenges in cities and to explore possible solutions. My great interest in projects linking the food system, agriculture, people and their participation fueled my wish to join the Edible Cities Network (EdiCitNet) project to work on this topic. I strongly wish to see greener and more social cities, where the human-nature connection is supported to tackle social and environmental issues. However, social problems and disadvantaged neighborhoods are unfortunately still very neglected in the debate on climate protection and urban growth. Yet, it is necessary to include every element of the city system in the search for a more sustainable future, especially the social aspects, which are an integral part of the three pillars of sustainability (social, economic, environmental) according to the scientific literature (Purvis et al., 2019).

There exist solutions to social and environmental challenges currently discussed that bring together nature, the food system and the people, such as Edible City Solutions (ECS). The interest of my research and the aforementioned project together with the city of Berlin (partner of this thesis through the EdiCitNet) lies in exploring the following questions: How to integrate ECS in an effective and meaningful way? How to know if these initiatives have a significant social impact to alleviate social problems?

1.2 Background and Problem

Cities are facing many challenges today. The current global situation that combines socio-ecologic consequences of climate change (migrations, decrease of biodiversity, food scarcity, etc.), increasing urbanization, natural resources depletion and social injustice depicts a crisis that many agree to be concerning (Cohen-Shacham et al., 2016; Ives et al., 2018; Mell & Clement, 2019). The effects of this crisis are found everywhere in the world, regardless of the country or the region. However, a constant migration towards cities and thus, an increase of the urban population makes them a place that concentrates these issues even more (Cabannes & Raposo, 2013). It is now expected that 80% of the human population will live in cities by 2050 which represents a significant amount of people concerned by the effects of this crisis. Therefore, cities need to adapt and look for solutions to cope with the many arising challenges (Hanson et al., 2019).

The challenges present in the cities at the moment are very diverse. In this work, it was chosen to focus on social problems, and more precisely, the link between nature, food system and social problems. In fact, the increasing urbanization diminishes the amount of green spaces in the cities, and the distance between food production and food consumption places increases as well as pollution and temperatures (Campbell, 2009; Egerer et al., 2018; Hanson et al., 2019). At the same time, there is an urgent need to foster environmental protection and alleviate certain social issues like: lack of social cohesion, poor health and exclusion of marginalized groups (Hanson et al., 2019; Säumel et al., 2019). Other social challenges denounced by scholars are health problems, both mental and physical, as well as food insecurity meaning no access to healthy food but also a lack of food education, impoverishment and a lack of opportunities for certain minorities (Campbell, 2009; Pinna, 2017). In cities, these social issues are particularly concentrated in so-called disadvantaged neighborhoods, where the population experiences them at an above-average level and suffers from a lack of opportunities compared to the rest of the city (Masson, 2016). In Berlin, the focal spot of this

thesis, disadvantaged neighborhoods are also very present and the city is actively looking for ways of addressing the problems experienced by their population (Quartiersmanagement Berlin, 2020).

Solutions to these previously described societal and environmental problems are currently discussed and implemented. One of them are the Nature-Based-Solutions (NBS), that are defined as "actions based in nature that should meet societal challenges" (Hanson et al., 2019, p. 2). A sub-concept of NBS, the Edible-City-Solutions (ECS) also aim at targeting social challenges but act from within the urban food system. ECS are defined as: "activities, services and products, integrated in the NBS framework, related to urban food production" (source: internal document of EdiCitNet). These are to be found mostly in Europe but are also present in other areas of the world. This concept claims having a wider socio-cultural and socio-economic aspect than NBS that targets mainly the environmental issues, fostering elements like citizen empowerment and food security, among others (Hanson et al., 2019; Säumel et al., 2019). The idea of NBS and other related concepts is following the theory that we need to work with and not against nature to create change (European commission, 2015; Säumel et al., 2019). In this thesis, the focus will be on the ECS as solution to cope with certain social challenges. The ECS concept has been launched through the project Edible Cities Network (EdiCitNet) in September 2018. The goal of this project is to explore how ECS act as a tool in creating sustainable cities in different contexts and create a worldwide network of ECS, as well as facilitate their future implementations in cities. One of the goals of ECS being alleviating social issues (EdiCitNet, 2019). One of the partner-cities of EdiCitNet where the project was initially launched is Berlin, the city on which this thesis will focus and more precisely, the context of Berlin's disadvantaged neighborhoods. Berlin has also been implementing since 1999 the program *Soziale Stadt* [social city], a social program that creates initiatives, in participation with the inhabitants, to enhance their quality of life. Some of them can be considered as ECS (e.g. mostly community gardens (CGs), food saving activities, therapeutic gardens, etc.) (EdiCitNet, 2018; Quartiersmanagement Berlin, 2020). The project EdiCitNet and the city of Berlin are trying to understand how the concept of ECS can be used to tackle societal issues in disadvantaged neighborhoods of Berlin.

The ECS concept has a vast potential to target social issues while providing environmental solutions. Nevertheless, some scholars warn these types of frameworks (NBS, ECS, etc.) target at too broad issues. While acting as "one-size-fits-all" concept they do not sufficiently target at specific social issues (Colléony & Shwartz, 2019; Mell & Clement, 2019). In fact, in the area of social projects, linking nature and social issues, there is often a lack of specificity in the analysis of how the impacts are created. Other scholars recommend looking at the process rather than only the outcome (Artmann & Sartison, 2018; Schmutz et al., 2018). Oftentimes, research focuses on the output. Some emphasize the fact that holistic assessment processes are lacking, which means that more participatory approaches should be used in future research. Oftentimes, research focuses on the outcome, but processes are important, create more lasting impact and serve the stakeholders interest as well (Chevalier & Buckles, 2019; van Asselt et al., 2014). Overall, literature on the assessment of these types of initiatives focus on the economic aspects or the ecological ones, but rarely on the social aspects only. Being an integral part of the ECS concept, it seems necessary to research on these. Many project assessments, as well as EdiCitNet need complementary work from a social perspective developing indicators lists referred to the environment and economy but scantly address social concerns other than well-being and health (Beilin & Hunter, 2011; Schmutz et al., 2018; Schram-Bijkerk et al., 2018; van Asselt et al., 2014). For a concept that aims at targeting the social challenges, that are very diverse and take different shapes, it seems necessary to focus our attention on social effects and try to understand how ECS can act at this particular level. Bearing in mind the scientific critics and the fact that ECS is a recent concept launched in 2018, there are not yet many factual arguments in favour of a future regular implementation of ECS in the urban planning. The project EdiCitNet as well as the city of Berlin seek more knowledge on possible barriers to ECS development,

and a way to assess the social impact of these projects in solving social issues (Member of the Berlin's city team also involved in *Soziale Stadt*, Personal communication, December 2018).

In this regard, this thesis aims at exploring all these aspects and create more knowledge on the social impacts targeting social problems and resulting in a holistic and adapted assessment approach. This work can be seen as a pioneer research in the field of ECS social impacts (specifically CGs) on providing recommendations for city planners, EdiCitNet and ECS owners or creators. In the framework of the project EdiCitNet and in relation to the city of Berlin, this thesis aims at creating knowledge on how ECS can contribute to solve social problems in disadvantaged neighborhoods, particularly in Berlin, in order to facilitate its future implementation in different or alike contexts and explore ways of assessing their success. The approach will be of integrating local stakeholders in the research process to create more relevant information.

This thesis is organized as follows. The first chapter gives a brief overview of the conceptual framework which means the research questions and the objectives around which the scientific work is constructed. The third chapter analyses the current available literature on the topics of ECS, disadvantaged neighborhoods and social issues relevant for this context, the specificity of Berlin and the assessment of social impacts for these types of initiatives. A theoretical framework for this thesis is proposed in chapter 4 presenting the main concept and the basis of this thesis. The methodology is described in the fifth chapter. The results are displayed in chapter 6 and important findings are discussed in chapter 7. Finally, the conclusions are drawn in the chapter 8.

2 Conceptual Framework

This chapter contains a brief description about the overall research approach and the design for the research project of this master's thesis.

2.1 Research Objectives

Following the problem stated in the introduction, the main objective of this thesis is to contribute to the knowledge on the relevance of ECS in the work on social challenges in cities and especially in disadvantaged neighborhoods of Berlin. The outcome of this research should be used as recommendations for future ECS owners or creators, the project EdiCitNet and city planners. In regard to the specific areas that need more research previously outlined in the introduction, the specific objectives are:

Objective 1:
Gather knowledge on the specific social impacts created by ECS that would target the social issues present in disadvantaged neighborhoods.

Objective 2: To understand the processes that are behind the creation of social impacts, which means to learn not only about the outcome of ECS implementation, but also how they practically create them.

Objective 3: To formulate recommendations for the project EdiCitNet and the city of Berlin about the assessment of ECS's social impacts that help alleviate social issues present in disadvantaged neighborhoods.

2.2 Research Questions

The previous objectives lead to the following research questions:

Research question 1: What are the social impacts of ECS that can help solving social issues?

This question concentrates on the exploration of the social impacts produced by ECS and how these can help alleviating specific social issues present in disadvantaged neighborhoods.

Research question 2: What are the practices and features of Berlin's ECS that deliver these social impacts or hamper them?

This question focuses on the practical way in which ECS are creating the social impacts that are needed to alleviate social issues. Practical way, which means, the organizational structures, the features that certain ECS have, etc. will be explored in the analyzed ECS.

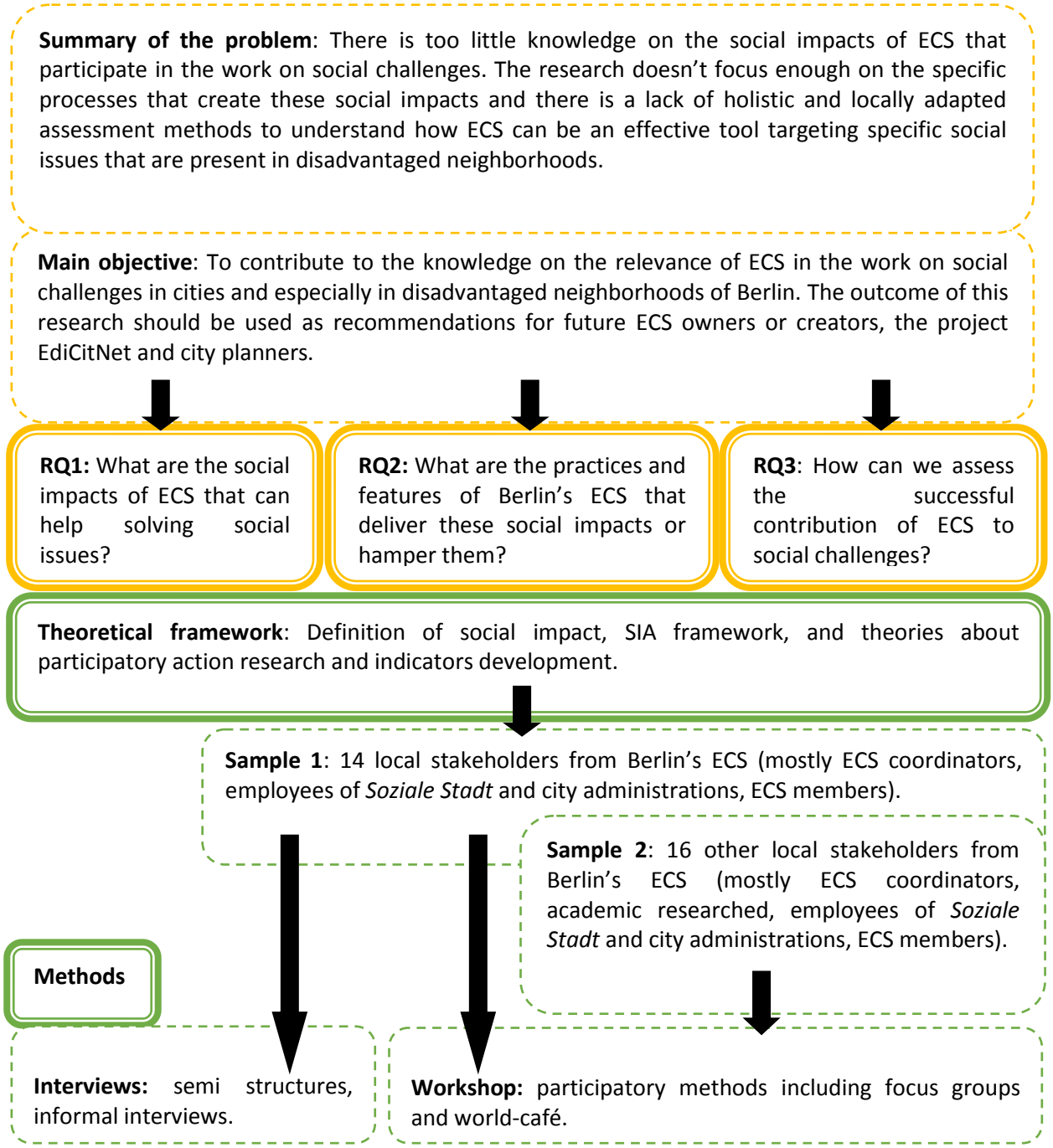
Research question 3: How can we assess the successful contribution of ECS to social challenges?

This question will allow to find out about adapted and locally relevant ways of assessing ECS's contribution on solving social issues, first in disadvantaged neighborhoods of Berlin, but also beyond. Through this last question, recommendations on monitoring will be generated for the project EdiCitNet as well as the city of Berlin, and beyond, to city planners, in order to potentially support the argument that ECS are an adapted tool for solving social problems.

2.3 Outline of the Thesis

The following figure shows the outline of thesis and which research objectives, questions, theory and methods are used to work on the scientific problem.

Figure 1 Outline of the conceptual framework of the thesis



3 Literature

This chapter will give an overview of the state of the art of the relevant actual scientific literature concerning the topic of ECS in disadvantaged neighborhood and their assessment. First, the NBS framework will be explained since it is the larger framework including the ECS. Then ECS and the project EdiCitNet as context for this work will be defined. In this chapter, relevant indications about disadvantaged neighborhood and the city Berlin will be presented as well as the current status of the scientific literature concerning the social impact of ECS and its assessment.

3.1 The overarching framework of Nature Based Solutions (NBS)

Currently, different official definitions for NBS by the European Commission and the IUCN (International Union for Conservation of Nature) exist. Both of them emphasize the fact that NBS are "actions based in nature that should meet societal challenges" (Hanson et al., 2019, p. 2). The IUCN focuses more on protecting or restoring natural ecosystem along with bigger concerns for biodiversity protection (Cohen-Shacham et al., 2016), although the European Commission also comprehends initiatives simply inspired by nature and focuses in general more on the economic (cost-efficient) and innovative aspect of it (European commission, 2015). Finally, both mention the importance of having the stakeholders involved in the process, which is an important similarity with the ECS approach (Säumel et al., 2019). Some scholars though, mention NBS as being mainly a tool designed to tackle environmental challenges, while optionally addressing societal concerns (e.g. public health) (van den Bosch & Sang, 2017).

Whether the aim is more targeted at creating sustainable economic businesses, mitigating environmental problems or working on social issues, the NBS framework can encapsulate a large range of initiatives with very diverse means and types of projects. NBS are mostly used in cities or in peri-urban areas (Dorst et al., 2019) and the name NBS itself is mostly used in the countries of the "Global-North" (van der Jagt et al., 2017).

Many research articles depict installations in the area of public health. E.g. for mental health with horticultural therapeutic gardens (Vujcic et al., 2017), to mitigate the effect of allergenic tree species (Cariñanos et al., 2017) or to solve water pollution issues (Liquete et al., 2016). Other environmental challenges are being handled through NBS like urban runoff and flood mitigation (Cherqui et al., 2019; Zölch et al., 2017) or heat stress (Heim et al., 2018) often reduced via green infrastructures like parks, urban forests, green roofs or urban gardens.

Most of the scientific articles on NBS have been published in the last ten years. In the past two years the number of articles published on this topic has almost doubled, switching from the innovative aspect of the concept and its benefits to the assessments of their impacts as well as some criticisms (Hanson et al., 2019). Additionally, through the reviewed articles for this state of the art, the NBS framework has been almost always associated with other concepts, like the green economy, smart solutions (European commission, 2015) and also "green, blue and nature infrastructure" or "ecosystem service framework" (Dick et al., 2019). Some scholars place NBS in the larger group of the "green concept family", which aims are "to analyze, describe and communicate the interdependence between nature and society" (Hanson et al., 2019, p. 1) . Examples of these concepts are: "green spaces", "green infrastructure", "resilience", etc. The latest being the NBS concept.

3.2 Explaining the concept of Edible City Solutions (ECS)

ECS is another framework embedded in the "green concept family", launched through the project EdiCitNet in 2018. It is a sub-group of the NBS framework. The term ECS will be explained and presented in the first part of this chapter as it now exists in the current scientific and grey literature. In the second part, the reader will understand what is the project that launched the concept of ECS and how this thesis is embedded in it.

3.2.1 Definition of Edible City Solutions

The term ECS describes the "products, activities and services of all the initiatives that, comparably to the NBS, use nature and take inspiration from it, to create solutions for healthier, more inclusive, ecologically, economically and socially sustainable cities." (source: internal document of EdiCitNet). The main difference with the NBS framework lies in the fact that ECS choose to act within the urban food system, framing specifically initiatives that relate to the urban food production (EdiCitNet, 2018; European Commission, 2019; Säumel et al., 2019). To be more specific about its link to the NBS framework, the European Commission seems to place it as a subgroup within the NBS framework, whereas scholars precise the important differences between NBS and ECS regarding the social aspect (EdiCitNet, 2018; European Commission, 2019; Hanson et al., 2019; Säumel et al., 2019).

The term "Edible City" is not new, coming from the concept of continuously productive urban landscapes appearing in the city of Todmorden in England for the first time in 2008 through the initiative *Incredible Edible* (Scharf et al., 2019, p. 2; Viljoen & Wiskerke, 2012). However, the appearance of the exact term "Edible City Solutions" in the scientific literature is still very scarce. It is most used in the EU H2020 project named *Edible Cities Network* (EdiCitNet) within which this thesis is embedded, as well as in scientific papers linked to or deriving from this project, e.g. this article by Säumel et al. (2019): *Edible City Solutions—One Step Further to Foster Social Resilience through Enhanced Socio-Cultural Ecosystem Services in Cities*. While there are criticisms of the NBS framework about the fact that it encapsulates a too broad variety of projects, lacking of context specificity and therefore failing to address societal problems, scholars point out the further step that ECS take in their approach (Säumel et al., 2019).

Beyond using and even amplifying the benefits of the NBS's ecosystem services, ECS are supposed to be participatory, targeting various social groups and working on societal problems like isolation, poverty, food insecurity and more. They are focused on food production and/or consumption within the city and have a positive ecological impact. Factually, ECS producing food should have a closed loops system of energy, nutrients, water, waste and nutrients. Other types of ECS can also be specialized in the processing or the consumption of food products. This way, ECS are either focused on "urban food production, food processing, use or related services and activities." Examples of these initiatives can be edible urban green areas or forests, gardens (e.g. school garden, allotment or CGs) and edible plantations on buildings (e.g. roofs, facades, etc.). But intensive forms of agriculture are excluded, unless managed in a "sustainable way". ECS can also be commercial initiatives like aquaculture, commercial indoor farming, etc. (European Commission, 2018; Säumel et al., 2019). EdiCitNet also includes elements like "the locally produced edible products, raw or processed, and food related services/activities such as, workshops, composting, pest management, water treatment, food festivals and crowd farming, etc." considered as being outputs of ECS (source: internal document of EdiCitNet). Figure 2 below represents examples for some ECS as well as the benefits they provide.

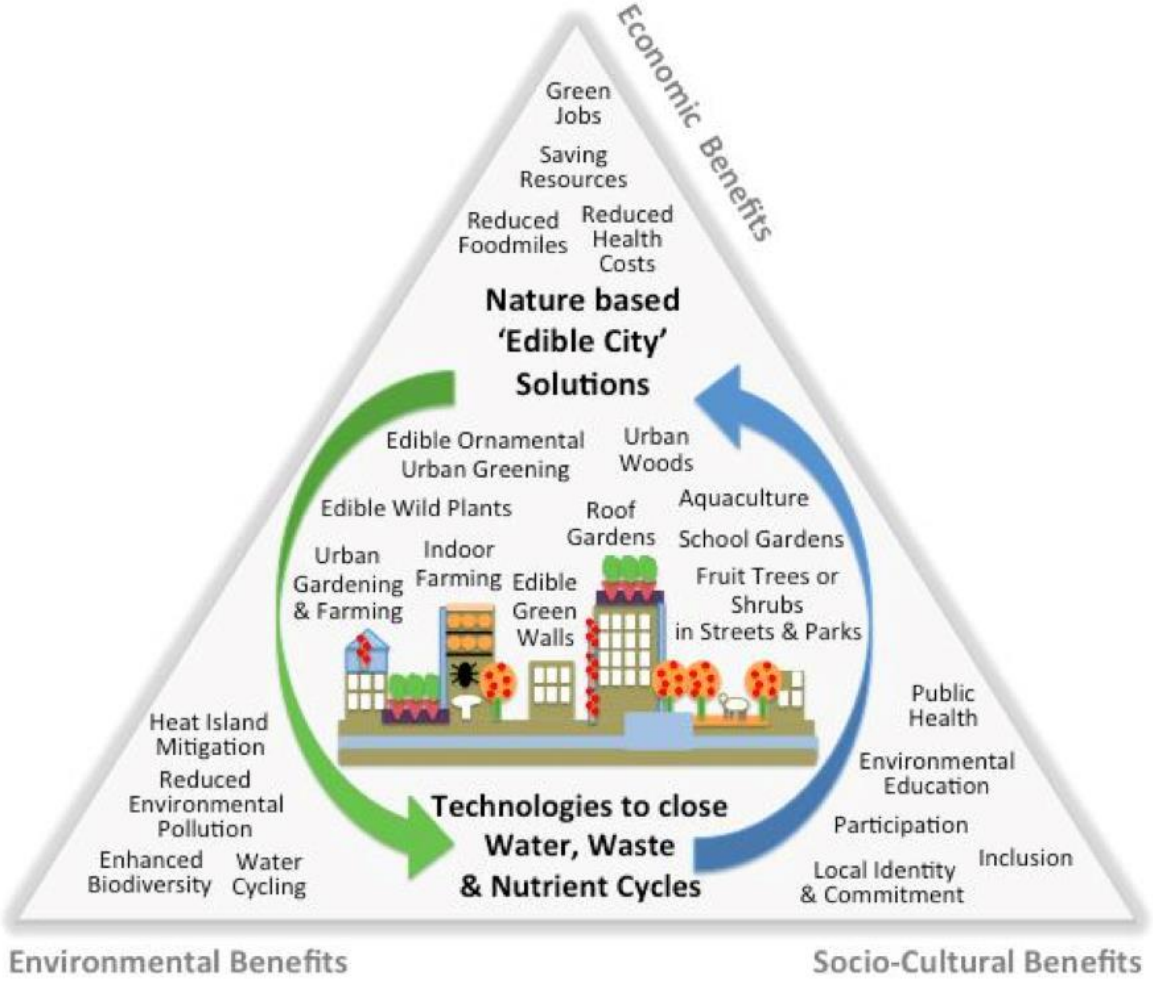


Figure 2 Examples for nature based ECS and benefits. Extracted from Säumel et al. (2019)

3.2.2 The project Edible Cities Network (EdiCitNet)

EdiCitNet is a project launched on the 1st September 2018 funded by the European Commission for 5 years in the context of Horizon 2020. The launching of EdiCitNet was coordinated at the Technische Universität and Humboldt Universität, with IRI THESys and led by Dr. Ina Säumel. Its principal aim is to understand the effect and functioning of different existing ECS, in various cities in Europe and worldwide, in order to enable the replication of these initiatives in further cities to work actively towards a transition to healthier, ecologically and economically sustainable cities. (European Commission, 2019)

Through the project, an international network of experts, universities and non-governmental organizations (NGOs) is being developed, all units working on different aspects of the project. This network also includes the cities and their knowledge combined with their administrative authority taking actively part in the project, gathering and integrating the knowledge and the practices of a local context, also with the local small to medium businesses. Every city targeted by the project is also represented by a city team with members of the different fields. Their role is to coordinate at the local level the action of all the previously mentioned actors. Some of the tasks in the project are e.g. systematically understanding the impacts of ECS, developing adapted indicators, understand how to replicate the initiatives and their related positive effects, how to make the benefits lasting,

spreading the knowledge on ECS for future implementation, etc. ("Edible Cities Network," 2019; EdiCitNet, 2019; European Commission, 2019)

More specifically, in 5 cities, the Front Runner Cities (FRCs), Living Labs are launched through the project and supported by cities authorities, NGOs and university research institutes. The aim there is to establish proven tools for the ECS since these cities are immersed in important challenges. Meanwhile, in the Follower Cities (FC), knowledge is gathered from the different existing ECS in their own specific contexts and a master plan for a sustainable and long-lasting implementation of ECSs is created. During this time, there is an ongoing exchange of information between FRCs and FCs. These cities are the base for experimenting ECS implementation, future use and planning, as well as a source for knowledge sharing on the topic. All the cities are situated in different European settings as well as in Central America, Africa and East Asia. ("Edible Cities Network," 2019; European Commission, 2019) (EdiCitNet, 2018) One of the follower cities is Berlin, the case study of this thesis.

3.3 The context of disadvantaged neighborhoods in Berlin

3.3.1 The meaning behind "disadvantaged neighborhoods"

At this point of the literature review, it seems necessary to explain what disadvantaged neighborhoods mean since this thesis focuses on ECS social dimension in these specific urban areas. This section will therefore present a definition of this term from a scientific point of view, the definition used by the project and the city of Berlin as well as a description of the main characteristics of these areas.

The term predominantly used in the literature and in other discourses today is "disadvantaged". It is also the term adopted by Berlin city, the case-study of this thesis and its social program *Soziale Stadt* and it will also be the one used in this thesis. Other terms like "problem districts or neighborhood" or "social hotspots" and sometimes "neighborhoods of exclusion" or "devalued spaces" are also often recurring but sometimes criticized by scholars because they have different focus. (Blasius & Friedrichs, 2000; Masson, 2016) For example, the term "problem neighborhood" tends to project usually complex and problematic situations on a neighborhood that might only have neglected building structures or in which a low-income population lives. (Keller, 2015)

Now, what is exactly meant by the term *disadvantaged* is an important question. These areas are considered by the Berlin's social programs as "areas with special development needs" (Bundesministerium des Innern für Bau und Heimat, 2014), where the "social statistics are not good as they could be" (NM2, personal communication, January 2019). This term is therefore used to describe certain areas that show several drawbacks according to some sets of indicators. The diversity of indicators used to determine urban areas as such is immense. Some examples of mainly used indicators are focusing on the social aspect: above-average share of households receiving social assistance, above-average share of unemployed, poorly equipped housing, low school education or high proportion of early school leavers; high crime rate; above-average proportion of teenagers with children. Berlin's program *Soziale Stadt* also uses a definition for disadvantaged neighborhoods with social indicators: If the usual status indicators of education, occupation and income are taken as a measure of social disadvantage, then, disadvantaged districts can be defined by the fact that a higher proportion of socially disadvantaged people live in them. Some programs or scholars (e.g *Soziale Stadt*) are sometimes including urban architecture elements into the definition, e.g. "structural deficiencies" and elements from the resident structure, e.g "concentration of households with multiple social problems". Indicators such as the proportion of foreigners or, if available, the

proportion of persons with a migration background are also frequently used. (Blasius & Friedrichs, 2000; Bundesministerium des Innern für Bau und Heimat, 2014; Masson, 2016)
To conclude, with the term disadvantaged, the most considered aspect is therefore primarily the social situation of the residents, in addition, some characteristics of the neighborhood such as its building fabric, infrastructure and location. (Bundesministerium des Innern für Bau und Heimat, 2014; Keller, 2015; Masson, 2016).

3.3.2 Data regarding the city of Berlin

Berlin is the capital and the largest city of Germany, situated in the North-Eastern part of the country. Institutionally speaking, it is also a state-city being one of the 16 constituent *Länder* (states). Berlin has a central government and 12 *Bezirken* (district) governments. It is also, as explained above, one of the follower-cities of the project EdiCitNet (EdiCitNet, 2018; Reuter & Joseph Erb, 2020).

Berlin's area is of 892 Km^2 and its population density of 4090/km^2. With its approx. 3.6 million inhabitants, it is today the eighth most populated city in the European Union. It is also seen as the most "green-city" in Europe, with 40% of the total surface being considered as blue or green zones. Within, 14.5% are public green areas. In these green areas exist many initiatives and projects that can be counted as ECS (Kabisch et al., 2017; Statista, 2019; Statistisches Bundesamt, 2019).

Currently, the population of Berlin is still increasing, with an estimation of reaching 3.75 million within the next 10 years. One of the challenges for urban planners is the preservation of green zones while providing the population with enough housing (Reuter & Joseph Erb, 2020; Statista, 2019).

3.3.3 Disadvantaged neighborhoods in Berlin: Emergence and current situation.

Speaking of the population, Berlin has been multi-ethnic during the major part of its history. Today, 22.2 % of the total population is of "foreign" origin, which means people who do not have German citizenship. Around the beginning of the 1990s a large number of people moved to Berlin, and the flow of immigration is, since then, constantly increasing the number of total inhabitants. Since 1991, the amount of people leaving and coming to the city every year is between 100 000 and 145 000, which contributes to a migration and emigration flow way higher than the German average. This creates a constant modification of the demographics in the city, but also at the level of the districts, situations are changing. This epoch is also represented by an increased pauperization phenomenon, which means a reduction of the financial stability for many people. As a result, high-income households move out from districts with less opportunities, low infrastructures, etc. while at the same time, low-income families tend to gather in the so-called disadvantaged neighborhoods. Added to the economic difficulties, these areas suffer from low access to diverse city opportunities, and other social challenges as described further in this section (Quartiersmanagement Berlin, 2020; Reuter & Joseph Erb, 2020; Statistik Berlin Brandenburg, 2020; Statistisches Bundesamt, 2019).

The definition of the sociologist Carsten Keller who analyzed the case of many cities worldwide including Berlin offers a descriptive overview of the main characteristics of these areas. Knowing them gives us a useful base to think of the possible impacts of ECS on the social dimension.

Keller points out the often-appearing correlation between the concentration of low status residents in certain districts with the number of inhabitants having a migration background. This phenomenon happens worldwide and is explained by the fact that ethnic minorities are often disproportionately affected by poverty (Keller, 2015). As for the location, there are two major trends for disadvantaged neighborhoods. Some are situated close to the city center, historically a place of living for workers in

industrial areas or near traffic axes. Typically, in Berlin, this kind of areas are located in Neukölln, Wedding and Kreuzberg. Moreover, there is the tendency of the inner-city districts to have a rise in rents and to force the households with lower economic status to move to the urban fringe area. Therefore, another type of neighborhood frequently affected by social disadvantages are the large housing estates (built in the 80's in East-Germany), originally only oriented for housing, on the outskirts of cities, e.g. in Berlin Gropiusstadt in Neukölln or some parts in Marzahn-Hellersdorf. Other negative characteristics of disadvantaged districts are often the traffic and noise pollution, neglected building fabric and reduced maintenance of buildings and apartments. Keller also describes a lack of offers from cultural aspects to goods for daily use, due to a lack of purchasing power, and a poorly developed or frequented public transport system, mostly for areas on the outskirts. People living in these neighborhoods experience, therefore, a more difficult access to many opportunities than the rest of the city. It is also reported that authorities discriminate people based on their status. In some cases, negative social learning, as some scholars name it, based on the lack of positive role model in the life of young people, are leading to violence or similar behaviors. Social exclusion or isolation of certain groups of people (e.g. elderly, unemployed) is also a very common issue in these areas, even if present at the scale of the entire city. To conclude, the life in disadvantaged neighborhoods can be a trigger to create further disadvantaged living conditions due to a lack of potentials.
However, some positive aspects are also presented. For example, in the places where the support networks were developed occurred less discrimination based on the social status or the migration background than in the rest of the city.
Finally, it is important to say that these aspects cannot be generalized to all of the neighborhoods considered as disadvantaged and that the particular situations depend on the context. Some areas might have good infrastructures for its inhabitants, but still low employment rate and marked by economic difficulties for many. Some might be more affected by violence and crime than others. According to the scholars, there is no such phenomenon as a "typical disadvantaged neighborhood" (Keller, 2013, 2015; Masson, 2016; Neef et al., 2007).

3.3.4 Berlin's social programs for disadvantaged neighborhoods

During the end of the 90's Berlin experienced some socio-demographic changes and economic difficulties as explained in the previous sections. In this context, in 1999, in many cities as well as in Berlin, the German government launched the program *Soziale Stadt* to support neighborhoods considered as "areas with special development needs". This program is part of the "support program and strategies for lively quarters" implemented in various cities at the same period to tackle societal challenges in disadvantaged neighborhoods. In Berlin, a neighborhood management was created in every area of need. Since then, it has aimed at creating improvement in the life of their dwellers via various projects and stabilizing their positive impacts on the community. The neighborhood management get funds from the city in order to create and implement projects in participation and in consultation with the concerned population. The initiatives are therefore always adapted to the needs of the inhabitants and often proposed by them. In each concerned neighborhood, there are between 4500 and 24000 residents and today, there are 36 neighborhood managements spread in different districts of Berlin. The aim of the project *Soziale Stadt* is to "give a voice to the community, empower, enhance the everyday life and create social cohesion". (Bundesministerium des Innern für Bau und Heimat, 2014; EdiCitNet, 2018; European Commission, 2018; Quartiersmanagement Berlin, 2020; Stadtentwicklung Berlin, 2015)

The link between Berlin, the program *Soziale Stadt* and EdiCitNet is the following: some of the initiatives implemented by the neighborhood managements via the program *Soziale Stadt* can be included in the ECS framework, which are mostly CGs and allotment gardens, education projects, and food saving initiatives, among others. Some initiatives considered as ECS are not funded by the

program *Soziale Stadt* but are also examined by the project because of their relevance in disadvantaged neighborhoods. They are all places of encounter between neighbors, an opportunity for outdoor and educational activities and a spot for biodiversity development. They aim at creating positive dynamics in the disadvantaged neighborhoods, develop social cohesion and enhance the life quality of the inhabitants according to the EdiCitNet websites. However, these objectives face some challenges due to urban planning difficulties, inherent to the city of Berlin, which makes it hard to fulfill the goals for disadvantaged neighborhoods. Besides, the concept of ECS via the project EdiCitNet, framing and supporting and understand these initiatives are still very recent (EdiCitNet, 2018; European Commission, 2018). Some specific needs for research concerning the project EdiCitNet and the ECS within the program *Soziale Stadt* are: How can we better implement new ECS? What are the problems? What are the success factors? How can ECS be better supported? And how could ECS be secured in the long term? (Member of the Berlin's city team also involved in *Soziale Stadt*, Personal communication, December 2018) How these questions will be answered will be explained in the theoretical framework.

3.4 Assessing the social impacts of ECS and similar projects

This section takes a closer look at the already existing literature regarding the social dimension of projects that enter in the ECS framework as well as how these social impacts are being assessed. Some limitations and need for research will be outlined. As previously mentioned, literature about ECS is still very scarce. But if we look at what types of initiatives enter in the ECS framework given its definition, a larger portion of scientific literature becomes available. Thus, for this part, literature about CGs, urban gardening, Short-Food-Supply-Chains in the city context, small-scaled commercial urban farming, as well as school gardens and similar programs or collective food recycling projects will be considered since the ECS landscape of Berlin is mostly represented by these types of initiatives.

3.4.1 Reported social impacts of ECS in the scientific literature

This section presents what current scientific literature says about the social dimension of projects entering in the ECS framework. The projects are combined with the social challenges they target.

ECS can tackle social exclusion through the creation of inclusive communities. Groups like unemployed youth, seniors, migrants and low-income households are suffer most from social exclusion in disadvantaged neighborhoods. A good illustration of successful inclusion is a study by Cabannes and Raposo (2013) conducted in London among allotment gardens. These gardens, coordinated by the city administration have the same right to access for every person disregarding the ethnicity, class, gender, etc. The results showed there was an exchange of knowledge, skills, culture and values, bringing cohesion and community feeling for individual migrants included in the project in a non-migrant district. Also, various research studies have already demonstrated that urban agriculture is a successful way to integrate minority groups within the socio-economic system (Beckie & Bogdan, 2010; Cabannes & Raposo, 2013; Corcoran & Kettle, 2010; Mougeot, 2006; Redwood, 2009). Given that disadvantaged areas are often situated at the peripheries of the city, diverse initiatives help creating more cohesion between periphery and city center including urban gardening (Timpanaro et al., 2018).

Some projects target financial issues and lack of opportunities. Like some studies show, engaging a group in a small-scale garden project for commercial purpose is seen as a mean of overcoming some social and economic problems, offering good financial stability for low-income target groups in general, and by the same occasion, more opportunities due to a higher income. Besides, short food supply chains, and particularly CSAs are creating promising dynamics through the financial support of

city farmers by customers, building mutual trust and creating a more cohesive environment (Beckie & Bogdan, 2010; Poulsen et al., 2017; Schmutz et al., 2018; van Averbeke).

Concerning food insecurity, some studies worldwide have shown a correlation between concentration of poverty, households suffering from hunger and high amount of urban agriculture projects. These single initiatives produce fresh food for the households at smaller costs, create bonds among farming people and educate about food and nutrition. The advantages observed via many case-studies in this context allowed to state that urban agriculture is a major element in the discourse for food sovereignty in general and security for very low-income families in certain marginalised areas (Cabannes & Raposo, 2013; Espinosa Seguì et al., 2017; Meenar & Hoover, 2012; Nail, 2018). There is a positive correlation between urban horticulture for food security along with economic topics. Research studies refer often to non-commercial gardening like allotment or CGs that are a direct supply of fresh food for the neighborhoods or single households. The food security aspect is coming from the saving of expenses for food produce. In some cases, urban gardens are also small-scaled commercial ones selling the produce to the neighborhood allowing people with financial difficulties to make an additional income (Hamilton et al., 2014; Loopstra, 2018; Orsini et al., 2013; Poulsen et al., 2017).

The current scientific literature shows that many projects entering in the ECS framework can benefit areas and communities struggling with food security, social exclusion and low incomes.

3.4.2 Assessment of ECS' social impacts in the current literature

This section presents an overview of the different types of assessments developed and conducted on the social impacts of ECS. Literature referring to the projects within the ECS framework is used, as in the previous section.

While the research on this topic is in major part situated in wealthy countries like US, UK, Australia, Netherland, etc. some assessment studies or projects are spread in less prosperous countries like Ethiopia. The studies mainly focus on the implementation of projects or their integration in wider development programs. For example, one of them is placed in Ethiopia in the context of an improvement of the nutrition and the income of women and children with HIV/AIDS living in urban centers of Ethiopia by establishing and supporting school and group vegetable gardens (Shroff et al., 2011).
Studies which want to assess ECS or similar projects are present in the types of projects like urban CGs, (Beilin & Hunter, 2011; Kingsley et al., 2019), urban gardening in general (Schram-Bijkerk et al., 2018; Shroff et al., 2011; Sturiale et al., 2019), urban and peri-urban Short-Food-Supply-Chains (Schmutz et al., 2018), general peri-urban or urban agri-food system (van Asselt et al., 2014) and NBS (Raymond et al., 2017).
Among this relevant literature, most of the studies are empirical research projects, partly including literature reviews, but three selected ones are solely based on systematic literature reviews.
To gain more clarity, these articles can be separated in different categories of studies regarding the applied assessment framework.

- **Assessment with local actors:** Is the category of studies that develop their own, project specific framework to assess impacts of these ECS. They are assessing their sustainability (van Asselt et al., 2014), general impact on the society (Raymond et al., 2017), or impact on more specific aspects, like social challenges in general (Artmann & Sartison, 2018; Dick et al., 2019) or more specifically well-being and health (Beilin & Hunter, 2011; Schram-Bijkerk et al.,

2018). The methods in those studies consist mostly in the development of indicators or a direct assessment in participation with the local stakeholders.

- **Assessment and indicators based on existing frameworks:** Is the category of studies that use or adapt already existing assessment frameworks that can be used in different contexts like the sustainability impact assessment (Schmutz et al., 2018) or the Participatory Impact Assessment as in the research project in Ethiopia (Shroff et al., 2011).

- **Direct assessment of the social dimension**: Is the category of studies that simply investigate the social value of initiatives like rooftop farms (Wang & Pryor, 2019), urban agriculture in general (Sturiale et al., 2019), CGs (Kingsley et al., 2019) and NBS (Colléony & Shwartz, 2019). The aim is mainly to discover the social benefits (sometimes along with socio-economic aspects and ecological ones) of partaking in such initiatives, using methods like telephone survey, social network analyses or interviews.

- **Literature review of social dimension assessment:** One study uses a systematic literature review to investigate the different ways health, well-being, social and environmental impacts are being measured in CG projects (Kingsley et al., 2019).

Regarding the use of participatory methods, an important share of these studies chose to use them, going through a co-development of indicators with local stakeholders, whether starting from a list of already existing indicators or developing new ones. For example, in the study of van Asselt et al. (2014), the authors aim to develop a protocol that could assess any agri-food system's sustainability, developing indicators in participation with experts and policy makers. Alternatively, Beilin and Hunter (2011) use the Community Indicator Victoria (CIV) framework, to develop afterwards locally relevant indicators, with a relatable origin for the local governments. The way the participatory part is included in the studies varies from project to project. For example, in Schmutz et al. (2018) the researchers use a sustainability impact assessment of Short-Food-Supply-Chains in two different settings. First, through a participatory workshop with different types of stakeholder. Then, a second investigation is performed, focused on a specific supply chain at a local market, using quantitative interviews.

Scholars using participatory methods for the development of indicators or assessment of social projects argue that including local stakeholders in the decision processes is necessary to create measures that are adapted to local problems. According to many studies, it delivers results that derive from one-site experience and create an understanding of the situation that is complete and representative of the reality (Beilin & Hunter, 2011; Neuman, 2007; Schmutz et al., 2018) (Becker, 2001). These methods are particularly relevant to study impacts at the social level and exploring ways of assessing the success of social projects. As these methods will be used in this thesis, more about their importance and application will be described in the theoretical framework and method chapter.

Concerning the assessment or the development of indicators, studies mostly focus on the positive aspects or the benefits of the initiatives on the population or the environment. When assessing the social realm, it is mostly on aspects like health and well-being (Beilin & Hunter, 2011; Colléony & Shwartz, 2019; Schram-Bijkerk et al., 2018). Some focus rather on the overall sustainability of the initiative or the system (Schmutz et al., 2018; van Asselt et al., 2014). Others focus on the general impacts of the projects on the society (Raymond et al., 2017; Shroff et al., 2011).

Another aspect of the assessment studies is that few of them chose to use qualitative indicators. Notable exceptions are the study by Beilin and Hunter (2011) in which focus groups are used to determine relevant indicators. Additionally, Dick et al. (2019) uses participatory mapping to contextualize the assessment in the every-day actions of the concerned populations. Finally, Shroff et al. (2011) choose to combine quantitative and qualitative data in their research, as well as Schmutz et al. (2018). The biggest share of studies uses, however, quantitative assessment.

It is overall difficult to generalize and draw conclusions on eventual tendencies due to the few studies that focus on the assessment on social aspects relevant for our topic: the ECS. Studies are not particularly present in one region but spread on the whole globe, and different types of urban projects benefit from these assessment studies. What is noticeable nevertheless, is an inclination towards the use of participatory methods and the development of locally relevant indicators together with active and involved stakeholders of the initiatives. Most of the studies use quantitative assessment, and few of them use qualitative, or combine qualitative and quantitative indicators. Social aspects that interest the researchers the most are health, well-being and social network.

3.4.3 Limitations of the current literature on ECS' social impact

The previously presented studies rarely give a precise description of how the researchers proceed to develop their framework or how they assess the social impacts. However, this section will present some important limitations that can be found from reviewing the selected literature or from criticisms addressed by other scholars towards these methods. This will provide a background to determine where there is a need for further research.

Regarding the assessment framework, all the studies seem to solely focus on the outcome of participation in the initiatives, assessing only the impacts (benefits or positive impacts.) This limitation has been pointed out by some other studies, explaining that there is a need to focus not only on the impacts but also on the underlying processes that create these impacts (Mell & Clement, 2019). This criticism comes along with the remark found in some of the studies that assessment work often forgets about the whole process of how these projects deliver/create their (positive or negative) impacts and therefore, do not participate in the full understanding of how they can be better implemented to target specific issue. (Mell & Clement, 2019) Together with this idea, in the field of NBS, a critique has been formulated that these projects are often "one-size-fits-all" because they aim at solving a large range of problems. It may be due to the lack of understanding of the underlying processes pointing a lack of specificity of the projects (Colléony & Shwartz, 2019; Mell & Clement, 2019).

To summarize, the criticisms and knowledge gaps common to all sorts of initiatives (Short-Food-Supply-Chains, NBS, CG, etc.) found within the reviewed literature are the following:

- A general need for more knowledge on the social impacts (positive and negative) of these initiatives on the societal challenges (Artmann & Sartison, 2018).

- A more critical research on the impacts of the variety of initiatives. Diversifying the point of view (e.g. not only quantitative indicators) and adding more specificity to the single cases that contribute to work on social problems (Schmutz et al., 2018).

- A need for a holistic approach for creating indicators in the assessment process (van Asselt et al., 2014).

- A monitoring of the connection between the initiatives' characteristics and their associated impacts (positive or negative), to avoid the "one size fits all" method (that assumes NBS solving many issues, while being implemented for one particular benefit, eventually harming other aspects) (Colléony & Shwartz, 2019; Dick et al., 2019; Raymond et al., 2017).

After reviewing the literature about the social dimension of projects entering the ECS framework, some remarks can be made too. The literature is mostly reporting benefits in the area of food security, economic struggles, well-being and health and social inclusion. However, the described effect of partaking in ECS on the social dimension are often little specific. Given the complexity of social challenges mainly present in disadvantaged neighborhoods, there should be more details given on how ECS can work on these challenges. This remark goes along with the previous mentioned criticisms about the lack of specificity of research on ECS social impact. The indicators used or developed are mostly quantitative (or a combination of quantitative and qualitative in few cases), which shows an opportunity to develop the research towards including more qualitative indicators that could show the complexity of ECS' social dimension.

3.5 Conclusion to literature review and problem statement

This literature review shows that the state of the current knowledge about the ECS' social dimension is not enough specific in demonstrating how exactly ECS can impact on social challenges in general, and more specifically in disadvantaged neighborhoods. Criticisms and knowledge gaps about the topic have been presented in the previous chapter. Given the definition of the disadvantaged neighborhoods, their corresponding social challenges and scientific evidence for ECS benefits, there is a hypothesis that ECS are an appropriate tool to work on social challenges. However, there are still unanswered questions such as: Which aspects of disadvantaged neighborhoods do ECS alter? How do ECS exactly tackle these challenges? With what tools? And, how can organisations, municipalities or academia assess the impact of ECS on social challenges? To tackle these questions is a necessary step towards learning how ECS can be a tool in the work on alleviating social problems.

Consequently, it seems necessary to take a closer look at the impacts of ECS: to research not only the benefits, but also the issues and the barriers these projects face. Also, the impact of ECS at the social level shouldn't be the only aspect researched, but also, their specific characteristics that allow these impacts to be delivered (e.g. activities, target groups, organisational structures, finances, etc.). Finally, it is necessary to be able to determine whether these projects actually have an impact. In consequence, there is a need to develop an adapted assessment framework to monitor the success of these projects on alleviating social challenges. And because holistic methods are necessary to create solutions adapted to local problems, participatory methods should be privileged in future research.

This work will focus on researching these different aspects of ECS' social dimension, with methods that include local stakeholders of Berlin's disadvantaged neighborhoods.

4 Theoretical Framework

This chapter presents the theoretical framework as well as the important definitions that support the research conducted in this master's thesis. The main objective of this thesis is to contribute to the knowledge on the relevance of ECS in the work on social challenges in cities and especially in disadvantaged neighborhoods of Berlin. The theoretical framework was developed with local

stakeholders and the support of the Social Impact Assessment (SIA) framework. This chapter is composed first, of an explanation on how this work uses the definition of social impacts to explore the social challenges that ECS can help alleviate. Second, the concept of this thesis exploring the assessment of social impacts with local stakeholders will be presented.

4.1 Social impact of ECS and social challenges

The first objective of this thesis is to understand the scope of ECS in the work on social challenges. The first step towards a better understanding of this topic is to explore what kind of social impacts do these projects have.

The scientific literature defines social impact as follows (Esteves & Vanclay (n.d.) as cited in Townsend and Steedly (2014, p. 6078)); (Centre for Good Governance (2006) as cited in Townsend and Steedly (2014, p. 6078)); (Becker, 2001):

Social impacts are considered as the repercussion that the structures and the actions of certain projects have on people's life. These repercussions can be connoted as negative or positive and they are created through the modifications of people's interactions with their "natural environment, whether for resource acquisition, subsistence, recreation, spiritual expression, or social gathering" By "people's life" it is understood their "lifestyle, quality of life, cultural expressions, political systems, provision of infrastructures and services, well-being, and values of an individual, family, group, or community".

In summary, social impacts are the impacts that ECS (or any project) have on the social level of human life. Hence, multiple areas like health, culture, politics, nutrition, etc. When the social impacts produced by the ECS are understood, they can be confronted with the social challenges present at a certain context, which is that of Berlin's disadvantaged neighborhoods. The social challenges that is facing Berlin were presented in the literature section 3.3.3. In this work, through including the local stakeholders, it will be learned what real impacts do these initiatives have on their lives. Then, the social impact can be compared with the social challenges and the analysis will show whether or not the ECS has a potential of working on these challenges. For example, one of the issues recurring in disadvantaged neighborhoods of Berlin is the isolation of some groups of people, like elderly or unemployed youth. When an ECS fosters more social cohesion in the neighborhood and it is reported that the people feel more included or that they find to have more opportunities, the conclusion is that, ECS act in some way towards solving this particular issue.

4.2 Social impact assessment

In order to assess the social impacts of a project, it is possible to use already developed indicators lists that would indicate what is important to measure to determine how a certain project impacts its participants lives. Some studies assessing social projects have used existing frameworks focusing on one aspect of the people's lives like community in the case of Beilin and Hunter (2011). Other have used a combination of different already existing frameworks adapting into a certain type of initiative like in the case of one of the working groups of EdiCitNet (WP5) that explored different sources to create a final assessment framework adapted to the ECS concept (EdiCitNet, 2019).
However, in this thesis the choice is to explore what benefits do the ECS create and how it is possible to assess if the ECS have a social impact to target specific social challenges, from the point of view of the local stakeholders, thus the people involved. The focus is therefore not on existing frameworks or indicators but letting the possibility to the involved actors to express what is important for them. This

section will explain why participatory methods are used in this work, how the SIA framework will help in the process and how the assessment of ECS will be explored with local stakeholders.

4.2.1 Participatory methods

As seen in the literature review, section 3.4.2, participatory methods are often used to assess the social impacts of projects similar to ECS (Beilin & Hunter, 2011; Schmutz et al., 2018; van Asselt et al., 2014). This is also the case with the SIA, a framework for understanding social impact that this thesis draws upon to create the research design.

Participatory methods are adequate when looking for insights about a situation from the local stakeholder's perspective, and to gather information about their real experiences. In this respect, participatory research has a great potential for understanding subjective notions, e.g. wellbeing, at a local and contextual level (Beilin & Hunter, 2011; Camfield & Crivello, 2008).

For the background of the choice of the relevant stakeholders, scientific literature tells the following: Exploring ways of assessing the impact of social projects via participatory methods and choosing different types of stakeholders allows to have a representative vision of all the people involved.
Additionally, if this new knowledge acquired is to be transcribed in recommendations for city planners or local governments, it gives a greater legitimacy to the argument because it is backed up by several locally relevant stakeholders and based on real experience. (Boström, 2006; Marques-Perez & Segura, 2018). Furthermore, excluding key-stakeholders increases the chances to forget important problems. As Marques-Perez & Segura expresses "If important stakeholders are left out of the process, key issues could be ignored, and consequently, the overall picture of the situation would be incomplete. This could result in finding a solution which does not deal with the real problem" (Marques-Perez & Segura, 2018, p. 9)
The type of research used in this situation is called participatory action research, and it uses the knowledge of people who experience the local context. Action research has the aim of supporting social change and inspire a socio-political point of view based on certain values, raising awareness on a certain topic among the participating population and also beyond, by also using participatory methods to collect the data (Neuman, 2007).

4.2.2 Social Impact Assessment framework

To go further in the understanding of ECS's scope, this work draws its inspiration in the SIA framework, which is applied in other studies on ECS and similar projects (e.g. (Schmutz et al., 2018), other examples can be found in chapter **Error! Reference source not found.**). SIA is a framework for an assessment process that allows to explore and understand the complexity of the social impacts of certain projects. Assembling the various recent definitions of SIA found in the scientific literature, the following is the one upon which we will build the further argumentation for this thesis' theoretical framework: SIA is "a process to determine, for proposed actions, policies, and programs, what kinds of social impacts are likely to occur to people and their communities, to assess the significance of these impacts, to inform decision-making on the recommended course of action, and to identify measures that may help to avoid or minimize potentially adverse effects" (Townsend & Steedly, 2014, p. 6078).

The whole process for a SIA includes various basic sub-processes, for example (Becker, 2001; Hiruy & Wallo, 2018; Schmutz et al., 2018; Townsend & Steedly, 2014):

- investigating the context and the current social setting,

- exploring the activities and actions that have a social impact,
- based on the potential social impact, creating of alternative and evaluating their impact,
- thinking of what stakeholders are affected, how, for how long and how they might receive these changes,
- finding ways of reducing negative effects and enhancing positive ones,
- developing an assessment framework to monitor the social impacts,
- Considering the use of natural resources, finances and other aspects of the project, etc.

The SIA guidelines help in the exploration and thus the understanding of ECS' social dimension. What is considered relevant for this thesis is therefore the following. In order to investigate further on the scope of ECS, this work will also look at the activities, structures and other elements of ECS that produce certain social impacts. Quoting Becker (2001, p. 313): "Because social impact assessment deals with the consequences of a current or future action, we first have to take a closer look at the action itself". Townsend and Steedly (2014) call this part the "scoping of impact-causing activities". However, the way the projects are structured (e.g. democratic governance, top-down or bottom-up organization) has an important role in the diversity of the social impact created (Beilin & Hunter, 2011). Hence, not only the activities, but also the organizational structures of ECS that are causing the social impacts need to be researched. Additionally, it will be analyzed which stakeholders are affected by these activities and how, since it is also an integral aspect of the SIA process. Exploring negative effects also has its place in this process. Learning about these can inform us about what needs to be avoided in the creation of future projects, and hence, the identification of possible negative effects is an important dimension when formulating recommendations for city planners. Therefore, a further aspect of this research will be to identify eventual barriers or fail factors among the activities or structures of the ECS.

4.2.3 Developing an assessment framework

The last aspect that this work is focusing on is measuring the social impacts on the neighborhoods and on the population partaking in ECS. This also is an important aspect for the project EdiCitNet, as ECS is a new concept and there is a need to develop assessment frameworks that are adapted and serve to develop the project in the right direction. "Researchers who focus on causal relation usually begin with an effect, then search for its causes " (Bazeley, 2013, p. 236). The research strategy for this work is to first look at the social impacts of ECS and then to explore how these social impacts occur.

In addition, the creation of an assessment framework to measure the social impacts of the projects in order to adapt the structures or activities in the future is an integral aspect of the SIA. If we look at what SIA proposes, a various number of assessment frameworks might be used. The approach that was chosen for this thesis is the consultation of local stakeholders to explore possible ways of assessing, and eventually developing suitable social indicators.
Social indicators can be defined as:
"statistics that are supposed to have some significance for measuring the quality of life or overall well-being." (Michalos, 2014, p. 6086). These measures usually report the state of social elements (e.g. crime rate, amount of employed people in a neighborhood, etc.). They are a guide that shows what changes are occurring in the society and show where to act if there is a need to alter or amplify these changes (Land, 2014). These measures "allow the observation of progress towards community goals" (Beilin & Hunter, 2011, p. 526). Moreover, there are two different types of indicators used: descriptive or subjective. The descriptive indicators are statistics that describe the situation that would be perceived the same from any perspective (e.g. crime rate) whereas subjective indicators are statistics that describe a situation from the perspective of a particular person. These indicators

are often “intangible” and cannot be perceived by the researcher (e.g. feeling of happiness). To give a name or a value to the intangible indicators, researcher often mention that it is preferably to favor “self-report” (Michalos, 2014). Additionally, indicators can also be qualitative (e.g. how happy someone feels) or quantitative (e.g. number of participants to a workshop) (Bazeley, 2013).

In the case of ECS, specifically since this framework is recent, developing adapted indicators can be interesting to go even further in the understanding of it as tool in the work on social challenges. The knowledge gathered through RQ1 and 2 is already a step towards assessment, if we consider the social impacts being community goals as in (Beilin & Hunter, 2011) and the features of ECS, the ways to achieve these community goals. Social indicators would indicate if the community goal is achieved or not. The purpose is to ask the local stakeholders if they know how they would consider that this community goal is achieved, without the support of previously developed indicators framework, but rather in an open, exploratory way, letting them express it themselves.

Using social indicators is necessary to evaluate the impact that has a project, an activity or an event on the population concerned. If the focus of the assessment is the sustainability of a society, the indicators should be developed to evaluate the impact of the specific activity on the sustainability of the society (globally or locally, depending on the realm of the focus). For example, in the study of Beilin and Hunter (2011), social indicators are developed to evaluate the positive impact of community gardens (CG) in the creation of more sustainable communities, socially and environmentally speaking. Indicators are not only useful for academics, but are also essential to allow NGOs, local governments, academics and local community stakeholders to understand and evaluate the real contribution of their activities, e.g. urban agriculture. (Beilin and Hunter, 2011)

Although the SIA framework is more complex and goes deeper into every aspect of the process, the framework used in this master’s thesis focuses on these aspects (social impacts and features of ECS, as well as social indicators development) because of the project EdiCitNet, the needs of the city of Berlin and the possibilities that offers a master’s thesis in terms of time, means and costs. Here the final objective is to create recommendations for future ECS and city planners. As Townsend and Steedly (2014, p. 6080) say: “Each step of the SIA process provides inputs to inform the decision-making process”.

4.3 Summary of the theoretical framework

Social impacts are the repercussion of ECS’ activities or organizational structures on people’s life, when they participate or have a link with an ECS. Learning about occurring or expected social impacts, activities and organizational structures of ECS is already an integral part in the assessment of social impacts provided by ECS. Additionally, participatory methods are supporting the research process to provide local and context-based data.

Following these statements, what will be done in this thesis is, first, to understand these repercussions from the standpoint of the local stakeholders. Second, to explore the organizational structures and activities that are necessary to create these social impacts, and therefore need to be supported in general and for the future of ECS. Third, the topic of indicators development to measure the social impact of ECS will be explored with the local stakeholders as an integral part of any assessment framework.

The concepts described in the theoretical framework provide the grounding for the three research questions:

- **RQ1**: What are the social impacts of ECS that can help solving social issues?

- **RQ2**: What are the practices and features of Berlin's ECS that deliver these social impacts or hamper them?
- **RQ3**: How can we assess the successful contribution of ECS to social challenges?

Answering these research question should provide necessary data and information to contribute to the idea that ECS are an important tool in the alleviation of social challenges in cities and mostly in disadvantaged neighborhoods. This argument will further help in advocating for ECS with local governments, urban planners, and so on.

5 Material and Methods

This chapter explains in detail how this research was conducted in order to answer the three research questions and contribute to the main objective. This chapter is composed of a first section about the two samples used for this master's thesis and of a second one about the data collection methods which were, first, interviews and second, a participatory workshop. The last section is about the data interpretation process. Different method books were used to create the research design, they will be indicated later.

5.1 Sampling

In this study, a total of 31 individuals participated in the data collection process and a total of 13 ECS were represented by some of those participants. As the research process consisted of two phases, two different samples were used. For this purpose, local stakeholders of Berlin's ECS were chosen. Choosing participants who have different roles and are concerned at different levels gives a larger diversity of points of view and is therefore more representative of the reality of a project's impact (Beilin & Hunter, 2011). The following table presents the different types of stakeholders (according to their roles in the Berlin's ECS context) that composed the two samples. The next sections of the method chapter will give more details on the two different research phases.

Table 1 Sample 1 and sample 2 of local stakeholders of Berlin's ECS participating in the two phases of the research process

		Sample 2		
	Sample 1			
Role of the participants	**Interview/ no WS**	**Interview + WS**	**Just WS**	**TOTAL**
Neighborhood Management employees *(Soziale Stadt)*		2		2
Neighborhood Management employees (from a housing company)			1	1
Environmental experts/councellors		1	1	2
Representant of a garden association of Berlin			1	1
Employees at Berlin's senate department for Urban Development and Housing			2	2
Employees at Berlin's senate department for Environment, Transport and Climate Protection		1		1
Student (area: Urban green spaces and people's health)			1	1
Academic researchers from the EdiCitNet project			2	2
District Citizens Office *[Bezirk Bürgeramt]*			3	3
ECS coordinators	1	9	4	14
ECS members and/or volunteers		1	1	2
Total participants in the research process:				31

The two samples were created through the following steps: First, participants were gathered to participate in the workshop, second, some of them took part in interviews prior to the day of the workshop.
Some members of the EdiCitNet city team of Berlin are also employees at the Senate department of urban planning and housing of Berlin and work with the program *Soziale Stadt*. Through these contacts, it was possible to have access to e-mail addresses of local stakeholders of Berlin's ECS. An email inviting anyone interested to the workshop (entitled "Social aspect of ECS and development of social indicators") was sent to various mailing lists, for example, to employees of the program *Soziale Stadt*, to members of the project EdiCitNet or various ECS groups (The actual e-mail can be seen in appendix 11.1, in German). When people agreed to participate in the workshop, they were asked whether they were interested to take part in the first contact-interviews. The aim of this was to have a first opportunity of contact, gather information on the ECS that they represented and to ask more specific questions about the ECS in general.

In total, as seen in Table 1, 1 person was only interviewed but couldn't participate in the workshop and 14 people were both interviewed and participated in the workshop (among which, 11 ECS were represented). 16 additional persons came to the workshop which made a total of 30 participants in the workshop with 2 additional ECS represented in the workshop.

The following table gives an overview of the interviewees and what ECS they were representing (in case of ECS coordinators or members). Table 2 was created after a first analysis of the data collected.

Each interviewee got assigned a code name according to their role in an ECS. In the table, *C* stands for *coordinator*, *M* stands for *member, NM* stands for *neighborhood management employee, Co* for *consultant* and *A* for *administration employee.* Each coordinator or member is representing one specific ECS (in some cases more, e.g C9). These codes will serve as reference to the interviewees and the ECS during the whole result section and as a mean to put the presented results in the context of real ECS. The information given in this table complies with the privacy protection rules of EdiCitNet and therefore no names are displayed. Other interviewees did not refer to any specific ECS but mentioned more general aspects relevant to our topic. Here are also presented the type of ECS, the area or the places where the ECS are acting and their year of creation.

Table 2 Basic information about the contacted ECS and other interviewees during the first contact-interview conducted from January until February 2020

Code name	Gender	Role in ECS or occupation	ECS Type	Area type or places of action	Year of creation
C1	M	Garden therapist and coordinator	Therapeutic garden	Retirement home in residential area	
C2	F	Coordinator	Community garden	"Precary" neighborhood	2020
C3	F	Coordinator and planner	Community gardens and parks	Near collective accommodations for refugees	2019
C4	F	Owner of ECS and garden pedagogue	Private company w/ educational workshop	Schools or in the nature, sometimes hired by institutions	2015
C5	M	Coordinator	Community garden	Old agricultural cooperative building	2017
C6	F	Coordinator	Community garden	Former cemetery area	2018
C7	M	Coordinator	Community garden	Area of a cultural center	2017
C8	F	On-site coordinator	Multi-activity supporting structure	Garden and workshops in the whole district	2013
C9a	M	Project-coordinator	Multi-activity collective w/ environemental activism	Gardens, swap-shop and workshops in the neighborhood	Ca. 2015
C9b	M	Project-coordinator	Edible forest	Old landfill and former airport	In the creation process
M1	F	Member	Integrational CG	Near a life-support house for people with disabilities	Ca. 2016
Co1	M	Environmental consultant			
A1	M	City Administration employee (Senate department)			
NM1	F	Neighborhood Management employee			
NM2	F	Neighborhood Management employee			

For the interviews prior to the workshop, most of contacted persons turned out to be ECS coordinators. Additionally, we gained insights from one ECS member, two neighborhood management employees, one environment and city development expert and one employee at the Senate Department for Environment, Transports and Climate Protection. Most of the described ECS

are CGs, or multi-activity projects including a CG, two are mostly focusing on environment and nature pedagogy workshops. The CGs and other ECS have a large diversity of purposes (therapeutic, integrational, leisure, etc.), and places of action (schools, retirement home, whole district, near collective accommodations for refugees, etc.). Later in the workshop two additional ECS were represented, one being a CG and the other doing nature pedagogy workshops. All the contacted ECS were situated in the North of Berlin, North-West, North-East and South-East, mostly on the outskirts of the city. The contacted ECS were not always funded or supported by the *Soziale Stadt*, but they were still ECS acting in Berlin within the context of disadvantaged neighborhoods.

5.2 Data Collection

In this thesis different participatory methods were used. The first contact-interview conducted with the participants replying to the invitation e-mail served as interview. The second step was to organize a three-round participatory workshop that combined different methods (more details in section 5.2.2). The framework for the research was largely inspired by the SIA framework as explained in chapter 4. The methods were chosen and adapted to the time and resources limitations of a master thesis, with a smaller scope than regular SIA that are usually conducted in bigger research projects. Both phases will be described in the following sections. Table 3 brings together the research questions and the method used to answer them.

Table 3 Data collection methods and corresponding researched elements. The coloured cells indicate what method was used to investigate the elements answering the research questions.

Research part		Elements investigated	Methods			
			Semi-structured interviews	Plenum (WS)	Focus groups/world-cafe (WS)	Focus groups/world-cafe (WS)
RQ1	What are the social impacts of ECS that can help solving social issues?	Expectation of people for ECS				
		Repercussion of ECS on people's life (social impacts)				
RQ2	What are the practices and features of Berlin's ECS that deliver these social impacts or hamper them?	Activities of ECS delivering social impacts				
		Organizational structures of ECS delivering social impacts				
		Barriers or problems in ECS development				
RQ3	How can we assess the successful contribution of ECS to social challenges?	Methods and indicators to assess ECS' social impacts				
		Extra information relative to assessment				

5.2.1 First contact interviews

This first phase of the research methodology has a twofold purpose. First, it allows to have a first contact with those who will later participate in the workshop, as a way of building trust via sharing openly about the project EdiCitNet and the ECS of the interviewee. Second, it is a way to gather useful data on the profile of the ECS whose impacts would be discussed in the workshop as well as some insights about their social impacts, structures and activities and real barriers they were facing. This information would have been too long to gather in a one-time workshop.
The first contact-interview lasted for 20 to 45 minutes each. They were recorded with a recording device and then the files kept and transferred to the project as data for the collection on ECS information. The timeline of the organization and the actual data collection is shown in Table 4.

Table 4 Timeline for the organization of the data collection from December 2019 until February 2020

Action	E-mail invitation to workshop and first contact-interview	Time for reply of participants	first contact-interview and workshop preparation	Workshop
Month	December 2019	December & January 2020	January & February 2020	February 2020

The questions were inspired by the survey created by the WP2 working group of the project EdiCitNet (EdiCitNet, 2019). Based on that an interview guide was prepared which was helpful throughout the whole process. The questions addressed the social aspect and were oriented towards the research objective of the thesis.

The questions were exploring basic information about the ECS, the social impact observed or expected, the structure and the activities of their particular ECS, the target groups, and the negative aspects or barriers that the ECS was facing in its development. How each phase of the methodology participated in answering the research questions and is embedded in the rest of the methodology can be seen in Table 3.

The first contact-interview were neither a typical survey interview, nor typical field interviews. The questions were open-ended and semi-structured, using the survey of WP2 as a guide. On the other hand, the interview had also the form of a casual conversation, with no specific order in which the questions were answered. Stories and anecdotes were also recorded which makes it closer to a field interview (Neuman, 2007). The questions were descriptive, e.g. “How many people are employed in the ECS?” or structural questions, e.g. “What other activities are taking place in your ECS other than vegetable production?” The interviews guide can be seen in appendix 11.3

After having finished the first contact-interview, the records were listened to and the interviews documented. The choice of this type of documentation was made in order to keep the focus only on the raw information given by the interviewees that were looked after, and to have a smaller, more manageable data amount to handle. Quoting Pat Bazeley in the method book Qualitative data analysis: Practical strategies (2013, p. 72): “[…] when nuances of expressions are not needed for the analytic purpose of the research (e.g., when what is required from the research is to extract factual information about how something was done, or a list of relevant issues or indicators), verbatim transcriptions may not be necessary and notes may be sufficient for the purpose.” Pat Bazeley states that one disadvantage when using notes is “ their incompleteness and therefore the potential for

selectivity and bias in the record, given that it is not possible to record absolutely everything that was said". (Bazeley, 2013, p. 73). However, in the case of this research, records were available and were consulted every time a piece of information was unsure (The recordings of the interview are only available within and for the purpose of the project EdiCitNet). Quotes and information that were relevant for the research purpose were extracted and transcribed in a word file or tables. The documentation of the interviews can be seen as similar to a research diary (Bloor & Wood, 2006), with the difference that the data extracted from the records was not interpreted prior to its transcription.

5.2.2 Participatory workshop

The second phase of the research design comprised a workshop combining different participatory methods. Data were collected for the three research questions. It was organized by BOKU in coordination with the Senate Department of Urban Planning and Housing of Berlin and took place in its facilities. This section will explain the benefits of using a participatory workshop as a research method and the detailed conduction of the workshop for this thesis.

5.2.2.1 Benefits of using a participatory workshop as research method

The importance of using participatory methods to assess social impacts was highlighted in sections 3.4.2 and 4.2.1. These methods allow to have locally relevant information given by the local stakeholders and offer a better understanding of concepts that are complex to define (e.g. well-being) or of complex situations. Literature concerning participatory workshop for SIA is rather scarce, but some highlights are worth outlining. The benefits of using a workshop as a method to explore the topic of social impacts of ECS are multifold. The data gathered are even more complete and representative of the reality when various types of stakeholders meet together and discuss the issues for a certain time. The confrontations of different opinions give rise to new thoughts that wouldn't emerge in a setting of one-to-one interview. Group discussions help to define complex topics, finding multiple solutions. A workshop also allows to combine different methods for a more complete result, cross-checking the opinions and making the process more dynamic and pleasant for the participants. Concerning social impacts and their assessment, it is important to give a voice to the locals to decide what are the social impacts they expect and want to see. Doing that in a group setting creates more consensus and a more accurate representation of the reality of the community (Neuman, 2007; Schmutz et al., 2018).

Apart from that, the participants learn to know each other in a workshop setting with different interactions and space to talk. The network building is an important aspect of ECS as a way of getting support, sharing ideas and concepts. Other expected benefits would be a deeper understanding of the ECS situation in Berlin, for the researchers as well as the participants, but also for the locals to create a positive dynamic and new outlook for their own ECS. It fosters a type of social learning or cooperation through the fact of deciding together about the important social impacts produced by the ECS (Neuman, 2007; Wals, 2007).

5.2.2.2 Organization of the workshop for this thesis

The following paragraphs will explain how the workshop was conducted. An outline of the event was sent one week earlier to all the participants. It can be seen in appendix 11.2. The total duration of the workshop was around three hours.

Introduction

After an introductory slideshow to present the EdiCitNet project by the facilitators Maximilian Manderscheid and Saskia Favreuille, and the outline of the evening, there was a quick round of presentation of 29 participants.

First round

The first part of the workshop aimed at gathering data for the first research question "**What are the social impacts of ECS that can help solving social issues?".**

First, the participants randomly split into groups of 5 or more. Two different questions were asked. The first one: **"What are, according to you the reasons for ECS implementation/Existence in Berlin?"** served as a warm-up, a slow start into the topic and the thinking process. The second one contributed directly to the research objective. It was: **"What are, according to your own experience or observation the effect/the repercussions that ECS have on people's life/at the social level".** Paper cards were distributed to the small groups. The instruction was to write the answer as a word or a simple combination of words and detail the answer, if necessary, on the back of the card. Then, one member of each group presented the answers to the rest of the participants. and pinned them on a board. It was also asked, if possible, to group the cards on the board together with similar ones, in order to create some categories.

Break

During the break, the facilitators of the workshop gathered all the cards answering the second question and used the method of pile-sorting to create categories of social effect/repercussions on people's life. Five broad categories were determined: **Well-being and health, Education, Engagement, Nutrition, Community.** To each category was assigned a different pinboard in one area of the room to be used in the next rounds.

Second Round

The second part aimed at gathering data for the second research question, **"What are the practices and features of Berlin's ECS that deliver these social impacts or hamper them?".**

The participants split into focus groups, based on their interest to work on one specific broad category. Focus groups (also called expert rounds) are groups from 5 to 8 people that are given one topic to freely discuss it. This method is used in quantitative as well as qualitative research (Neuman, 2007).

Each group worked on one flipchart for one category, brainstorming and answering these two questions: **"According to your experience or observations, what are some activities that are part of ECS, that have an influence on the category you are working on, e.g. education" and "[…], what are some organizational structures that are part of ECS, […]**". One person per group oversaw writing the answers.

Third round

The third part aimed at gathering data for the third research question, **"How can we assess the successful contribution of ECS to social challenges?".**

In the same setting as the second round, the same focus groups reflected on the question: **"According to your experience or observation, how would you measure if the ECS had an influence on the category you are working one, e.g. education?".**

World café

The world-café method was used to cross-verify the answers for each category. A classic world-café method demands that every category is re-visited by each focus group. However, due to the lack of time, only one additional round of brainstorming was possible. Which means, every category of social effect of ECS was analyzed by two different focus groups. During this second analysis, the questions from round 2 and round 3 were answered on the same flipchart.

Closing

To finalize the workshop, each group presented one flipchart explaining the answers for one broad category. This was the time for eventual questions and a final discussion. The final debate was tackling the negative aspects of ECS implementation. Before leaving the workshop, each participant signed a consent form and a last feedback flipchart. (see appendix 11.6.).

5.3 Data Interpretation

This section will explain how the data collected was interpreted in order to contribute to the research questions.

5.3.1 Collected data to interpret

The data interpreted for this master's thesis is composed of different elements. From the first contact-interview, a full documentation was extracted concerning: the repercussion of specific ECS on their participants' life, their specific barriers or problems in their development and extra information or recommendations relative to the assessment. From the workshop were extracted the cards from the first round concerning the expectation of the participants from ECS existence and the repercussion of ECS in general on people's life. The flipcharts gathering the answers of the participants from the second and the third round were also used. These were concerning the activities and the organizational structures of ECS in general delivering social impacts as well as methods and indicators to assess the contribution of ECS on social challenges were also extracted.
Additional information and recommendations relative to the assessment of the social impact of ECS were also gathered. Finally, the fully transcribed final discussion of the workshop is also considered as a source of relevant data, especially concerning the barriers or problems in ECS development.

5.3.2 Initial coding

The first part of the coding, named also "first level coding, initial or open coding" (Bazeley, 2013) served to organize and categorize the collected data according to previously defined codes. These initial codes arose from the theoretical framework, namely the SIA framework as well as the research questions following a deductive approach. These codes, based on the elements investigated through the whole research process (see Table 3) were:

- The expectations of people for ECS existence
- The observed impact of ECS on people's life
- The activities of specific ECS
- The activities of ECS for a specific category of social impact
- The organizational structures of specific ECS
- The organizational structures of ECS for a specific category of social impact
- The barriers or problems faced during ECS development
- Assessment tools/indicators or methods

Additionally, to create a profile of each ECS interviewed during the first contact-interview and have a better overview of the sample, further codes were:

- Role of interviewee
- Profile of the ECS

For the purpose of the coding process, the data sources (cards, flipcharts, interview documentation, discussion transcription) were first printed and then thoroughly read, multiple times, annotated or different parts highlighted, color-coded, with these initial codes in mind. During this process, the data was extracted in different excel tables or separated word documents, one for each initial code. When elements seemed to be closely related, sub-categories were created. Along with this first analysis, a "project journal" (Bazeley, 2013) was used to write ideas for future analysis, new topics, and further steps to take. How these different parts of the data were interpreted in detail will be explained in the following section.

5.3.3 Deeper analysis

The second part of the coding process, the deeper analysis is, according to Miles et al. (2018, p. 452), a "second phase of refining or interpreting to develop more analytical categories or clusters, often referred to as focused coding". For this section of the data interpretation process, each category of data was analyzed separately, starting from the ones relevant for RQ1, then RQ2 and finally RQ3.

To further interpret the data for the first research question "What are the social impacts of ECS that can help solving social issues?" the following process was carried out: The expectations of ECS participants were sorted out in different categories and described (see 6.1.1). Concerning the observed repercussions of ECS on people's life, five categories were already created during the workshop according to the cards (engagement, well-being and health, education, nutrition and community). The data from the interviews was also sorted out according to these categories and then confronted with the ones from the workshop. As it turned out during the analysis, it made more sense to dissolve the category *nutrition* that had too little substance and its elements were combined with the other categories. A summarizing figure was created putting together the categories of social impacts. The elements that seemed closely related were grouped into sub-categories and given them a name, creating new codes directly from the data analysis using the inductive approach (e.g. "reinforcing personality/empowering", is a sub-category of the category *well-being and health*) (see Figure 4 in section 6.1.2). Quotes from the interviewees that best illustrated the different categories were extracted and added to the description of the result section.

Concerning the data relevant for the second research question, "What are the practices and features of Berlin's ECS that deliver these social impacts or hamper them?", the interpretation was further conducted this way: A table was created combining the information about the activities, the organizational structures and additional information of the interviewed ECS. (Can be seen in appendix 11.5). A general description of the features of Berlin's ECS was framed, and is presented in sections 6.2.1.1 and 6.2.2.1. Concerning the specific activities and organizational structures identified by the workshop participants that influenced specific social impacts, they were extracted from the flipcharts, as summarized in sections 6.2.1.2 and 6.2.2.2. The full flipcharts can be seen in appendix 11.6. The barriers hampering the social impacts were also described, and different recurring topics were identified in section 6.2.3. Some limitations to the methods used were identified during the analysis of the flipcharts, e.g. the misinterpretation of the explanations by some participants. This will be explained more in details in section 7.4.2.

To interpret the data relevant for the third research question "How can we assess the successful contribution of ECS to social challenges?", the process was similar to the previous steps. The data extracted from the flipchart was further analyzed and categorized into types of indicators or

examples for methods of assessment. Table 5 organizing the answers from the workshop was created, using as inspiration the internal document created by a working group (WP5) of the project EdiCitNet on social indicators (EdiCitNet, 2019). Additional information gathered during the first contact-interview concerning the assessment process was described in section 6.3.2.

During this deeper analysis, a "second order interpretation" as explained by Neuman (2007) also took place and had the aim of discovering new meanings to the data that was organized during the initial or the focus coding phase. In the phase, elements are put in their context to create a better understanding and the researcher's opinion takes more importance, interpreting the locals' point of view. This second order interpretation was needed, in order to fully answer the research question. (Neuman, 2007) The outcome of this interpretation is presented in the results and in the discussion section of this thesis.

Finally, since "coding happens in a cyclical or recursive process" (Bazeley, 2013), these steps were repeated at least two times each to ensure that no information was missing.

6 Results

This chapter presents the results of the data collection process, namely the first contact-interviews and the participatory workshop with the local stakeholders of the Berlin's ECS. It is separated into four parts. The first will be showing the results concerning our first research question, the second and third will be contributing to the second research question and the fourth to the third research question. To learn about the methods used to acquire these results, refer to the previous chapter and Table 3.

6.1 RQ1: The social impacts of ECS

Concerning the first research questions "What are the social impacts of ECS that can help solving social issues?", the results presented in this first section will display how local stakeholders perceive or what they expect from the repercussions on people's life of partaking in ECS.

6.1.1 Reasons for ECS' existence

The first approach to understand the social impacts of ECS was to ask about the reasons for ECS to exist, or the expectations that participants and organizations have regarding the implementations of these projects. As a visual representation of the workshop, the following picture shows the board on which the participants pinned the cards corresponding to both parts of the first round.

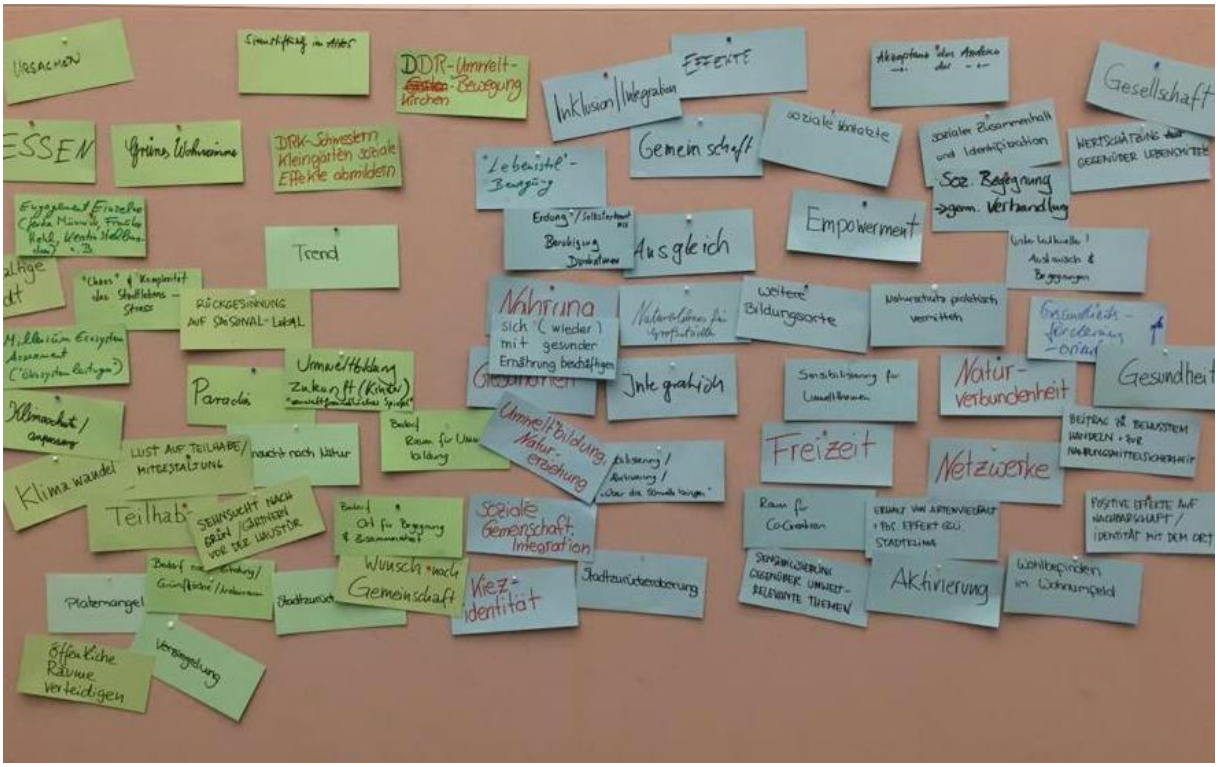


Figure 3 Pinboard after the first round of the workshops. Green cards answered to the questions "Reasons for ECS existence in Berlin?" and blue cards to "What are the perceived social effects of ECS?"

The information gathered from the first contact-interview and workshops reveals that one reason why ECS are being created according to local stakeholders is related to the food production aspect. Participants of the workshop indicated their wish for “seasonal and local” food and two interviewees expressed the importance of “producing healthy food” (M1, M2) This aspect also expands to the importance of teaching or “using the horticultural knowledge” (C1) or “transmit an enthusiasm for food production, nature and the environment” (C4, C5, C6, M1) as expressed mostly by the interviewees during the first contact-interview.

Added to this aspect, another dimension was provided: the idea that “nature is missing in the city” (M1, M2 and workshop). Different ideas were suggested, such as the need for “developing more green spaces” (C2, C3) and have the possibility to “connect with a garden or nature again” (M1). In the workshop ECS were described as “a green living room” or even as a “paradise”.

Following on that, ECS were also depicted as a way of “soothing the chaos and the complexity of city life” as mentioned in the workshop. In the interviews, the notion of ECS fostering “mindful practices” and being a “place for recovery and entertainment” was also brought by (C2, C5). These aspects can be put under the bigger umbrella of spirituality or health reasons.

Another often mentioned aspect regards the facet of empowerment of certain groups of people living in the neighborhood. Reasons provided for ECS such as to “help people” (C1), to “empower marginal groups” (C7) or to “integrate migrant communities” (C3) were often expressed in the interviews. In the workshop it was also added that ECS can help “the elderly”. The idea that ECS are a way for any group for a “city reconquest” through “defending public spaces” was often mentioned in the workshop.

An important reason for ECS' presence in Berlin is also the ecological aspect regarding the current environmental crisis. The interviewees expressed that ECS were a way to convey a "positive ecological message" (C2) and "enthusiasm for environmental protection" (C4, C5, C6). The workshop participants mentioned ECS were necessary for a "sustainable city", for the "future of the kids" and a way to "adapt to climate change".

Finally, the most mentioned reason for ECS presence in Berlin was the community and social network facet. This was mostly brought in the interviews with elements like ECS "healing the human relationships", fostering "social cohesion", a way for "networking", "creating a community" and having a "positive impact in the community". This aspect is expanded speaking about "team-work", "co-creation", "participation" and an opportunity to "learn from each-other".

To summarize this first result section, the reasons why ECS are implemented in Berlin, according to the participants are the following:

- For the aspect of food production, whether it is for the act of gardening and consuming the products or to educate about the topic.
- For a health or spiritual reason, nature being an important factor in the stress recovery, or simply seen as an important element of a balanced life.
- For empowerment reasons, social inclusion and visibility of marginalized or isolated groups by getting a space to thrive in the neighborhood
- For the ecological aspect, to cope with the current climate crisis and to find adapted solutions (biodiversity, local food production, etc.)
- For the social networks, the exchange of knowledge and the co-creation, under the umbrella of "community" as the most mentioned factor for ECS' existence in Berlin's disadvantaged neighborhood.

6.1.2 Repercussion of ECS on people's life

The second part of the results answer the question "what repercussion do ECS have on people's life, according to the local stakeholders?". During the first contact-interview, questions about the effect of partaking in an ECS, or its influence at the social level were asked. The complete record of the interviewees' answers about the social impacts they observed were reported in a table that can be found in appendix **Error! Reference source not found.**. This question was also addressed in the workshop, as the main part of the first round, as explained in the methods chapter. The cards with the elements of response written by the participants on which social effects were perceived from the existence of ECS were sorted out into five preliminary categories. This was a necessary step to proceed further with the workshop. These categories and their respective elements can be found on a flipchart in the appendix 11.6.
During the data analysis process, the categories were slightly remodeled and combined with the responses of the first contact-interview.

During the data analysis, there was an attempt to create broad categories of repercussions. Below, Figure 4 displays the elements comprised in each category mentioned during the first contact-interview and the workshop. There can be seen an indication for the difference between both data collection methods, the amount of times mentioned, and subcategories with elements referring to similar themes.

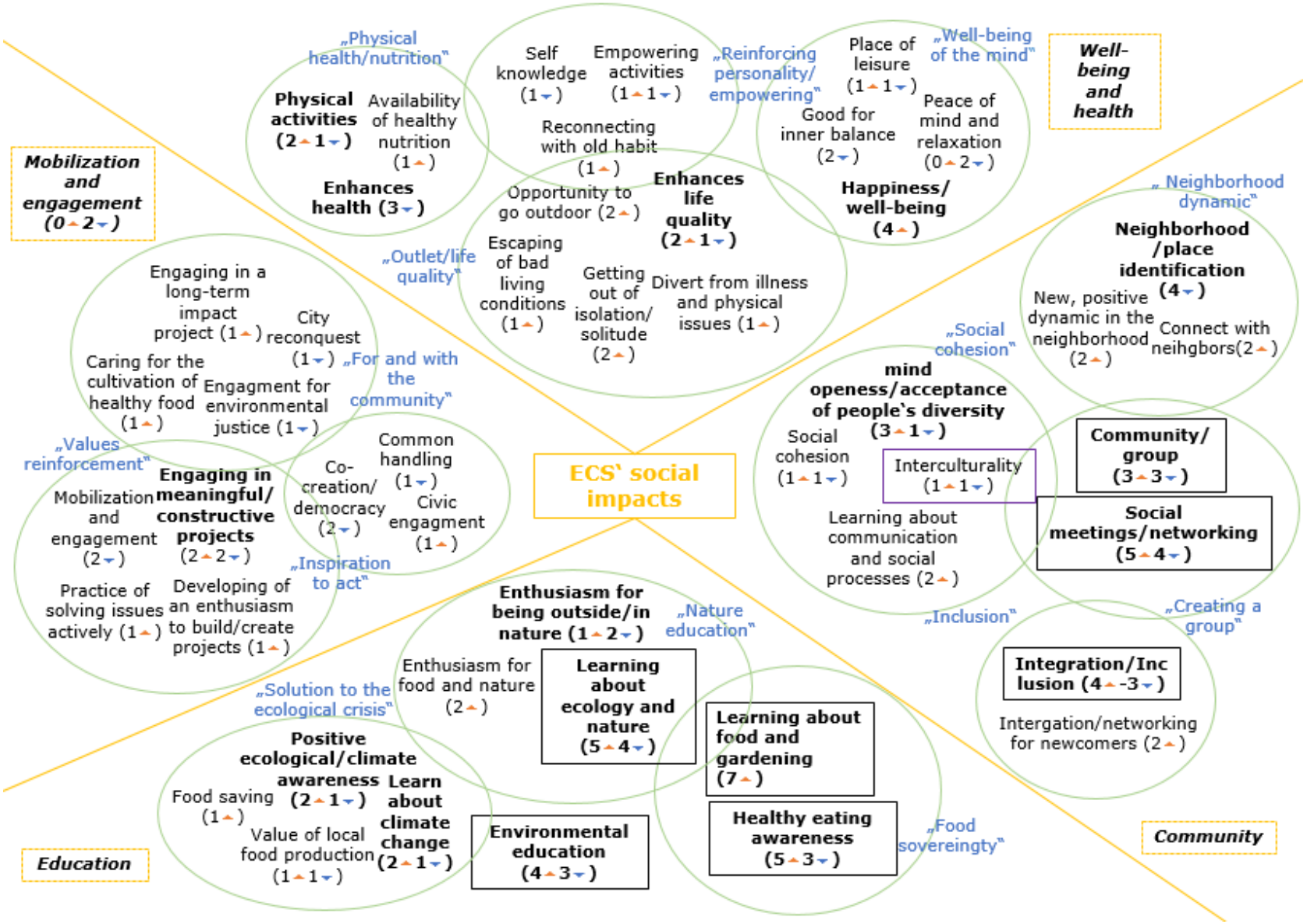


Figure 4 Four broad categories of ECS' social impacts (yellow squares) and the subcategories (green circles) cited by the study participants. In "blue", codes added during the data analysis for different aspects of the broad categories. Amount of time mentioned in the first contact-interview s (x▲) and during the workshop (x▼), more than 2 (bold) and more than 5 (in a square).

The four broad categories as seen on Figure 4 of repercussion of ECS on people's life are community, education, as most mentioned categories, well-being and health, as well as mobilization and engagement as the least mentioned ones. Within these, elements that were referring to very closely related aspects were assigned to a sub-category (name of the sub-category in blue). For example, under community, a sub-category would be "Inclusion" that brings together the elements of "Integration/inclusion" and "Integration/networking for newcomers". Each category and sub-category represent a different aspect of the repercussion of ECS on people's life. However, ultimately all the sub-categories relate to each other in different ways and can overlap. Therefore, it becomes difficult to create distinct separation between them. The overlaps between sub-categories are represented with the green circles. To explain this in more detail, each broader category will be presented in the following paragraphs, complementing the explanation with citations from the interviews and workshop's participants.

6.1.2.1 Well-being and health

One notable category of repercussion of ECS on people's life is that these initiatives have a positive impact on people's well-being and health. Most of participants reported that ECS foster one's happiness and mental well-being, because they are places of leisure, bringing a certain peace of mind and allowing relaxation. Thus, ECS are considered good for inner balance. These elements were coded under the sub-category "well-being of the mind". It was also mentioned that ECS are a good way of practicing physical activities, and therefore enhance health in general. As such, the sub-category "physical health and nutrition" is tightly linked to the previous one. ECS also bring an aspect of self-empowerment or a possibility to reinforce one's values, which also participate in increased well-being, as this quote illustrates: "[It is a way to] enjoy the practice of gardening again for seniors [also mentioned for migrants] who used to have a garden previously in their life" (C1, NM2). This refers to the reconnection with a certain habit and with the enthusiasm for nature and gardening, aspects found in other categories like education or mobilization and engagement. ECS can also be an outlet for difficult living conditions, as expressed by an interviewee, referring to a crowded living place: "These community gardens are a place to go out of the place of living, for the migrants and their family living in collective accommodations where there is little space and everybody is living together". It can also have a positive impact on isolated people (e.g. elderly, marginalized groups) or it can create a diversion from illness and/or physical issues as mentioned by C1: "Here it is about garden therapy. What we do is necessary for the elderly to go out solitude, to forget their physical problems, to go outside and move, to create connection and social activities...". Here again, this quote connects the sub-category "outlet and life quality" with the "community" category.

6.1.2.2 Community

One of the most mentioned categories is the community fostering aspect of ECS. One of the most recurring elements here was the idea of ECS as a way of creating a group, a place for social meeting or a good way for networking. This fact is well illustrated by the quote "When people come to the garden, they come back because there is a feeling of connection to a group", said by C6. To this category belongs also the notion that ECS (most of the time) bring a new and positive dynamic to the neighborhood. One coordinator of a garden situated in an old agricultural area of Berlin, originally little frequented, expressed: "These types of community gardens bring people together in places where little was happening before", C5. It was also often reported that through ECS, the inhabitants and participants were feeling more identified with a certain place. This aspect is directly linked with the sub-category of inclusion. In fact, during the workshop it was observed that ECS are an adequate place for social integration in general, and even that "[ECS are] most importantly a place for social integration" Co1. More precisely, during the first contact-interview, it was expressed the integration

often concerned migrants, elderly, newcomers in Berlin and marginalized groups (drug addicts, unemployed, etc.). One coordinator of a community garden situated in an area that has a lot of collective accommodations for migrants said: “It relates to the Willkommenskultur [welcoming culture]. Gardens are a very important place, especially for people who just migrated to Germany. It creates a link with the country of origin […] the possibility of gardening again, doing together, creating new links […] for those who are starting from fresh.” Additionally, it is also about the inclusion of marginalized or isolated groups like elderly or “unemployed marginalized young people”. Like expressed by a coordinator of a garden where many people with different backgrounds meet: “For many social groups that are often considered negatively (young, thugs, dealers, etc.), they have the opportunity of coming together in the garden and create something. They are very talented, motivated, knowledgeable. It shows that they are not what society thinks they are. This mix of different kinds of people creates new thoughts on what we perceived before or crushes some clichés down. Goes beyond a classical split definition between the groups.” C7. ECS have the potential to foster the inclusion of many different types of people by changing the perception the others hold of them or by creating common projects. The last sub-category is related to the fact that a group of persons learn from and about each other through involvement in the same initiative. For example, about communication e.g. “It is a place to solve communication and personal issues and to learn about important social processes” C5. An interviewee raised the topic that ECS mostly develops mind-openness and acceptance of people’s diversity. An example is the case of M1, member of a CG near a life-aid house for people with disabilities where “there is a possibility for children to interact with disabled people and to cultivate mind-openness”. She reported also that in the workshops offered by the ECS “People start to talk to each other before they know each other. That is the most important. And they exchange about topics like climate, food production. That they weren’t used to talk about before”. This aspect also relates to the creation of a group within the ECS. Finally, one interviewed employee of a senate of Berlin expressed that “gardens [are] a place where people come together that wouldn’t come together in other situations. [It is a] very important argument in the debate to maintain the gardens. It’s hard to explain though”.

6.1.2.3 Education

What appeared most frequently from the first contact-interview with the local stakeholders is the fact that ECS were a place for education. In the workshop, this was also often mentioned, but slightly less than in the interviews. ECS in the form of educational workshops, school gardens, or CGs organizing various workshops are common in the interrogated ECS of Berlin. People reported learning about ecology and nature from the gardening activities and that they developed an enthusiasm for being outside, an enthusiasm shared by kids and adults. Another aspect of it was learning about healthy nutrition and gardening skills or food production. Finally, one aspect linked with the education category is what people learned about the current ecological crisis. For example, the interviewees reported that the participants were developing an interest for environmental protection, climate issues, biodiversity, food saving and in general, local solutions to a global issue. This topic of environmental education was the central argument in the education category. Under this category, however, could be placed the learning about social processes as mentioned by C8: “It is a possibility to learn from other people” already mentioned in the previous section, or the learning about oneself as mentioned in the well-being and health section. Education is here a broader topic represented by many elements.”

6.1.2.4 Mobilization and engagement

Finally, ECS are a place to experience engagement and mobilize people for a common project. An employee of the neighborhood management talked about these initiatives as projects that “foster

participation in the creation of meaningful projects for the neighborhood" NM2 and someone from the Berlin administration mentioned that "they are a place fostering civic engagement and responsibility for a livable environment in their neighborhood" A1. These opinions were shared by many interviewees and come under the larger sub-category of ECS as "inspiration to act". Participants of these community projects learn to practice co-creation and democracy but also, they report developing or reaffirming their values. For example, ECS are a way to engage in a long-term impact project that is positive for the environment, therefore, acting in alignment with their care for healthy food and environmental protection. Also, this category is to be linked with the community aspect of ECS. For example, one coordinator expressed that his project "Brings enthusiasm for building (e.g. raised beds) and gardening together between neighbors" C7. Added to this, learning about how to organize a project through a participative process is also related to the educational aspect of ECS.

To summarize this section on the repercussions of ECS on people's lives, these initiatives have an impact that is diverse and related to many different aspects of human life in the city of Berlin. The data showed that ECS mainly influence the community aspect. It is a place where people create social networks, learn about each other, communicate, and develop open-mindedness. Altogether, this phenomenon fosters social inclusion and has the potential to create more integration of people from different backgrounds and of the most marginalized groups. Added to this, ECS are a place for education. Whether it refers to learning about ecology and nature, food production, healthy nutrition or environmental protection as well as climate change solutions, there is a possibility to exchange about these topics and develop and enthusiasm for them. Following on that, through participating in ECS, people can engage for long term impact or meaningful causes like climate, environment, nature or social network. Additionally, people practice participation, co-creation and democratic decision processes. Finally, ECS are an important place for many participants since it is seen as an outlet, a green paradise where people can be distracted from difficult life situations. ECS are also a place for practicing physical and enjoyable activities, cultivating peace of mind, all this contributing to a better life quality, more happiness, wellbeing and health. All these categories of repercussion on people's life are intertwined and every element influences each other, which makes it difficult to create precise separation between them.

Figure 5 *Wordcloud* representing the main elements expressed by the study participants concerning ECS' social impacts.

6.2 RQ2

This section of the results chapter presents the data collected that will serve to answer the second research question: "What are the practices and features of Berlin's ECS that deliver these social impacts or hamper them?". It is split in three parts concerning respectively: i) the activities of ECS, ii) their organizational structures and iii) the barriers or problems faced during the ECS's development. The data relevant for this second research question was partly gathered in the first contact-interview where the interviewees shared details about their ECS. All this information relevant to RQ2 was combined in a table that can be found in appendix 11.5. Added to this, the second round as well as the final discussion of the workshop provided the rest of the data useful here. During the first round, participants gave insights into the activities and the organizational structures of ECS in general concerning one broad category of social impact (see previous result section).

6.2.1 Activities of ECS producing positive repercussions on people's life

The question of which activities do ECS implement to produce positive impacts on the participants' lives was brought up during the first contact-interviews as well as during the second round of the workshop. The interviews provided an insight into the variety of activities that happen within the ECS' of Berlin in general. The second round of the workshop gave an insight on which activities are efficient to produce one broad category of positive repercussion of ECS on people's life. This section will first present the data from the first contact-interview and then from the workshop.

6.2.1.1 Activities of Berlin's ECS in general

This section presents the type of activities organized in different interviewed ECS most of which are CGs. These activities represent the possible ways for people to meet and work in the garden. They are the reason why people use the ECS and the way through which ECS can deliver the positive outcomes that where mentioned in the previous section.

- **Gardening and harvesting**

The most mentioned activity of the interviewed CGs is the act of gardening and harvesting together, whether it is performed on the same plot or at the same time but on individual plots. Gardening and harvesting occur either during designated hours, especially when the garden is made of shared plots (e.g. C7), or whenever the members come to the garden, almost always in case of individual plots.

- **Workshops and leisure activities**

The second most mentioned activity is the educational workshop. Almost all the CGs are hosting workshops, either to learn something specific like in the project of C6 where this type of activities has an important role (e.g. bike-repair, honey production, essential oils, etc.). Cooking the harvested goods is also considered as a workshop in some cases. Other types of leisure activities sometimes take place in the CGs such as choirs, yoga classes, etc. In the case when the ECS have educational vocation (C4 and C8), the main activities are the workshop offered in school gardens or in the neighborhood in different facilities for a large diversity of public.

- **Co-planning**

Other important activity is the co-planning of the garden. In some gardens (C2, C5, C7, C9b) there is also the activity of planning together, often organized by the coordinating team. This leads to times of building and more important garden work other than planting or harvesting (e.g. building raised beds). Some gardens also are used to have cooking and processing activities with the harvested products. (C1, C5, C8, M1). Other activities are seasonal events (e.g. markets) and festivities (e.g. summer festival, concerts) organized by some CGs and projects.

- **Open hours and festivities**

Some activities comprise ways of connecting with the neighborhood or being open to people outside of the garden, e.g open hours for external people to visit or to present the project to the neighborhood. Also, some interviewees mentioned that there is a designated area in the garden to rest and enjoy the space (e.g. benches and tables) where anyone, not only ECS participants, come to relax.

- **Sharing the harvest and visiting other projects**

Two gardens also talked about sharing the harvest with nearby institutions in need or with the neighborhood (C6, C8). One ECS mentioned a swap-store near the CG where people also have the possibility to meet (C9a), another talked about regular visits to other CGs and projects with the coordinating team and engaged participants to exchange ideas and get inspired (C6).

6.2.1.2 Activities of ECS fostering particular types of positive repercussions on people's life's

This section presents the data collected during the second round of the workshop. The following paragraphs will summarize the data obtained from the participants flipcharts concerning the activities fostering one particular type of positive repercussion on people's lives. The full flipcharts can be found in the appendix 11.6.

- **Well-being and health**

The flipchart concerning health and well-being, was made of the following listed activities: organic gardening, participation in various workshops and cooking. The latter was indicated as being linked with the aspect of nutrition. ECS being a place of meditation, movement and social contacts was also mentioned. Certain ECS have implemented workshops about nutrition, meditation or sports like yoga, aimed to foster a better health according to the participants. One last aspect was also: "Resilience-enhancing encounter", this concerns activities creating human contacts, conflict solving, or leisure activities that help relieving stress from city life. The participants emphasized the fact that through the creation of social contacts, the health aspect was mostly probable to improve, "even though, this aspect can be complicated sometimes" they mentioned.

- **Community**

The flipchart reporting about activities fostering community introduced different aspects. One was events and festivities (seasonal, as part of neighborhood's event management). These can be intern to the ECS or open to the public. In any case, they provide opportunities of "meeting to enjoy" and participate in the "team building" process. As other main type of activity, here participants indicated communication as being an important part of the ECS functioning. Communication is aimed at being "non-violent" and "not-exclusive" and should be functional for everyone. They also indicated the use of mediation and coaching if required and the need for external communication (to the public). Workshops were also indicated here, with types of themes listed, such as: Planning, building, food production, eating, planting and even bees-keeping or essential oils production.

- **Education**

The flipchart concerning education also represented a list of different activities fostering this category of social impact. The presenting group based their affirmations using the example of CGs and school gardens, as they explained during the discussion. Activities mentioned were about environmental education (with specific workshops in the garden or outside in the nature, often with school pupils). The themes proposed were for example: Nature's cycles, valuation of gardening, etc. It was also mentioned that these activities are placed in "hotspot districts". Projects like NEMO (a project to allow children to experience nature in their neighborhood) or workshops for children or adults (e.g. about environmental issues, biodiversity, sauerkraut preparation, gardening on raised beds, etc.) were also proposed. The diversity of activities fostering education is huge, as there is always and everywhere an opportunity to learn, as explained by the participants.

- **Engagement**

The flipchart about engagement also presented a list of activities fostering this aspect. As first mentioned, it was emphasized that creating activities fostering this type of social impact was tiresome, time-consuming and energy-sapping and it depended on people and their engagement. Activities listed were cooperation and workshops with schools, monthly meetings to plan the garden as a process of involvement, as well as having an open and accessible garden with on-site presence. Public outreach through addressing target groups, using slogans or postcards in the neighborhood mailboxes or communicating the expectations of the ECS clearly seems to play an important role in this case. A further element was a diversity of events and festivities, encouraging to bring friends and family to the ECS. The ECS should be a place where people can feel free to experiment without expectation of precise results emphasized some interviewees. It should also be a space to welcome other initiatives in the neighborhood. According to the participants, the activities should have a role of attracting the people, like e.g. cultivating something, waiting for it to grow, and be able to take it home, or similar activities. All of this should participate in creating more engagement from the side of the participants.

- **Nutrition**

Concerning the nutrition aspect, a list of activities was given, each of them belonging to one of these areas: Food production, food processing, and food waste counteracting. As an example, vegetables boxes obtained through community supported agriculture, "Edible cities" concept, permaculture, gardens in schools would concern the food production sector. Gatherings to cook in the neighborhood the food processing one. The activities fostering the valuation of food products and food saving were mentioned such as: Foodsharing. Too good to go, or "schnippel [snip] disco" events.

6.2.2 Organizational structures of ECS producing positive repercussions on people's life

Organizational structures of ECS that produce positive outcomes on the participants lives were presented during the first contact-interview as well as during the second round of the workshop. These interviews provided an insight into the common structures that serve to organize the ECS of Berlin in general (e.g. participative decision process, funded through an institution or from the district administrations, etc.). The second round of the workshop gave an insight into how organizational structures are efficient to produce one broad category of positive repercussion of ECS on people's life. This section will first present the data from the first contact-interviews and then from the workshop.

6.2.2.1 Organizational structures of Berlin's ECS in general

This section presents the organizational structures of the interviewed ECS. These structures are the way the ECS function, the skeleton that can welcome the activities in which people participate.

- **Participatory decision process**

Concerning the decision processes taking place in the researched ECS, it appears that most of the CG use a participatory decision system. In all the cases, one or more coordinators are responsible mainly for the general management of the garden, communication with the eventual funding programs or the organizations of the regular garden meeting hours. However, the participants of the gardens usually have a say in the management of the garden. Sometimes the participants and the neighborhoods have a possibility to express their needs and wants. Then the coordinator(s) plan accordingly (C1, C3). In most cases, people are participating in the gardening plans, sometimes in what they would wish to see for workshops or events (C9). In some cases, the funding institution e.g. a cultural center that has a CG or a specific institution (C7, M1) is deciding or helps with the events organization or has a say in the activities. If the garden is part of a bigger project with specific goals, it must comply with the goals of the project. It is then the role of the coordinators to plan the garden in a way that goes along with the project's objectives (e.g. in the case of C8).
More rarely, participants can only decide on their individual plot in the case of gardens with shared and personal areas for gardening (C2).

- **Managed by coordinators and volunteers**

As mentioned previously, the CGs mostly have one or a team of coordinators that oversee the management of the ECS.
Coordinators are sometimes accompanied by volunteers, e.g. from the federal volunteering service, very common in Germany. Sometimes, the coordinating team is more important, as in the case of larger projects such as the case of C6 where there are around 17 employees in the garden collective.

In general, the coordination team is fully or at least partially employed. How they are funded will be explained in the following section.

- **Supported by an institution or independent ECS**

Concerning the founding and the funding of the ECS, there are mainly two different types of situations observed. Either the ECS is founded, and therefore also funded, by an institution like a retirement home of a church foundation in the case of C1 (C1, C2, C7). In this case, the financial support comes directly from the primary institution, but additional sources of money are always needed (usually provided by the district administration, social programs, etc.). Another situation is when the ECS is created by an independent group of people that are the current coordinators of the garden. These cases are often in contact with the district administration for funding, like the *Soziale Stadt* program, in the case of C8. These ECS, that are in the case of this thesis, either CGs or solely educational workshops, rely largely on external funding (C3, C4, C8, C9) and have their activities either on private lands (C5, C6) or in public areas given by the city (C3, C4, C8, C9a).

- **Reaching out to the public**

Additionally, some interviewees talked about the way they reached out to the public to inform them about the existence of the ECS and to gather more participants. Social media seem to be the common way, either via a page/profile created for the ECS (C3) or through organizing events and then advertising them on social media (C7, C9). Some of them expressed that they occasionally put ads in some journals (C2) or flyers in the neighborhood mailboxes (C9). A couple of ECS also mentioned the creation of a documentary or a video to show the work done in the project (C3, M1). Finally, in almost every case, ECS organize open garden hours to welcome new people in the garden and present the project.

6.2.2.2 Organizational structures of ECS fostering certain types of positive repercussions on people's lives

This section presents the data collected during the second round of the workshop. Participants were asked to write about the organizational structures that their ECS, or ECS they knew were implementing and that would have an influence on one of the five broader categories of repercussions of ECS on people's life. The following paragraphs will summarize the data present on the participants flipcharts. The compilation of all the flipcharts can be found in appendix 11.6.

- **Well-being and health**

For this category, the participants mentioned that the organizational structures fostering well-being and health were participatory decision processes, not top-down, and transparency. These processes of democratic and transparent decision making should be accompanied by some competent people, as expressed by the participants. A very important aspect was also the networking with health-bound-institutions, e.g social security services, retirement homes, etc. It was indicated that people should be advised more easily through formal or informal counselling structures and supported in finding resources to take care of their health. Some ECS could have a role in creating a better network between people and useful resources. It was also emphasized that the structure of the ECS should be adapted to the target groups and that not every structure will fit. They gave the example of a big community garden (C6) that has a structure adapted for a variety of people, through the diversity of workshops, plots to garden, etc. This structure cannot be compared with ECS being school gardens targeted at one specific public. Which shows that the adequate structures can be very different from one project to another.

- **Community**

The flipchart for community expressed simply that the organizational structures need to be "as flat as possible, and as many as necessary". Later they explained, it is easier to create a community within the ECS when the group becomes autonomous. This can be done with the help of a specific methodology, such as team building, the "dragon dreaming method", sociocracy, etc. An important aspect to consider, according to the participants was, however, the question: "how do we avoid overloading?".

- **Education**

Regarding education, the participants gave a list of organizational structures they are currently personally experiencing. Could be found: workers employed part-time at the "Maltesern" association which is financed via donation, an office structure (gBr) partially financed through project funds an other sources, or the gGmbH structure, self-financed through the gastronomy facility on the ground of the ECS, the garden activities and project funds. Also, the use of applications for funding was mentioned. The participants explained that although a lot of work was done by volunteers in the ECS, not all the responsibility could be borne by them, and that employed, responsible people for the projects should always be there.

- **Engagement**

For this category also, the participants mentioned the way they are funded and what kind of institutions are linked with them. There was the mention of the employed garden therapist (with professional competence). They also mentioned BUFDI, European volunteering services and "Beetpaten" (Partnership between raised beds and the public).

- **Nutrition**

For this category, the participants gave a list of structures or associations having a link with the food production, food processing or the counteraction of food waste. For example: Schoolgardens, CGs, Kiez-terasse, CSA, Slow Food, organic shops, markets, Berliner Tafel, Sir Plus, Klimawerkstattspandau, etc. The aspect of food waste was indicated as very innovative according to the participants.

6.2.3 Elements possibly hampering the positive social impacts

This section presents the issues or problematics raised by the interviewees and/or participants of the workshop during the final discussion. Seven major aspects negatively influencing the development of ECS in Berlin's disadvantaged neighborhood have been identified.

6.2.3.1 Exhaustion of the coordinator and participants' non-engagement

The most common problem mentioned mainly by the coordinators of ECS during the phone interviews was the difficulty to hand over responsibilities to the participants of the garden. This happens when the original design of the garden is such that one coordinator is supposed to take all the decisions. As expressed by C7, the coordinator is then "very present and involved in the garden, and the lack of real investment from the side of the participants makes it exhausting and senseless."
In this case, the interviewee tried during the past years to create more engagement or give away some responsibility, but it remained a struggle. "If the wish of having a garden doesn't come directly from people, it brings difficult aspects […] They think that whether they participate or not, the garden is still going to exist, the institution will take care of it." This issue was also emphasized by C3, C8 and NM2 and shortly mentioned by other interviewees. C3 mentioned about their seeking for people with agricultural knowledge to get engaged in the garden, but without success. C8 and NM2 expressed that the problem is to find someone to take over when the coordinator leaves and on a

long-term basis. C7 mentioned that every year, the group of participants was changing, and this was also a factor that hampered a real engagement or making it hard to switch from top-down organization to bottom-up. Many interviewees struggled with how to reach out to people and get them engaged in the garden.

Sometimes participants that are very engaged in the project can also suffer from exhaustion due to excessive responsibilities. This can be the case of coordinators that struggle to gather additional people to handover some responsibility or also of participants that are strongly committed to the ECS. C9 talked about an eventual negative social effect when mentioning burn outs and stress occurring in CGs and M1 expressed the frustration and disillusion that one can feel, when the projects fail.

6.2.3.2 Difficulty of reaching out to people and the diversity of needs

This second aspect, more complex, was defined as problematic by the local stakeholders. Reaching out to the public can be an issue that manifests itself in different ways depending on the structure. Concerning educational workshops, both C4 and NM1 mentioned that including the parents into the educational process of the children was a very difficult task. The children can come from families with different background and not all of them are receptive or interested in the topics discussed in these workshops. They expressed that assessing the impact of these educational workshop was difficult, since little contact was kept with the family and the difficulty of reaching out to the parents did not help to continue to discuss these topics at home. Similarly, C9 talked about the problem faced when reaching out to different types of public in the neighborhood. He said, “Here [Neukölln], there are two parallel worlds in the district” On one hand, through the diverse workshops and the swap-shop, it is rather mothers and seniors from migrant families that are present in the project. He also wants to make “gardening and recycling cool again” also for young people. He said “In some parts, gardening or recycling clothes is seen as super hippie thing. It’s not an option to recycle, because it's easier to buy cheap. There is a lack of role models for the youth”. On the other hand, M1 also talked about this effect saying that in her neighborhood, ECS can be seen as very exclusive or “hipster” and for example, the seniors might feel like they can’t participate. She wondered, “how can you open up to those who don't feel so hipster and how can you radiate outwards and change this negative demarcation?” The same opinion was also shared by NM2.

Besides, while some interviewees said that ECS, e.g. workshops are a very popular activity, trendy and that they are always “welcomed with open arms” (C4), other explained that plenty of social facilities are proposed and people don’t come to the garden easily. For example, according to one interviewee, in her neighborhood with 34% of people having a migration background with a great deal of social housings (around 10% more than in the other districts), there is already a lot of social facilities (sports, workshop, etc.) and people don’t come so easily to the garden.

What also came up is that generally, people engage with ECS close to their habitation. C7 said “In Berlin, 3 metro stations are already too far”. Easy access is important to get participants to the gardens or the workshop. C9 also said that people tend to come when it suits them, and they are not regular. He explained that the people come when the place is familiar but on their own initiatives. “They come because it is free, or because they know the place, or because they see that it was offered multiple times.” (C9) Participants of the workshops or the ECS often come, not because they are familiar with the topics proposed, but because it is free or nearby. (C9) And once they are used to coming, they are more engaged and are part of “the family”. (C9)

This fact is common in most gardens and in fact, C9 added that it is important to keep in mind that the group of people involved in a project will always be fluctuating and that "[…] In 10 or 20 years that a project lasts, we cannot expect to have a fix team." (C9)

6.2.3.3 ECS can be seen as too exclusive

CGs are usually open to anyone willing to take part in the project, even though in some gardens like C2, there is a need to pay a lease to have an individual plot for gardening.

But, in some cases, the profile of the participants has been criticized, mostly in reference to the exclusivity of some CGs. One quote from the final discussion of the workshop illustrates this issue very effectively: "In the place where I live, we have found that community gardens are often seen as very exclusive places. The older residents of the neighborhood see it as an activity in which they can't partake." (M1) This opinion was shared by some other participants to the workshop. During an interview, both A1 and E1 addressed to the topic that CGs are sometimes blamed for being used only by the educated middle-class group. There can be a link between socio-economic status and CG access in some areas. It is not always as dichotomous as in the opinion of M1, but apparently still happening sometimes.

However, it appears also through the results gathered, that there is no typical type of person participating in the ECS, except in cases where the ECS is dedicated to a certain public like children in school gardens (C4) or seniors in a CG in a retirement home (C1). C7 mentioned that in the ECS he coordinates, people visiting the garden have a rather low economic status, often with a migration background, often unemployed. He used the term "marginalized" to the most recurring type of person. There are also young people, students or families living in the neighborhood as well as seniors from the neighboring retirement home. The same type of mix of people from different social groups is found in many of the interviewed ECS. (C2, C3, C5, C7, C8, C9a). For example, both CGs that C2 or C3 coordinate are situated in an area with numerous collective accommodations for migrant families. Most people coming to the garden live there. In the same interview, C7 compared the profile of his district Wedding to Neukölln or Kreuzberg which are more "hipster" according to him, and the profile of the people participating is greatly different. However, an ECS coordinator from Neukölln testified that the same kind of diversity of participant is present in his ECS as in the one from Wedding. " […] through the diverse workshops and the swap-shop, it is rather mothers and seniors from migrant families who get involved in the project" (C9)

What needs to be remembered is that clearly, the diversity of ECS is huge and they involve different social categories of people in different districts, but that some ECS can be perceived as too exclusive.

6.2.3.4 Instable financial situation

Another major issue mentioned by the ECS stakeholders concerns the funding situation. It appears that this aspect is recurrent in almost every ECS. Interviewees like C5 mentioned that their project is for now totally dependent on funds, but that this money income is never stable. C4, an independent company doing educational workshop also testified struggling to find stable income. In some cases, the interviewee mentioned that employing someone in the garden would help it become lasting, but that it is financially impossible. (C2, C3) C1 mentioned the paradoxical character of social projects like the therapeutic garden he coordinates. He said that, to make the garden lasting and sustainable, the "most important thing is the money". However, because the focus of the garden is social, he expressed the impossibility to spend too much time and attention on the financial aspect. The constant and time-consuming search for new funding sources was also mentioned by M1, C4, C5 and

NM1. C4 on the other hand observed that in case of educational workshops time is precious to reach out to the children or adults who participate in the event. The financial stability is here necessary as "education is a long process". Adding to these elements, C1 thought that developing an assessment tool for the ECS would be of a big support when looking for funding with bigger institutions.

6.2.3.5 Displacement of the CGs

Another issue almost as largely mentioned in both the interviews and the workshop as the two previous ones concerns the instability of the areas for the ECS, or the fact that the CGs are often being displaced during the time of their existence. This comes from the fact that CGs are often established on temporary areas like in the case of C2, C5, C6 and C8. The city is growing fast, and many fallow lands are being used for construction. This is an issue because the CGs need to then re-establish somewhere else or eventually stop existing. When gardens are displaced, the group of engaged participants is inevitably changing and the social impacts on them or the neighborhood are not the same. C2 mentioned that the new garden that has just been re-created is now only secured until 2022 because the land belongs to GESOBAU, one of the six municipal housing companies in Berlin. The interviewee explained that, in order to get a secure spot, the project should be able to show that it became a real asset in the neighborhood in only two years. It is a short period of time. NM1 also added that the area issue varies from district to district. In the more central districts of Berlin, free spaces for CGs are rather scarce, whereas in the outskirts of the city, green zones are much more numerous, e.g. in Hellersdorf. Talking about this lack of space aspect, A1 expressed that in the development of the city, the green areas should be integrated in the urban planning. Because they are, according to him, necessary for a sustainable city. The growth or the housing areas, which is currently inevitable, should not threaten the development of green areas, like e.g. CGs. That being said, E1 mentioned a rare but important element about the fact ECS are sometimes seen as the privatization of a public space by individual actors, when they actually are a common good.

6.2.3.6 Lack of network or cohesion between different institutions

The lack of network relations and cohesion between different institutions concerns the relationship between ECS projects and the different institutions they are affiliated to, or the city in general. It was manifested when speaking about reaching out to different institutions or administration offices. Both C5 and C8 said that in general, there should be more connection between people engaged in an ECS and other institutions (such as counselling offices for ECS, funding institutions, administration, etc.). They explained that a more important network of actors and cooperating institutions could be the occasion to improve the learning on how to solve some issues, create gardens, etc. or to be more efficient in their actions. For instance, when a school has too much fruits in their garden, they could have a direct link to people who would need them. The opinion of C9, adds to this topic when he says that it is easier to start projects embedded in a bigger framework because there is already a network of people who are already engaged in the process and have knowledge on project creation.

Mentioning the network aspect, A1 also expressed his wish of seeing more cooperation between different Senate departments to create dedicated working groups that would come from different backgrounds and work more actively on the ECS topic or green and sustainable city in general. This would foster the creation of concrete projects since he says that societal demand and pressure "for green solutions" might not always be enough to create lasting projects. Adapted measures and cooperation should be taken by the administration.

6.2.3.7 The human factor

An issue less mentioned but still relevant concerns the "human factor" as expressed by the local stakeholders. C8 talked about the conflict arising between people with different approaches on design or practices used in CGs. "There are different approaches […] 'very nature' or 'conservative' […] People are not bad and don't mean to create conflict" She said, "but they just have their very specific way of gardening in the blood, and they can't change that". This issue was also mentioned by C9 concerning the CG built on an old brownfield land. "This area was previously used by dog owners and still is used nowadays by them. Also, homeless people come for sleeping there… Drug dealing activities take place in the garden… and younger people using it as a disposal." In this case, conflicts often arise between the users of the garden and people that used the area for other purposes. C9 said that sometimes "the project is almost too much social […] Even though we tried to create discussion, we didn't manage to create a peaceful togetherness". Comparably, C2 told about the situation in the previous CG, before it got displaced, where the original objective was to foster community feeling and social inclusion. But they experienced a lot of conflicts bound with racism, exclusions, and many more, mostly on the common areas. She said that "the reality was far from the expectations".

In some cases, this aspect concerns the relationship with the neighborhood. C7 explained that the neighborhood does not always get along with the project, referring to the amount of festivities and noisy events in the CG that were multiplying with the expansion of the garden. He estimated that 50% of the neighborhood was against the project or had a negative opinion about it. He added, "It is difficult in this case to understand the needs of the neighborhood and find a common ground". C9 mentioned also being in this situation and said that the neighborhood does not get along with some aspects of the CG. In other situations, however, the neighborhood enjoys the existence of the CG. Like in C6's case, where the CG is situated on the free space of a cemetery. Visitors expressed their satisfaction of seeing this place "livelier". They explained feeling safer and less lonely when going to the cemetery.

On the same topic, the testimony of NM1 speaking of a situation that occurred in one CG of the neighborhood emphasize the fact that the human factor is an important element that plays a role in the success of the project. She says, "Human factors are not considered enough in the indicators! Let's take the example of this woman that nobody could stand working with. The situation is not durable because of the human situation, no matter how good the project was. We often don't imagine that so many factors could play a role. We need to be careful. [with the assessment]"

6.3 RQ3

This section presents the data collected during the third round of the workshop that served to answer the third research question: "How can we assess the successful contribution of ECS to social challenges?" The question will be fully answered once the results presented in this section are confronted with data collected for this work. This will be discussed in section 7.3 of the discussion.

6.3.1 Indicators from the workshop

The following table presents the summary of the information given by the participants concerning the way they thought to monitor the success of the ECS, that is, if ECS delivered the expected social impacts or repercussions on people's life. Table 5 compiles the answers to all the broader categories.

Table 5 Social indicators or assessment methods given by the participants of the workshop and the corresponding areas where ECS have a social impact (columns 3, 5). F=Food, WBH=Well-being and health, E= Engagement, C= Community, Ed= Education. Type of indicators or method of assessment, indicator description and broader corresponding area attributed during the data analysis (columns 1, 2, 4).

1.	2.	3.	4.	5.
Area assessed (data analysis)	**Indicator description (data analysis)**	**Examples of indicators or methods of monitoring proposed by the participants (workshop)**	**Descriptive or Subjective/Quantitative or Qualitative**	**Category to which it refers (workshop)**
Food system	**Food diversity**	Diversity in the offer of food (species and variety)	**D, Quant or Qual**	**F**
	Consumption of organic or healthy food	Amount of healthy food consumed (organically produced) e.g. amount of organic shops	**D, Quant**	**F**
	Appreciation for food quality	Increase of the appreciation and awareness for good food, methods: personal contacts and discussion (in workshops or at home), Taste test (between own harvest and supermarket)	**D or S, Quant or Qual**	**F**
	Food waste	Food waste amount	**D, Quant**	**F**
	Soil quality	Soil quality analysis	**D, Quant or Qual**	**F**
People's well-being and health	**Physical health**	Physical fitness or condition	**S, Quan or Qual**	**WBH**
	Well-being	measuring personal well-being, Feedback questionnaires, self-reflection and statements ("very important")	**S, Quan or Qual**	**C, F, WBH**
Social cohesion	**Integration**	acceptance of overall social sustainability (integration)	**D or S, Qual**	**E**
	Diversity of the people participating	Question: "how diverse is the group?"	**D, Quant**	**C**
	Social cohesion	A community, group is created, Question: "Is this a lively place for meeting, for the neighborhood?"	**D or S, Qual**	**C**
Development and appreciation of the	**Development of the ECS beyond the project**	Active development in further activities “spin offs” in link with the garden (eventually outside of it), creating a larger group	**D, Quant**	**Ed, C**

ECS	**External appreciation of the ECS**	Recognition and appreciation beyond the ECS (e.g. Neighborhood)	**D or S, Qual**	**E**
	Online visibility of ECS projects	Social media website and appearances of organizations and activities	**D, Quant**	**F**
	Appreciation of the ECS by the participants	Project is represented by many people/willingness to be represented by all/many ambassadors for the project. ""Do the people feel responsible for the project? Are they proud of it?"	**D or S, Quant or Qual**	**C**
	Development of the ECS	More and more participants, Repetition of the workshops, High demand and participation	**D, Quant**	**E,C, F,WBH Ed**
	Participant engagment	Participants are engaging long lastingly, number of participants coming after the WS, Participants become active to passive	**D, Quant**	**E, F, Ed, C**
Internal organi-zation	**Use of democratic processes**	Politization + democratic engagement in ECS	**D, Quant or Qual**	**E**
	Self-organization	preparation and achievement of self-organization	**D, Quant or Qual**	**C**
Efforts to safeguard of ECS projects	**Stability of ECS existence**	Place became secure/was appropriated	**D or S, Quant or Qual**	**E**
	Long-term existence of the ECS	Safeguarding the location in the long term, monitoring the long-term existence of the garden	**D, Quant**	**Ed, C**
	Economic stability	Increase of contractors/clients and prolongation and funding of projects (WS), become independent of funding OR tailor-made support through administration	**D, Quant**	**F, E, Ed**
	Academic and political attention	More scientific research, Political attention Transfer through academia	**D, Quant**	**F, Ed**
	Creation of programs out of ECS	Projects become programs (with regular funding)	**D, Quant**	**Ed**

This table was inspired by the document of a working group of the project EdiCitNet in charge of developing social indicators (WP5) (EdiCitNet, 2019).
What this table shows is the way the local stakeholders of Berlin's ECS think about assessing whether the ECS they know or are a member of, successfully influenced one of the broader categories of social impacts (fifth and last column). During the data analysis, different types of indicators were identified from the elements written on the flipcharts by the participants of the workshop (third column). Broader categories of indicators were also assigned during the data analysis, in order to have a better overview of what area of the ECS are being assessed. For example, to measure the economic stability, it was suggested to see if there was an increase of contractors or clients, or to see if there was a prolongation of the funding for ECS projects. During the workshop, this type of indicator was mentioned to assess the social impacts in the realm of "Food", "Engagement" and "Education". Which means that if there is in fact an increase of clients and prolongation of funding, the ECS will have a positive impact in these previously mentioned categories of social impacts. This indicator was placed under the bigger umbrella of indicators to monitor the efforts to safeguard ECS projects.

The participants proposed quantitative indicators, as well as qualitative ones. The quantitative indicators are often used to measure the engagement of the participants (e.g. number of participants, number of participants who are coming back, rate of new participants coming to the activities, etc.). They are also used to measure the outreach of the ECS in the neighborhood, by measuring for example, the number of "spin-offs" deriving from the garden, so, the outreach of the initial initiative into the neighborhood, and into the society. They are also used for monitoring food waste and the diversity of the food offer, as well as the amount of healthy food produced and consumed. Qualitative indicators from the workshop were proposed to monitor the appropriation of the ECS by the local stakeholders, and their mobilization in the project, such as "secure space that has been appropriated". These indicators were also suggested to investigate the recognition and appreciation of the ECS in the neighborhood and among its users, through the willingness of being represented e.g. "do the people feel responsible for the project?" or "is it a lively place for the neighborhood?". Other dimensions for which these indicators were mentioned include the assessment of the well-being or the analysis of the level of self-organisation within the garden. Also, the outreach, or how the garden "radiates to the outside", can be measured qualitatively. Additionally, the appreciation of food produce can be assessed through discussion. For other topics, self-reflection and statements are very important.
Each category of social impact is assessed with a mix of qualitative and quantitative indicators. However, to measure the "engagement" as well as "community" creation, there is a higher proportion of qualitative indicators that in the three other categories.

6.3.2 Additional remarks extracted from the first contact-interviews or the workshop discussion for the assessment of ECS

One interviewee working in the Berlin's city administration (A1) provided some thoughts about the assessment aspect of ECS. This section summarizes his point of view on the topic which is very relevant to this work since this person has a lot of experience with ECS, similar projects and their implementation as well as their social impacts. Speaking of CGs he explained that every project is very diverse in their organizational structures, programs, topics they cover, locations, etc. Having a common method of measurability for assessing the social dimension in general is, according to him, a difficult task. "you can't create laboratory conditions in the city." Some projects try to use quantitative indicators, but the situation is often too complex to be described with numbers, he said. E.g. talking about the fact that ECS are supposed to diminish violence in the neighborhood in which they are implemented. "can you measure the youth crime rates around the CGs? That is of course

again a totally absurd question, because the factors that play into it are simply too different and too complex. It concerns therefore the argumentation about why these gardens are important and what effect they could have or probably already have. That is the only convincing way so far actually, I believe, for the people working in this field without feeding that now with a huge amount of numbers." Some useful quantifiable aspects would be e.g. the number of gardens. According to him, there is now around 200 ECS gardens in Berlin, from classical CGs to school gardens, and some small Kiez projects. He adds that it is necessary to regularly update the list of gardens and understand how they function, their role, etc. but that 200 gardens is already an impressive number.

About using ECS as a means of addressing societal challenges, A1 offered a noteworthy perspective. He explained that ECS are small solutions for places with big social problems, called social hotspots, which are very complex. According to him, it is hard to imagine, for example, a community garden could alleviate poverty or crime. However, he considers that ECS can have a significant indirect effect on these problems, through their social dimension.
"These are problems that lie on completely different levels [...] but it can have indirect effects, which might help to stabilize neighborhood cohesion." His argument ended with the statement that it is necessary to be careful when measuring the effects of ECS since it is necessary to directly tackle the "real" problems [like criminality or poverty].

Additionally, E1 added to this topic in order to assess the impact of ECS on health for example, there would be the possibility to work closely with appropriate medical professionals in order to find out about a correlation between the use of ECS and the enhanced health. However, he insisted on the fact that there are data protection guidelines (that are "absolutely necessary") that prevent to use this data for an assessment. One participant even added that "the only times we can get fully checked for our health status is when we enter school as kids, or when we die… and this is already too late!" Hence the need to use qualitative indicators and ask the participants directly about their personal experience in the ECS and encourage self-reflection of the ECS participants.

During the final discussion of the workshop, it was emphasized that, in order to measure the impact of the ECS on people's life, it was important to listen to their feedbacks, what they were saying about the projects and if they were coming back. Often, this was the type of assessment method mentioned to understand if ECS had a repercussion in certain areas of people's life e.g. education, engagement, well-being, etc.

Some participants explained that measuring the impact of ECS on the area of education was "extremely complicated". One indicator could be the increasing number of participants to the workshop in order to understand how large the reach of the educational workshop is. But it does not indicate if people successfully learned something. In this case, it is a difficult task because the learning process takes time, because the projects sometimes are unstable and cannot give a lasting effect on people's life and because it is complex to understand what message do the people take home after partaking in an ECS.

7 Discussion

This chapter will discuss the most significant results with regards to the three research questions and the objective of the work. Larger patterns will be represented, and relations with the available scientific literature will be made. Additionally, some limitations of the study will be considered towards the end of the chapter. As a reminder, the main objective of this thesis is to contribute to the knowledge on the relevance of ECS in the work on social challenges in cities and especially in

disadvantaged neighborhoods of Berlin. The outcome of this research should be used as recommendations for future ECS owners or creators, the project EdiCitNet and city planners.

7.1 Social impacts of ECS and their influence on social challenges

Social impacts mean that the structure or the project implemented (here, ECS) have an influence on how people perceive or interact with their environment or any areas of their lives. ECS can potentially have an influence at many levels, considering the fact that they are a place combining "resource acquisition, subsistence, recreation, spiritual expression, or social gathering", all of which play important roles in the human life. (Townsend & Steedly, 2014, p. 6078)

The investigation on the social impact of the ECS in this thesis showed that Berlin initiative of CGs, environmental education workshops, projects around food waste and gardening in one neighborhood do have an impact on various areas of human life. ECS foster community building, are useful tools for educating in environmental and sustainability topics, enhance health and well-being, and stimulate the engagement and the mobilization of the participants. According to the results of the phone interviews and the workshop with ECS members in Berlin, two most reported positive impacts act at the community and educational levels. First concerns fostering social cohesion, development of social networks, open-mindedness and a positive neighborhood dynamic. Second relates to education on topics of environment, gardening, creating projects, social dynamics, co-planning. The most popular activities remain gardening, workshops, leisure activities and co-planning.

To understand to what extent ECS can contribute to solving social challenges, it is necessary to have a closer look at what the social challenges in these areas might be. Going back to the definition of disadvantaged neighborhood and the feedback from the interviews with the *Soziale Stadt* program employees, the following is considered:
Social disadvantage, according to the literature and the program *Soziale Stadt*, means low levels of education, occupation and income. Classic disadvantages or societal issues concern the fact of being unemployed, receiving social assistance, having a poorly equipped housing, low school education, high crime and violence rate, etc. (Bundesministerium des Innern für Bau und Heimat, 2014) Other studies consider societal issues being poor health (both physical and mental) and social isolation (Koroļova & Treija, 2018). Added to this, we can consider the lack of opportunities pointed out by the sociologists Keller (2013) and Masson (2016). Specifically for Berlin, the topic of social exclusion, isolation and marginalization of certain groups was emphasized by the interviewed employees from the *Soziale Stadt* program and the available reports on the topic. (Baum, 2007)

The results of this thesis have shown that partaking in an ECS can be an outlet for difficult life situations, an opportunity to be empowered through involvement in meaningful projects and learning new things or having a new social network. These aspects can help with mental issues and overall better well-being which is one of the biggest challenges within the societal issues nowadays.

One study analyzing the rise of community, therapeutic and educational gardens in different European cities, puts the emphasis on the fact that city gardens are nowadays an important tool in the work on societal issues. City gardens have evolved in the recent years to be more than the classic allotment garden focused mainly on food production and green areas. Their results show that city gardens have now mostly a role concerning "societal issues, urban regeneration, education and health" and the gardens have a positive impact on "social integration, inhabitants' well-being and urban regeneration" (Koroļova & Treija, 2018, p. 1). This point has also been defended in a recent article by Lindner (2021). Other studies show results for activities of gardening or that connect with

the natural environment to create positive impacts on mental health as well as physical. There are many reasons to assume that ECS have a great potential to solve social issues in disadvantaged neighborhood. Scholars have discussed different theories revolving around the ability of activities that link nature and food with people to target specific societal problems. ECS being a place where physical activities are possible, physical health seems to be fostered too. One example would be the theory presented by Ives et al. (2018). Their paper *Reconnecting with nature for sustainability* states that reconnecting people with nature can be a powerful tool to achieve greater social sustainability (Ives et al., 2018; Koroļova & Treija, 2018; Lee, 2020) Another one is presented by Burke (2018). Only recently, the focus of the research on health has switched from suggesting to change people's behavior in order to enhance their health to seeing the major influence of people's environment and their activities on their health. In this regard, people's partaking in ECS can have a benefit on their health. These findings confirm the ones from this thesis.

Another societal issue is the social exclusion or isolation of people who are considered as marginal. It is also qualified as a major issue in the study by Koroļova and Treija (2018). Here again, our results show that, by having a place to interact with people from different backgrounds, by planning the planting, a workshop or working together, the participants of ECS have an opportunity to feel more connected to a group and experience more social cohesion. A study by Sturiale et al. (2019) taking place in a disadvantaged area of Catania, Italy has found similar results. Using the Social Network Analysis method, they saw that urban gardens significantly enhanced social cohesion and social inclusion.

The fact that the participants can engage in projects that are meaningful, reinforce their values and act for and with the community, is also a tool for integration and inclusion. The participation in workshops, gardening and the development of a social network are also sources of new opportunities or an outlet for a difficult life situation. This gives a possibility to have new outlooks on life, on the others and on oneself. A great example was given by an interviewee of a community garden who mentioned that young unemployed people find a place to experience, learn new skills and build self-esteem. This aspect is also researched in the study of Timpanaro et al. (2018) in their article *Urban agriculture as a tool for sustainable social recovery of metropolitan slum area in Italy: case Catania*. Similarly, given that ECS provide a place for education, they can be considered as places creating new opportunities, which is one of the aspects lacking in disadvantaged neighborhoods in general.

ECS seem to alleviate some societal issues, however elements of disadvantaged neighborhoods like poor infrastructures or equipped homes, crime and violence rates or unemployment are not solved by these initiatives. Some participants of this research have talked, however, about indirect impacts of ECS on social issues. For example, by creating spaces to practice nature-bound activities, develop social networks, practice mind-openness. Consequently, social cohesion is fostered, and violence or crime rates can be lowered in the area as a side-effect. Increased engagement can also foster more social impacts and therefore enhance these aspects (Lindner, 2021). As many Berlin ECS implement educational workshops, the implementation of workshops dedicated to violence or non-violent communication could be an aspect to explore.

Concerning the issue of unemployment, studies on the topic of ECS or similar project give many examples of small-scaled commercial urban farms that aim at providing income to marginalized groups and low-income individuals. As explained in one of the studies, in some parts of Canada, the elderly constitute a big percentage of immigrants. They mostly suffer from social exclusion and live on very low income. Here, engaging this group in an urban agriculture project for commercial purpose is seen as a way to overcome their social and economic problems. (Beckie & Bogdan, 2010)

The same idea with young unemployed people was studied in the research project of Martin and Vold (2018) and a study by Poulsen (2017) showed that a small-scales commercial farm was offering good financial stability for low-income target group in general. These types of ECS act as means of providing income to the poorest groups and provide them with more opportunities. As such they can help to alleviate economic issues and social exclusion.

7.1.1 Summary of the discussion on research question one

To summarize this first section of the discussion and answer the first research question "What are the social impacts of ECS that can help solving social issues?", ECS do have a positive influence on social challenges like social exclusion of marginalized groups (elderly, migrants or young unemployed people), poor health (both mental and physical) and lack of opportunities in disadvantaged neighborhoods. They mostly act on these issues by creating a space that develops mind-openness, fosters education, creates a community, and gives a possibility to reinforce one's personal values by engaging in various projects, and finally a space for physical activities, nature connection and mental well-being. It was observed that ECS had less potential in alleviating some social challenges like violence, economic difficulties or poor infrastructures. However, for violence and economic struggles, some testimonies show that there is an indirect influence of ECS and there seem to be options to implement workshops on the topic. ECS as small businesses can also be implemented to alleviate some economic difficulties.

7.2 Important consideration for social impacts creation

Concerning the features of Berlin's ECS, some recurring activities and organizational structures have been identified to demonstrate that ECS deliver social impacts. Very common activities were, e.g. Gardening, harvesting together, sometimes sharing the harvest with the neighborhood. The organization of co-planning sessions, open garden hours and seasonal events as well as educational workshops or other activities are welcome in the project structure. These activities also were reported to foster the engagement of the participants, the community aspect, education, well-being and health. Certain elements were specified as fostering the dimension of community, well-being, health and engagement. These comprised a participatory, democratic decision process, involving all or some members in the garden planning, supervised by at least one coordinator and finally the open access to anyone at any time.

If we consider the success of ECS being, in our case, the effective creation of positive social impact that will target social challenges, these activities and organizational structures are necessary for the success of these projects. However, the analysis process of the data showed that there are significant problem factors that come at play in the functioning of the ECS, and that they might hamper its success. These can be called fail factors, using the vocabulary adapted to the SIA by Townsend and Steedly (2014). As mentioned by the participants, sometimes it is forgotten how complex the causes and consequences of an ECS's success can be. Therefore, we need to understand how to diminish the problem. This chapter will dwell on important aspects of creating social impacts.

7.2.1 Structures and activities where people can engage and decide are needed

As found out during the interviews, the engagement of people in the project is crucial for its well-functioning. If the participants come to the events, to the activities or to the garden very occasionally and do not engage in the planning process or they don't come regularly, there is a risk that the coordinators become exhausted and even burned out, trying to keep on running the garden. This

seems to be the case when the garden aims to be participative and is run by different people that should engage in the chores and tasks of the agricultural and social initiative. In this situation, if people do not engage, one or two persons in charge of the garden are left alone and do not find incentives to keep on sustaining the garden. Participant engagement is therefore necessary for an ECS (mostly CGs) to run well. However, the results show that the participants non-engagement is a recurring significant problem happening in many ECS. This aspect is an ambivalent topic of this study, because through the interviews and the workshop, it was found that some of important positive impacts of participating in ECS are the possibility to engage in meaningful and constructive projects, reinforcing values such as civic engagement, biodiversity protection, local food production, social inclusion, etc. Thus, this work shows that although people do have interest in engaging in ECS, they still do not engage enough.

On one hand, the organizational structures that were the most described, as explained earlier were co-planning and horizontal decision process (participatory, asking the neighborhood for what they want and need). These have shown to foster engagement and community feeling. In fact, during the interviews and the workshop, many participants expressed that these were crucial aspects to develop in the ECS in order to have social projects, adapted to the people of the neighborhood. ECS should aim at becoming more self-organized and managed by the participants according to the people interviewed.

On the other hand, it appears that many of the ECS interviewed were projects initiated from institutions (e.g. a cultural center) or by people external to the neighborhood. This is what was called by a group during the workshop: “Initiated from the outside”. Bródy and de Wilde (2020, p. 243) talk about “four governance actors, namely local government, welfare organization, green NGOs and housing associations.” or “top-down” governance Similar institutions are also found in the Berlin context like cultural centers, housing associations, the program *Soziale Stadt*, social and educational programs from the city or the government, and so on. They act as funding support for CGs and similar projects but have also a high influence and expectations on the outcome of the projects.

What is possibly at play here, is that the engagement of the participants is slowed down when people do not feel a strong identification with the project yet, because it has been initiated from the outside. (Lee, 2020; Lindner, 2021). A study by Kingsley et al. (2020) also shows that poor leadership and poor engagement decrease the chances of creating social capital in CGs.

Further, more time is needed time to develop structures where people would want to engage. For example, one participant expressed that a project like a CG was a very personal choice, that was sometimes linked with a fear of failure. Many other participants told that a “good project” should be one where people feel safe to try out, experience and where there is a possibility to experiment without being judged. Time prospect is another issue that was mentioned during the interviews. The projects being displaced because of the need for housing development or because the leases are short-term. Oftentimes, quick results are expected by the funding institutions in order to secure the garden and this doesn’t encourage people to engage in the long run.

Therefore, the ECS framework would beneficiate from the creation of structures that allow a more democratic decision process, letting more space for local stakeholders to create a project that suits their need, with little to no pressure of quick results.

7.2.2 Stability and support are needed to create social impact

Stability is one of the aspects mentioned as important to present lasting effects.

Frameworks like ECS could benefit from a support system that ensure their stability, e.g. sufficient funding to employ one or more person that would be in charge of managing the project. This was suggested many times by some exhausted coordinators, tired of constantly looking for money. In general, what comes out of the result section is that ECS getting support from a funding institution (e.g. cultural center) or organized by a larger structure (e.g. program *Soziale Stadt*) are more stable and are less threatened by being displaced.

Therapeutic gardens, such as retirement or life-aid home, are most likely to get support from institutions. Such was the case of at least two interviewed ECS. These projects need this support to provide the expected social impact, as the aim is mostly to alleviate the difficulties linked with a disability, to provide an outlet, create a space for community creation and leisure. In this situation, engagement of the participants is not expected for the well-running of the ECS, but the ECS is expected to run well in order for the participants to get positive impacts out of it. In this case however, funding is also an issue as expressed by our interviewees. As C1 said, "We need to set aside the financial aspect. Here it is about garden therapy. What we do is necessary for elderly to forget their solitude and physical problems, to go outside and move, to create connection and social activities. You can't buy someone's well-being". This quote shows the need for bigger financial support, so that the ECS can ensure the expected social impacts.

Stability and financial support are therefore crucial elements to produce expected social impacts.

7.2.3 Paradox between funding and self-organization

This situation offers a complex paradox. On one hand, ECS need to be participatory on a deep level, which means, offering the possibility for people to engage at many levels of the decision process, allow them to experiment and to shape the project in the way that is adapted to their need. This seems to be a way to create more engagement and community feeling, according to the local stakeholders of these projects. And for that, ECS need to be independent financially, or rely on a stable source of income, in other words, to be self-organized. On the other hand, these projects show how highly they beneficiate from the support of a funding institution or structure (e.g. a cultural center) in order to develop and start to provide these expected social impacts. These funding structures, however, do have expectations concerning the goals and the direction that these projects take. The question is now, should the funding institutions have lower demands concerning the outcome of the garden and leave more space for decision to the people for whom it was originally thought? Or should the ECS be, from the start, created by the people who need them, without funding institutions but easily threatened by a displacement or by exhaustion due to lack of financial support? In any case, it seems that more support from the side of the government with dedicated budget and working groups to focus on ECS and similar projects would be an asset to develop this kind of tool to work on social challenges, as expressed by an employee of Berlin's senate.

If local governments and cities could dedicate more funds for these projects to develop the way people using them need them to develop, or shaped by them, they would maybe less rely on independent institutions or charity funds and work more for the people.

However, there seems to be more at play than the previously presented factors for the ECS to be able to have positive social impact in the neighborhood. In spite of the complexity related to funding, participant engagement and instability of the projects, people do experience many positive social impacts in various areas of their lives, as showed through the results of this thesis. Other unpredictable factors, such as the human one, make that even the most perfectly organized and

stable project might not be ideal because people because people simply do not get along, as testified by two of the interviewed people.

7.2.4 Social inclusion is not always obvious

There is sometimes a risk of exacerbating societal issues rather than alleviating them. This wasn't reported very often, however, the participants in this research mentioned a couple of times that CGs seem to be too exclusive in certain cases. This phenomenon is illustrated in a study from New-York, by Reynolds (2014). The author shows the possibility of a disparity in the urban agriculture movement between white and people of color. This study is placed within a different context, but still relevant to Berlin since it is also about the exclusiveness of certain CG projects that was mentioned by at least 4 interviewees in this thesis. It can also reveal a larger trend affecting the broader society. Reynolds (2014) mentions the duality of urban gardening movements in the city saying that there is one movement represented largely by a "white middle-class" population, and another one represented by a "colored low-income" population. This can be compared to the "hipsters" depicted in Berlin and the ones in "disadvantaged neighborhood". Those two movements are creating the UA initiatives for different reasons and often need diverse kinds of support. The author critiques the over-representation of urban gardening initiatives in the media as being a "white privileged movement". It hides the huge diversity of UA in New-York that was created and still thriving through multiple ethnicity. Meenar & Hoover (2012) talk also about "a visible and a non-visible movement" mentioning a "white, alternative, hipster and privileged class" movement in comparison with the "migrants and ethnic communities.". Besides, because the media have a huge potential in putting the attention to one cause more than to another, it could actually give more power or influence to the white group than the colored one. Also, some results showed that raising funds and finding land was much easier for white person (city support, easy access) than for the ethnic person. The latter group counted more on charity fund raise, voluntary group and encountered barriers to find land and organize the projects. (Reynolds, 2014) The problem that urban agriculture might strengthen inequalities more than alleviating them even when trying to dismantle them was actually underlined in a certain amount of studies. (Guthman, 2008; Meenar & Hoover, 2012; Reynolds, 2014) In Berlin, the situation doesn't seem to be as dichotomous as in New-York, however, this is an aspect to bear in mind while talking about CGs and other ECS and their expected inclusiveness, which is not always obviously attained.

7.2.5 Summary of the discussion on research question two

To order to summarize the second section of this discussion and answer the second research question "What are the practices and features of Berlin's ECS that deliver these social impacts or hamper them?", some features have been identified to foster the positive social impacts targeting the social issues. These are gardening and planning together, sharing activities, events and harvest among participants and with the neighborhoods, educational workshops and the possibility for people involved to decide together, experiment and shape the ECS according to their needs. Every ECS is different and the activities or the way it is structured might differ depending on the target groups. It appeared that some features and factors are prone to slow down or put at risk the creation of these social impacts. They are important elements to consider. Aspects like participant engagement problems, instability of the gardens, lack of financial support and recognition are to be remembered as factors that might prevent ECS to successfully alleviate social issues. It is therefore suggested to work on enhancing these aspects and provie an environment where the participants or coordinators can feel that they are key actors in the shaping of their ECS. Ideally, they shouldn't be bothered with expectations of fast results like it is the case with most of funding institutions (local governments, city administrations, social programs, etc.). Additionally, emphasize the importance of

implementing initiatives like ECS to secure stable places for them in the cities and to encourage local governments to dedicate more funding for these projects whichever target group they have. The last important element is to ensure that ECS do not isolate certain groups and consciously create initiatives open to all, attempting to actively include all people of ethnicity, gender, socio-economic status and age.

7.3 Assessing ECS social impact and contribution to social challenges

This part of the discussion will focus on the question, how to assess if ECS do have a social impact or help to alleviate social issues? Exploring this aspect is an integral part of the SIA framework and of this thesis. Knowing if ECS provide social impacts is a necessary argument when presenting the importance of ECS to local governments or urban planners, asking for funding, or making ECS a tool to work on social challenges. It is also an important focus of the project EdiCitNet (EdiCitNet, 2018). Therefore, developing an assessment framework is key to understanding the social impacts of a project, and this will be explored in this discussion part.

7.3.1 Developing social indicators

When exploring what elements of ECS would indicate if the social impacts are created in their ECS during the participatory workshop, local stakeholders provided many different answers. The full list of the indicators, with related questions or methods of data collection can be found in section 6.3.1. This list is neither exhaustive, nor supposed to be exactly the types of indicators to be used. It should rather act as a guide to understand what, according to the people using the ECS or managing them, is important to monitor. Table 5 gives indication on how the local stakeholders would phrase eventual indicators to assess the various areas where social impacts were observed. During the data analysis, the information gathered from the workshop was decluttered and re-organized so that in the two first columns from the right, the information is clearer. It is suggested to give closer attention to those two for clues in the process of understanding ECS's impact (Beilin & Hunter, 2011; Land, 2014).

The workshop was organized in a way that the participants first indicated which social impacts they expected or experienced in their ECS (e.g. education, empowerment, inclusion, etc.). These were almost all considered as impacts that would help alleviating social issues like social exclusion, bad health (physical and mental) and lack of opportunities. In the last round, they explored what would indicate if these social impacts have been made. If these indicated social impacts are considered as the goal of the project in order to alleviate social issues, the indicators given by the participants can be considered as what needs to be looked at or what needs to change in order to achieve this goal.
They gave indicators to assess the impacts created in the area of food system or nutrition (e.g. measuring the food quality), people's well-being and health (e.g. their physical fitness), social cohesion (e.g. the diversity of the groups participating), the development and recognition of ECS (e.g. measuring the appreciation of ECS by the neighborhood), the internal organization (e.g. if the decision process is democratic) and finally the efforts to safeguard the ECS in the city (e.g. economic stability). This gives a good overview of the areas that need to be closely looked at to understand if the ECS has an impact on the social issues or not, in other words, if ECS achieve its goal.

Inspired by the examples given during the workshop, a suggestion to determine indicators for the social impacts would be to create questionnaires for ECS actors and participants, one that they could fill in at the beginning of their engagement in the ECS and another one month or two, or one year later.
The project EdiCitNet has already created some complete surveys for ECS. However, for measuring the direct impact of ECS on people's life, short questionnaires, asking simple questions could be an

opportunity to gather valuable information during the development of a project on the effect it has on people's life. Questions could ask if people learned something, if they feel happier and healthier, what would they need to engage more in the project, if they experience more inclusion in a certain group, etc. Such questionnaires could be implemented with the help of local social programs, or any funding institution that wants to learn about social impacts of these projects. It would be a direct, participatory and qualitative assessment method indicating the social impact of these projects.

In the next sections, it will be discussed what other considerations are important when developing an assessment framework.

7.3.2 Complexity of social impacts categories

Considering the social impacts and their corresponding indicators disclosed in this research, different categories like well-being and health, community, education and engagement and even further sub-categories have been created. However, looking closer at each of the elements present in these categories and sub-categories. and confronting them with the real experiences of the local stakeholders, it appears that every element is influenced by or is a part of more than one category. For example, when a participant talks about ECS being "a place to share and learn from each other and about topics like gardening, climate change, etc." (C6), this information can be put under the category education, value reinforcement, mind-opening and group feeling. This is the case of many other statements which leads to the conclusion that social impacts are not so easily categorized, hence their precise assessment cannot be easily made. Similarly, some indicators were given to assess multiple areas, e.g. the number of participants to assess the development of the project and also to assess the engagement of the participants in the ECS. However, this indicator alone doesn't say much about other impacts of the project and could also be misleading since the information on a high number of participants cannot ensure that these participants are engaged or the project really developing. Hence the need to carefully use the concept of social impact categories because one element can indicate different social impacts, or many elements can assess one single social impact. Scientific studies, most of the time, present social impacts like clear categories and develop assessment frameworks in the following way: one aspect of people's life is impacted, and one or more measure can report whether the area has been influenced or not. This shows a very linear impact-causing way of thinking, which often, doesn't represent the reality of social impacts (Kingsley et al., 2019).

7.3.3 Final thoughts on methods to assess ECS' social impacts

In most of the available scientific literature about the assessment of social and food related projects or any project that can be considered as ECS, the development of an assessment framework is correlated with the development of social indicators. This was shown in the state-of-the-art chapter. However, this thesis, inspired by the SIA framework, suggests that the assessment of the social impacts of a project is made through different steps that lead to the understanding of whether the project does deliver expected social impacts or not, in other words, if the project was successful. Consequently, in this thesis, it is defended that, even as an essential part of the assessment process, the final indicators are not the most important aspect to look at. Rather, the important information on ECS gathered through the process of developing these indicators demonstrate if the projects are successful, what they need to develop and how they impact their users and the neighborhoods.

What comes out from the result section is also that an assessment method should be adapted to the local case concerned. Some types of indicators (see Table 5) can be applied to any case, e.g. number or participants, food waste amount, etc. if related to the size or the context of the ECS. However, the

assessments that report impacts in the areas of well-being, health, community feeling, or personal engagement and empowerment are given qualitatively. This makes it difficult to create calibrated and generalized indicators that work for every ECS. Rather, it is suggested to invest in methods that will report directly, and mostly qualitatively the impacts on these areas. Adding to this, another suggestion would be not only to interrogate people participating in the ECS but also those living in the surroundings. One suggestion of the participants was to say that in order to assess the social impact of ECS, we should see if they also influence the neighborhood, for example, if they stimulate similar initiatives in other areas. Assessing the influence on the neighborhood can also mean, reporting the enhanced well-being of residents in the neighborhood, like in the case of C6 where neighbors reported to feel safer and happier since the ECS was created in the area. In fact, local stakeholders of Berlin's ECS showed a great interest in assessing or talking about the impact of their projects. They are the main actors of the ECS scene, and the assessment should always be done in tight cooperation with them and using different methods, as suggested by the recent available literature (Kingsley et al., 2020). It was also suggested by a participant, that while assessing the impact of ECS on people's life, there is a need to question local stakeholders, be open to understand what happens and "observe". For that, as suggested by one interviewee, small working groups focusing on the assessment would be very important, integrating participants, coordinators, local stakeholders.

The final and perhaps the most important aspect to consider is the problems the ECS face while developing. These can be considered as elements that may hamper the success of ECS (regarding the creation of positive social impacts), in other words, as fail factors. In this thesis it is emphasized that one major step to assess a project's social impact should be to look for the presence of these fail factors. Through having gathered all the data on the functioning of ECS and their impact, It stands out that the creation of social impacts takes time. Whether it is creating a place that fosters more cohesion (e.g. a new group or dynamics in the neighborhoods) or ECS being a place to learn or even creating lasting engagement from the side of the participants, all these impacts are not created in one-day but rather in many months or even years. For this reason, there should be measures and organizational structures in place that actively work on diminishing these fail factors. For example, if more stability or financial security is ensured from the side of the local governments for these projects, the chance of really creating these expected social impacts is way higher than if the ECS are left with little support. Similarly, structures should be created to openly integrate everybody willing to participate in a project to consciously avoid a further exclusion as it can happen in some cases. Or projects should be shaped to specific target groups. This is an important aspect to keep in mind, because even if the ECS are perfectly shaped for people using them, but they suffer from little financial support, displacement of the gardens or insufficient people engagement, the whole point of creating ECS is lost.

7.3.4 Summary of the discussion on research question three

To summarize the second section of this discussion and answer the third research question "How can we assess the successful contribution of ECS to social challenges?", this thesis has found that assessing social impacts is a complex task. To assess the success of ECS (so the creation of these social impacts), local stakeholders have proposed to monitor the impact on the food system or nutrition, on people's well-being and health, on the social cohesion, on the development of the ECS and its appreciation by the participants and the neighborhood, its internal organization and finally, the global efforts to safeguard and support these projects. Various elements have been given to indicate the "success" of these ECS, e.g. democratic decision process, financial support from local governments, increasing number of participants, etc. All these can indicate if the ECS is or will create expected social impacts. However, it is difficult to create precise indicators that would demonstrate if

the social issues are alleviated, as one element can indicate a lot or very little, and social categories are hard to separate clearly. To create an effective and locally adapted assessment framework, this work suggests to include the local stakeholders (participants to ECS and neighborhood) to the assessment process as much as possible and use qualitative methods which indicate more precisely the needs of local actors or ECS' impact on their lives. One example that this work suggests is to implement questionnaires that are easy and quick to fill. They would ask questions on the impacts (community feeling, learning, health, engagement) to the participants and coordinators. With the help of local social programs or academia, these surveys, used on a regular basis could indicate simply and efficiently the impacts of ECS on people's lives. It would be a good tool in the argumentation in favour of implementing ECS in the future city planning or delegate more funding to these projects. One aspect to remember is that assessment framework can be very different depending on the context, the target group and the needs of their participants or surroundings, for this reason, participatory approaches to ECS' development and assessment are necessary. Finally, an emphasis is to be put on the active efforts to alleviate fail factors like financial issues, displacement and exclusion in order to give higher chances to the ECS to create the expected social impacts.

7.4 Limitations of the study

This last section of the discussion presents the limitations of the study, that is, the aspects of the study that would need to be considered and improved if this study was to be repeated. The limitations here comprise the sample bias, the lack of precision during the workshop and the fact that the topic of the research was too broad for the scope of a master's thesis.

7.4.1 Sample bias

Originally, the research design was such that different types of local stakeholders should have participated in the workshop and interviews. For a thorough study of a certain project, actors engaged in various areas of the project should be involved in the research process to gather as many different points of view as possible. This is a major aspect that is necessary in the argumentation for the validity of the study, particularly if the research is exploring social impacts.

It was not the case of this study however, although this was the original goal when the invitation e-mails for the workshop were sent. The final sample was composed of mainly ECS coordinators. Only one member of a CG was present in the sample, and the other were one counselor and three people employed in the city administration. In the workshop, additional employees from the city administration were added. This sample is not as representative as it should be, especially if the focus of the study is the social impact of participating in ECS, a question that also the actual participants should be interrogated about. Some participants or interviewees mentioned this aspect, when asked about the social impact of their project, two of them expressed that this should have been a question for an ECS member. However, the ECS coordinators were also participating in the ECS as any other member, and most of them had experience in partaking in such projects, which means that their point of view includes also, at least partially, the perspective of ECS participants in the ECS and is therefore relevant to the topic. Additionally, ECS coordinators gave valuable information on the functioning of ECS, issues in their development and other important aspects of ECS structures.

There is another sample bias that was identified in this work. Given the definition of ECS, "the products, activities and services of all the initiatives that, comparably to the NBS, use nature and take inspiration from it, to create solutions for healthier, more inclusive, ecologically, economically and socially sustainable cities." (Säumel et al., 2019), if this study was exploring the social impact of ECS,

the sample should have incorporated a wider variety of ECS types. The sample of this work is made of mostly CGs, two of them considered as therapeutic. Other ECS are two initiatives proposing educational workshops. This sample represents a diversity in the type of ECS, but it could have been more diverse, implementing ECS with different types of workshops, waste-saving initiatives, nutrition councils, small-scale participatory farming business, etc. All of them are present in Berlin and are a part of the ECS framework. Unfortunately, the way the sample was gathered (sending e-mails to contact list of ECS groups) did not allow to choose the type of ECS partaking in the study.

7.4.2 Precision lack and bias during the participatory workshop

In the beginning of the participatory workshop, the facilitators gave an overall explanation of the conduct of the event at later they described each round and the question to answer progressively. They tried to provide a clear explanation of what was expected from the participants but in some cases, it appeared that the instruction was not clear enough. This was also an aspect criticized by the participants and written on the feedback flipchart as such as: “lack of precision” (see appendix 11.6). It showed particularly in the second round as the focus was on the organizational structures and the activities of ECS leading to the creation of social impacts. The part about the activities was well interpreted and the answers were matching the activities that ECS put in place. However, people understood differently what organizational structure meant. For the research process, it was expected to obtain answers about the finances and funding, the decision process, if the ECS was managed by employees or volunteers, etc. One group (Nutrition) gave answers about the associations and institutions having a link with nutrition in Berlin and two other focus groups (Engagement and Education) simply listed which institutions or associations they were a part of. This made the analysis part difficult and was probably the explanations or the goal of this round were not expressed clearly enough.

Added to this limitation, there is the fact that some participants expressed themselves more than others. This can be seen in the final flipchart where the types of activities listed in the group health and well-being are clearly originating from one or two ECS. Through the observation of the group dynamics during the workshop, it was also sometimes obvious that some participants were less expansive than the others. This is a common effect in these settings. It could be interesting to think of ways to integrate all the participants for a future occurrence, for example using ice breakers. For that, more time should be allocated for the workshop.

7.4.3 Too broad research topic for a master’s thesis

Another limitation of this study is that the initial topic for this master’s thesis was very broad: to explore the possibilities for the assessment of social impacts of ECS. Given that the ECS framework and the project EdiCitNet are quite recent, the scientific literature available on this topic is limited, and not many studies were already made directly in relation to ECS or the project. Therefore, this master’s thesis can be placed in the batch of pioneer studies regarding this topic. For a master’s thesis, however, the focus could have been narrowed to ensure a deeper analysis towards one topic, rather than a more superficial research on three different aspects: Social impacts, features and problems of ECS and assessment framework. This is to mention that even though the results of this study might be useful for the project EdiCitNet, future ECS coordinators and urban planners, each aspect of the work could have been pushed further if it was done in a setting allowing to give it full attention in separate research projects.

Further research should focus on deepening the understanding of social impacts of ECS, for example, in understanding better what types of organizational structures ensure to create positive social

impacts and how to support them. Additional topics of future research could be to focus in the problems that hamper the development of ECS and therefore the positive social impacts. It could be researched how to diminish them, how to better involve local governments in the support of ECS without too high expectations of results and how to advocate for ECS long lasting maintenance. Finally, a complex but necessary future point of attention should be the development of various, context driven assessment frameworks, in order to broaden the knowledge on how to ensure that the implemented projects have positive and expected social impact. This way, the argument in favor of creating more space for projects like ECS to foster social impacts that would alleviate social issues can become stronger.

8 Conclusion

However, findings of the study indicate that various elements are critical in the development of ECS and might hamper the positive impact they create. The most notable ones are the lack of lasting engagement of participants exhausting the coordinators, the lack of financial support, the fact that gardens are often threatened by displacement and finally, that some initiatives are still perceived as too exclusive.

The final focus of this thesis was to understand how local stakeholders would assess ECS' social impact to eventually create recommendations for the creation of future assessment framework.
It was suggested to monitor the influence of ECS on various areas and observe positive changes. These were changes in the food consumption and waste, well-being and health of participants or neighborhood residents, enhanced social cohesion, the growth of the ECS in terms of participation, the internal democratic and autonomous organization and a strong external financial support, interest of academia and local government and general appreciation of the project. Some methods to develop indicators were suggested like questionnaires, participatory methods and self-report. Qualitative methods should be preferred to report subjective indicators, such as enhancement of well-being or learning progress. Quantitative methods should still be used for descriptive indicators such as decrease of food waste or increase of the numbers of participants. The assessment of ECS' social impact can be complex because not easily standardized and generalized. Therefore, there is a need to work locally and with the local actors to develop an assessment framework that is context relevant. In fact, local stakeholders of Berlin's ECS showed a great interest in assessing and talking about the impact of their projects.

This work emphasizes the importance of providing financial support with no expectation of fast results. Because the positive impacts take time to appear and influence people's lives, these projects should be shaped by their local stakeholders in order to provide the results expected, and this way, alleviate the social challenges. Stability and financial support are crucial elements to produce expected social impacts. The last important element is to ensure that ECS do not further isolate certain groups by consciously creating initiatives open to everyone and search to actively include all people of ethnicity, gender, socio-economic status and age. While assessing ECS' social impacts, it is recommended to verify if efforts are made to reduce these problem factors. If they are minimized, the chances of producing the expected positive impacts, which need time, money and participation, will definitely be higher.

Finally, some weak points need to be considered. The limitations of this study comprise the sample bias, the lack of precision during the workshop and the fact that the topic of the research was too broad for the scope of a master's thesis. The three research questions would beneficiate from additional deeper investigation. Future research should focus on how to alleviate problems that hold

ECS' development and on creating precise guidelines to assess ECS' locally and using participatory methods. participatorily.

Despite the limitations, this work offers some evidence in the argumentation in favor of a future standard implementation of ECS in cities as a tool to alleviate certain social challenges, foster positive dynamics in the neighborhoods and enhance the life quality of their residents. This work has led to conclude that ECS are in fact contributing to solve social challenges in disadvantaged neighborhood. These initiatives can be considered as a contribution towards the alleviation of certain issues. Finally, this work shows the importance of a holistic approach to assessment including local stakeholders.

9 Abstract

Increasing urbanization displace green areas from the city, reinforce social inequalities, isolation and ecological crisis. Edible City Solutions (ECS) that combine participatory projects with urban food-system elements have the potential to create spaces alleviating social issues with a positive environmental impact. Created in 2018, ECS is a recent framework. The literature on the topic is too scarce and lacks specificity concerning what impact do these projects provide, if they work on these challenges and how they are organized to answer these issues. Furthermore, the ECS need adapted assessment guidelines to monitor its impact on people's life. This thesis uses an adapted SIA methodology combining interviews and a participatory workshop including local stakeholders of ECS in Berlin's disadvantaged neighborhoods to explore these topics. The results demonstrate that ECS have a direct contribution in alleviating isolation, exclusion of marginalized groups and poor health by enhancing well-being, overall health, engagement, education and community-building. However, these initiatives are often threatened by displacement, financial instability and the lack of participant engagement. The author emphasizes the need to further research on how to minimize these problem factors in order to have greater chances of success in alleviating social challenges. Further, this work advocates for the use qualitative indicators developed with the local actors to create context relevant assessment framework. The conclusion drawn in this thesis can be used as recommendations for urban planners, ECS coordinators and social programs concerning future ECS implementation.

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11 Appendix

11.1 E-mail sent to various contact lists of ECS stakeholders from Berlin by the Senate Department for Urban Development and Housing in December 2019 inviting to the participatory workshop and the first-contact interviews (In German)

Sehr geehrte Damen und Herren,

Gemeinschaftsgärten und andere „essbare“ Initiativen

- verbessern die individuelle Lebensqualität,
- sind wichtige soziale Orte und
- leisten einen wertvollen Beitrag zur Quartiersentwicklung.

Deshalb lädt die Senatsverwaltung für Stadtentwicklung und Wohnen Berlin und zusammen mit der Universität für Bodenkultur Wien im Rahmen des Projekts Edible Cities Network (kurz EdiCitNet, https://www.edicitnet.com/) zu einem Workshop ein.
Gemeinsam soll erarbeitet werden, welche positiven sozialen Effekte Gemeinschaftsgärten und andere „essbaren“ Initiativen haben und wie diese messbar gemacht werden können. Mit dem Wissen können Gärten ihre sozialen Leistungen für die Gesellschaft erheben und besser kommunizieren.
Die Veranstaltung findet statt

am 18. Februar 2020

von 16:30 Uhr bis 19:30 Uhr

in der Senatsverwaltung für Stadtentwicklung und Wohnen; Württembergische Straße 6; Raum 101.

Bitte sagen Sie bis zum **20. Januar 2020 zu oder ab** durch eine Mail an saskia.favreuille@students.boku.ac.at.
EdiCitNet ist ein von der EU gefördertes Innovationsprojekt. Ziel ist die Bildung eines globalen Netzwerkes für naturbasierte Lösungen der Nahrungsproduktion in Städten mit Elementen wie Reallaboren, Masterpläne, Wissensaustausch und Onlinetools.
Der Workshop ist Teil der Masterarbeit von Frau Saskia Favreuille über soziale Indikatoren im Bereich „Essbare Stadt“. Nach einer Zusage wird Frau Favreuille bezüglich eines kurzen Vorgespräches auf Sie zukommen.

Mit freundlichen Grüßen,

Senatsverwaltung für Stadtentwicklung und Wohnen
Abteilung Wohnungswesen, Wohnungsneubau, Stadterneuerung, Soziale Stadt / IV B 3-11
Württembergische Straße 6, 10707 Berlin
Telefon: 030 – 9(0)139-4855
Fax: 030 – 9(0)139-4801
E-Mail: inken.schmuetz@sensw.berlin.de

11.2 Workshop Outline sent to the workshop participants one week before the event (In German)

Edible Cities Network

Integrating Edible City Solutions for social, resilient and sustainably productive Cities

Programm 18.02.2020, 16:30-19:30 - Soziale “Edible City Solutions (ECS*)” in Berlin

16:30 **Ankommen & Kennenlernen**

16:40 **Willkommen & Intro EdiCitNet**

17:10 **Erste Runde - Austausch**
Leitfragen:
1. Worin liegen die Ursachen für das Aufkommen an ECS in Berlin?
2. Welche sozialen Effekte verspricht man sich von ECS?

17:30 **Zweite Runde - Expertenrunde**
Leitfragen:
1. Welche Organisationsstrukturen der ECS ermöglichen / fördern diese sozialen Effekte?
2. Welche Aktivitäten haben zu einem sozialen Effekt der ECS geführt?

18:00 **Pause & Netzwerken**

18:15 **Dritte Runde - Fokusgruppen und Weltcafe**
1. Wann sind die ECS aus sozialer Sicht erfolgreich im Bezug auf die oben genannten Organisationsstrukturen und Aktivitäten?

19:15 **Diskussion & Feedback für EdiCItNet**

***Definition Edible City Solutions (ECS)** *(not included here)*

11.3 EdiCitNet Survey: Reduced Interview Guidelines for Follower Cities (Working Group 4)

1. Personal information

Can you briefly describe your role in the ECS?

What is your personal main interest for participating in the ECS?

- Why do you come here and participate?
- What do you give and what do you get?

2. ECS Description and goals

What are the main activities of the ECS? Please select the option that better describes the activities of the ECS regarding the edible products involved:

a) Only producing raw edible products (e.g. strawberries). There is no manufacturing of edible products in the ECS.
b) Producing raw edible products (e.g. strawberries and oranges) and manufacturing (e.g. orange ➔ orange juice). The raw products used for manufacturing are produced inside the ECS
c) Producing raw edible products (e.g. strawberries and lettuce) and manufacturing. The raw products used for manufacturing is acquired outside the ECS. (e.g. producing strawberries and manufacturing oranges acquired outside the ECS for producing orange juice)
d) Only manufacturing raw edible products (e.g. strawberries ➔ marmalade). The raw products used for manufacturing is acquired outside the ECS. (inside or outside the city).
e) Only uses of raw and/or manufactured edible product (e.g. Commercialization, Donation, Exchanging)

Please provide the address (street name, city, country and postcode) or tag in the map the closest location to the ECS.

The area where the ECS is situated is a:

a) Private space (1 owner)
b) Private space (several owners)
c) Public space

What is the size of the area?

What is the main goal of this ECS?

- What is the main mission of the ECS?

3. ECS activities and impacts

Please describe the main agricultural /food related activities that are going on.

- What food is produced / or processed? How?
    - If processed: from where do you get the food raw material?

- What is happening with the food?
    - Where is it consumed or further processed? (%?)
    - Is it sold? How much is sold for what price?

Please describe the main social activities that are going on and who is involved.

- What types of activities take place?
- What people /social groups are participating?
    - How many people participants?
- What are the benefits of those activities?

4. ECS Establishment, maintenance and governance

Please describe how the ECS got established.

- What was the motivation to start ECS?
- Have there been important barriers for the establishment of the ECSs? If yes, please describe them.
- What are existing barriers for the ECS?
- Have there been important enablers for the establishment of the ECSs? If yes, please describe them
- Important partnership during the establishment?

Please select all the stages your ECS has been through

a) **(EMERGENCE)** Starting the ECS
b) **(EMERGENCE – establishment)** Already started and operating/functioning.
c) **(SCALE-UP – establishment)** Operating and planning further expansion/growth.
d) **(SCALE-UP – done)** Operating and already expanding/growing.
e) **(REPLICATION – establishment)** Operating and planning further replication of the ECS in other sites of the city.
f) **(REPLICATION – done)** Operating and already replicated in other sites of the city.

Please describe how your ECS is organized / governed.

- Decsision making processes?
- Who is participating in the ECS?
- How are decisions made?
- Who owns the ECS?
- How is the ECS embedded in its surrounding (physically but also on organizational level?)
    - Are there connections, interrelations or dependencies to other initiatives, institutions?
    - How does the interaction looks like?

5. Evaluation of ecological sustainability of the ECS

How would you assess the ecological sustainability of your ECS? Why?

- What agricultural inputs (seeds, fertilizers, pesticides) are you using and where do you get it from?

    - Are you organic?
- How do you organize the water supply for the ECS?
    - Wastewater? Tap Water? Rainwater?
- Where do you get the energy needed?
- How do you deal with your waste?
    - Do you use plastic?
    - Food waste?
- How do you organize the necessary transportation and logistics?

Beside the food production, is your ECS connected to any other green infrastructure?

6. Evaluation of economic sustainability of the ECS

How do you finance your ECS?

- Do you get financial support?
- What are your running costs?

What is the Business model behind the ECS?

- Do you engage in any marketing activities?
- Does the ECS make a net-profit?

7. Evaluation of social sustainability of the ECS

How would you assess the social sustainability of the ECS?

- Who is taking part in the activities?
    - Inclusion, cohesion
    - Equity
    - Diversity

What drives the members of the ECS to do what they do?

- Is there a shared set of values/beliefs?
- What are the principles / rules every members commits to?

8. Barriers, Opportunities

If you take a look at the ECS now, what are the barriers and opportunities of the ECS to develop?

9. Demographic Information of the interview partner

AGE:

- Under 18 years old

- 18-30 years old
- 30-45 years old
- More than 45 years' old

GENDER:

- male
- female
- Prefer not to answer
- Other (specify – maximum 2 words)

ETHNIC GROUP:

- European
- Asian
- African
- Caribbean
- Arabian
- North America
- Central America
- Latin America
- Oceania
- Other (please specify)
- Prefer not to answer

Where do you live (City and country)?

(EDUCATION LEVEL) What is your highest level of education?

- Primary School
- Secondary School
- University or College (Bachelor)
- Master's degree and or PhD
- Other (specify – maximum 2 words)

(TYPE OF ACTOR – social group) Please select the group that better suits you: Please select all that apply (more than one answer is possible)

- None
- Squatter group
- Economic interest groups
- Public interest groups
- Religious interest groups
- Civil rights interest groups
- Ideological interest groups
- Single-issue interest groups
- Consumer organizations
- Landowners
- Business owners
- Municipal departments
- Water boards
- Regional authorities

11.4 ECS' social impacts expressed by the study participants during the first-contact interviews

Code name	Observed social effect: "The ECS […]"
C1	• Takes away the sorrow of illnesses or physical issues for a time • Offers a possibility to do a physical activity • Allows to enjoy the practice of gardening again (in regard to seniors who used to have a garden) • Participate in the user's well-being and happiness • Is an opportunity to be outside and have a connection with nature
C2	• Is a place to enjoy nature • Is a place for leisure • Is a place for connection between neighbors • Gives a positive ecological message
C3	• Is a place to create a new network and integration possibility for people who just arrived in Berlin, • A place to go out of the place of living (in regard to people living in collective accommodations) • Creates a new positive dynamic in the neighborhood
C4	• Brings the enthusiasm and sensibility to kids for food cultivation, healthy eating, nature and being outside • Inform and bring enthusiasm to adults and parents for nature, healthy nutrition and food cultivation
C5	• Is a place to create connection between people • Is an opportunity to learn about ecology • Is a place to solve communication and personal issues and to learn about important social processes • Is a place to care about something healthy being cultivated • Is a place to be empowered (in regard to marginalized group, e.g. unemployed, addicts, etc.) • Brings people together in places where there was little happening before
C6	• Is a place to share and learn about topics like food and nutrition, climate change and gardening. • Create contact with people from different backgrounds and ages (newcomers, kids, families, young people, etc.) • Creates a feeling of connection to a group • Fosters social cohesion
C7	• Allows children to experience nature and the reality of food production • Is a meeting point and an opportunity for an outdoor activity for the elderly living in the nearby retirement home • Allows people in general to experiment with gardening • Brings enthusiasm for building (e.g. raised beds) and gardening together between neighbors • Creates new opportunities to learn and go out of clichés about marginalized groups (e.g. unemployed young people)
C8	• Educate people about food saving, climate change issues and food production • Teaches people how the value of local food production and consumption

	• Creates social networks • Get people out of isolation • Is a possibility to learn from other people • Makes healthy nutrition available for everyone
C9a	• Creates community • Brings very different people together • Raises awareness on environmental issues • Is a place to get engage in constructive projects for change
C9b	• Creates knowledge on how to decontaminate soils through gardening/planting • Is a place for environmental education • Is a possibility of engaging in a long term impact project
M1	• Is a possibility to enjoy nature again (in regard to persons having had gardens in their childhood) • Is a place to meet people from different background • Is a place to network and create a community feeling • Is a possibility for children to interact with people with disabilities and to cultivate mind-openness • Participates in user's happiness and well-being
A1	• Is a place to tackle the nutrition topic and for environmental education • Is an effective tool for social inclusion and integration of various marginalized groups • Is a place fostering civic engagement and responsibility for a livable environment in their neighborhood • Is a place to create a sense of community
Co1	• Is most importantly a place for social integration
NM1	• Enhances life quality • Is an educational tool on environmental protection, plant growth, etc. • Is an opportunity to spend time outside
NM2	• Fosters participation in the creation of meaningful projects for the neighborhood • Is a place to network and meet new people (in regard to newcomers in the area) • A place to get out of solitude (in regard to elderly)

11.5 Activities and organizational structures of the ECS represented by the study participants during the first-contact interviews

ECS	Activities		Organizational structures		
	Social activities and events	**Attending public or participants**	**Decision system within the ECS**	**Organizing structure**	**Financial support**
C 1	• Gardening together on raised beds • Culinary activities preparing the harvested herbs and vegetables • Consuming the prepared food together • Open hours of the garden open to the public	• Seniors in the retirement home • Visitors from the neighborhood during open hours of the garden	• The coordinator designs and builds the garden • The participants express their needs and wants	• The garden was launched by the retirement home, founded by a church foundation	• Supported by the church foundation • Donations from companies or institutions for social projects after applications
C 2	• Planning the garden together • Gardening • Harvesting • Leisure activities • Events	• People who pay a lease for their allotment garden • People from the outside for events	• One coordinator makes most of decisions • Two employees for other decisions and tasks • Volunteers from federal volunteer service. • The participants decide on their plot.	• Created by GESOBAU on an empty plot • Sponsored by Albtaros Ggmbh (a non-profit company for social and health services)	• Sponsorship of Albatros Ggmbh • The lease paid by the participants serves for the maintenance cost of the garden • Funds through StadtUmbauWest
C 3	• Gardening together on shared raised beds • Gardening on own raised bed • Harvesting or picking the edibles	• Mostly people from collective accommodations (migrantion background)	• Garden planning in participation with neighborhood and participants • Events are decided	• Two main coordinators founded the garden	• Supported by StadtUmbau Berlin • And by the Marzahn-Hellersdorf district

			mostly by the coordinators		authority
C 4	• Educational workshops about nature and gardens in schools or organizations	• Mostly children • Sometimes with adults	• Two persons team planning and creating the workshops	• Independent company • Founded by the two persons in the team	Various supporting organizations like: • EU project funding for schools • Land of Berlin for the Nature pedagogy and environmental education program
C 5	• Gardening together on common plots • Harvesting together • Garden meeting hours (meet and build or garden) • Cooking and eating together • Workshops offered by participants or external people	• One main coordinator • Small group of regular participants (seniors or people in marginal life situation) • Other people coming to events	• The coordinator makes the main decisions in the garden • Getting help from the CG collective for the paperwork and funding searching	• CG collective founded the garden • The land belongs to GESOBAU	• Supported by funding from the district and from other organizations
C 6	• Gardening together on common plots • Educational workshops and projects (e.g. gardening, cooking, bike repair, etc.) • Distribution of the harvest in the neighborhood • Open garden days • Visits of other garden and cooperation with other projects	• Activities are open to everyone	• Mostly part-time employed persons in the collective (around 17) • Some people full-time • The group of participant gardener make decision together for planting during garden	• Founded by the CG collective	• Partly self-financed • Partly financed through gastronomy in the previous location • Garden-building activity (e.g. in schools) • Education and counselling activity • Funding from city

			meetings		projects
C 7	• Building the garden and gardening together • Places to relax and meet for participants or neighbors • Garden meetings to make decisions and connect • Public events (e.g concerts)	• Around 20 to 30 volunteers every year from the neighborhood • Open to everybody	• "Democratic decision system" with all the participants • One main coordinator and further persons • The cultural center decides on public events	• Founded by the cultural center on its own private land	• The cultural center employs the coordinator and supports the project
C 8	• Cooking events with saved-fruits and vegetables from the surplus in the neighborhood (online platform or direct contacts) • Sharing the harvest with other initiatives in the neighborhood. • Seed-exchange activities • Gardening together in the CG	• Different people from the neighborhood	• 3 persons team (Leader of the project, one-site coordinator and coworker) • Decisions aligning with the goals of the funding program • Decisions also made in participation with the workshop and garden participants	• Operated by the Center for Sustainability and Climate Protection of the District Office .	• Supported by the program "Soziale Stadt" Berlin and by the local NM

C 9 a	• Gardening and harvesting together • Workshops (e.g. composting) • Other activities (e.g. choir, seed exchange) • Festivities • Swap store attached to the garden	• Garden Not suitable for schools or or families (drug consumption on the land) • Diversity of people in activities (eg. isolated people, migrants, seniors)	• One main project-coordinator • Decisions about gardening and workshops are made with all the engaged participants	• Idea launched by a small team that also created the project that the ECS is a part of	• The program "Soziale Stadt" of Berlin is financing the swap store and the garden coordination • People from the network support the project by offering free workshops
C 9 b	• Currently meeting to plan the project • Idea for the future: Planting trees and edibles using permaculture on a large area • Workshops and cooking actions	• Persons motivated to start the project (In total expected 40)	• Project coordinator and the people interested are planning together	• Founded by a small team of motivated persons	• Waiting for approval from the land community if enough people support the project • Then, support through crowdfunding and other funding
M 1	• Gardening on shared plots or individual ones • Organizing events (markets and seasonal festivities) • Production of processed foods (e.g. pesto, teas, etc.) • Workshops (e.g. honey)	• Mostly families with children • Young people • People from the life-aid home	• A larger CG association supports the garden with the organization of the workshops • The coordinators (ca. 4) decide for the common plot	• Founded by a larger association of CG in cooperation with the life-aid home for people with disabilities	• Various grants

11.6 Compilation of the flipchart produced by the study participants during the workshop for round 1, 2, 3. Document sent to the participants after the event (In German).

Workshop - Soziale "Edible City Solutions" in Berlin, 18/02/2020

FLIPCHART PROTOKOLL

Ursachen und Effekte von ECS in Berlin, Organizationstrukturen und Aktivitäten, Soziale Indikatoren

Erste Runde - Ursachen und Effekte

Austausch

Leitfragen:

- Worin liegen die Ursachen für das Aufkommen an ECS in Berlin?

- Welche sozialen Effekte verspricht man sich von ECS?

Grössere Kategorien von beobachteten Sozialen Effekten:

- Gemeinschaft
- Nahrung
- Weitere Bildungsorte
- Mibilisierung-Aktivierung
- Gesundheit

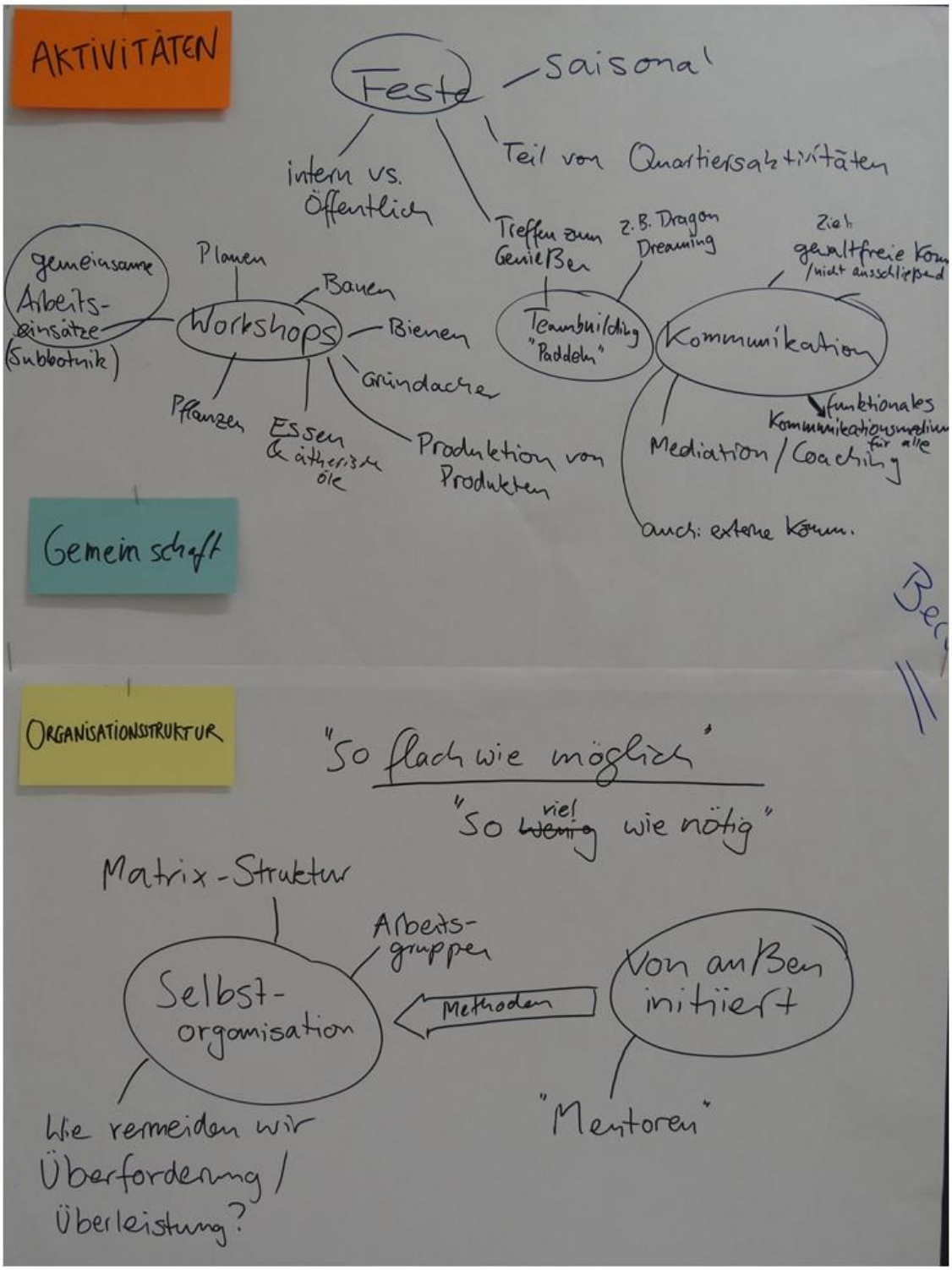
Zweite und Dritte Runde – Organisationstrukturen, Aktivitäten und Soziale Indikatoren

Expertenrunde, Weltcafe

Leitfragen:

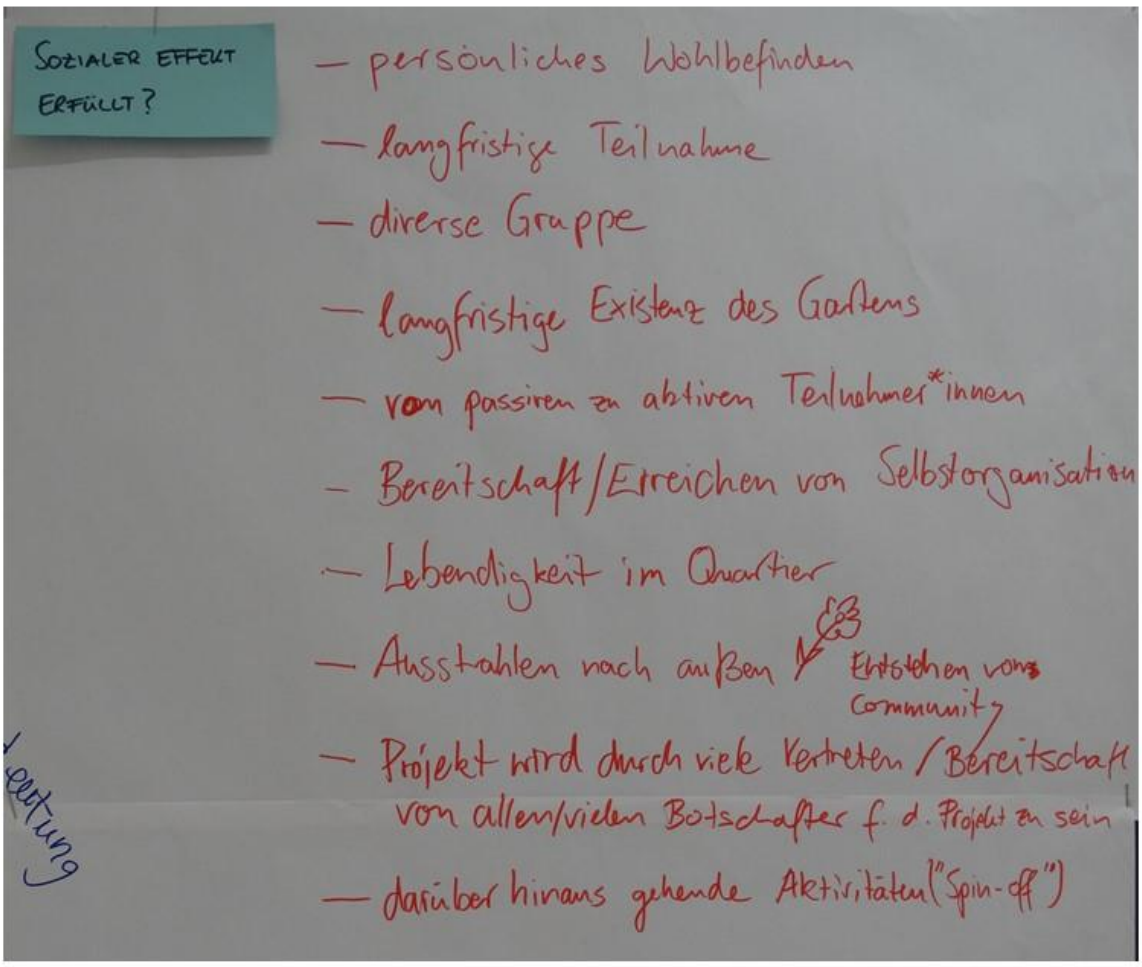
- Welche Organisationsstrukturen der ECS ermöglichen / fördern diese sozialen Effekte?
- Welche Aktivitäten haben zu einem sozialen Effekt der ECS geführt?
- Wann sind die ECS aus sozialer Sicht erfolgreich im Bezug auf die oben genannten Organisationsstrukturen und Aktivitäten?

Kategorie der sozialen Effekte: Gemeinschaft

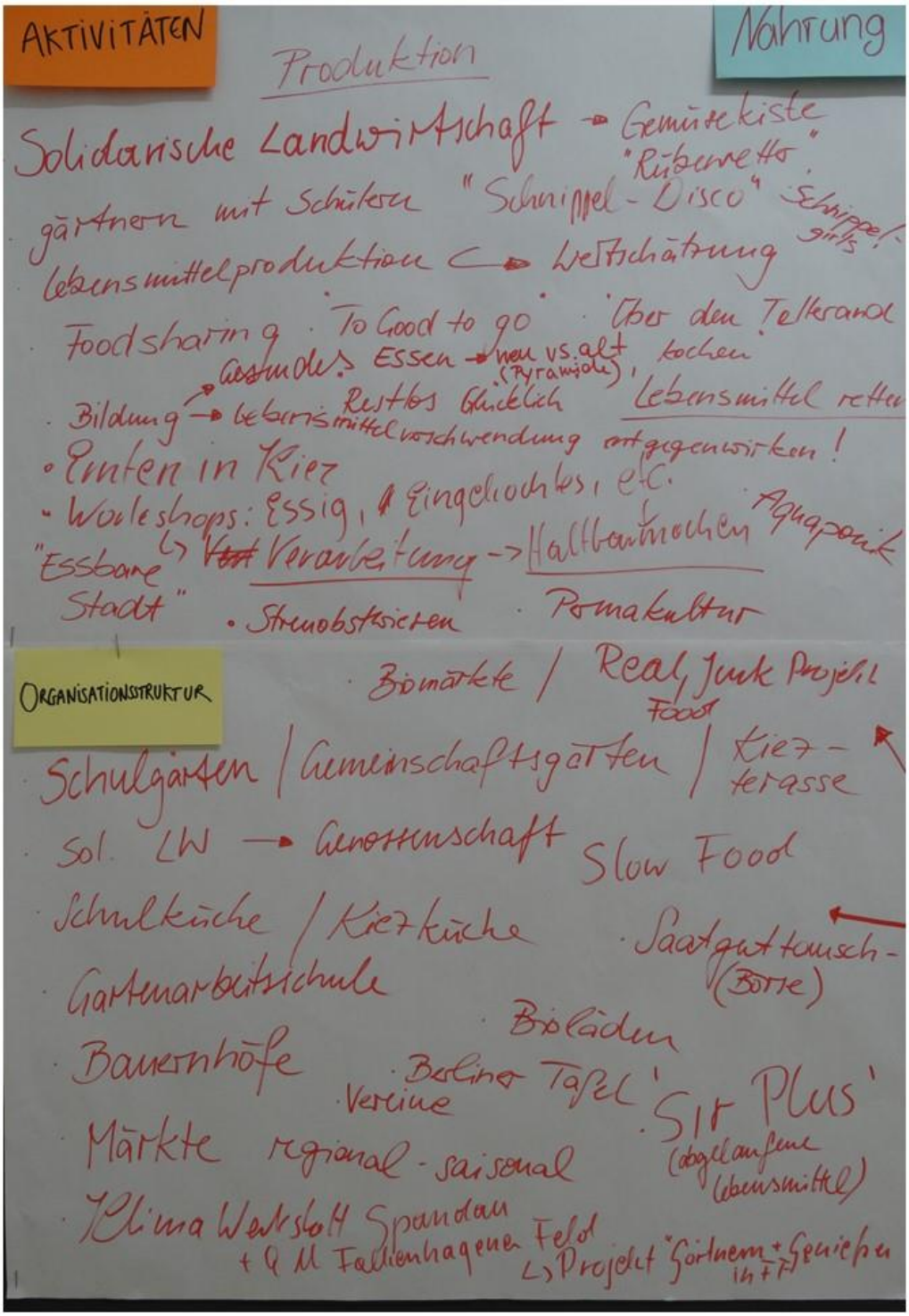


Kategorie der sozialen Effekte: Gemeinschaft

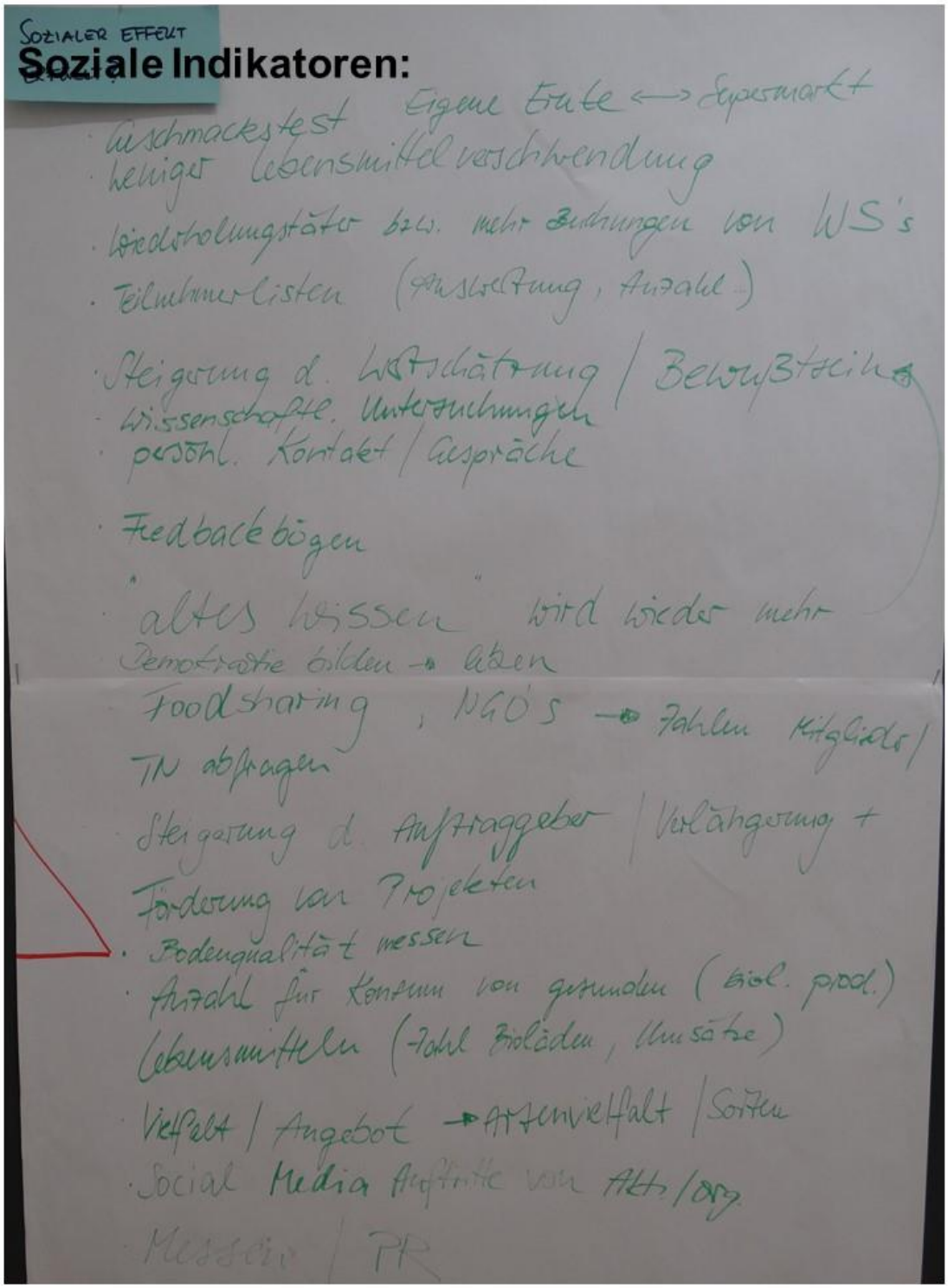
Soziale Indikatoren:



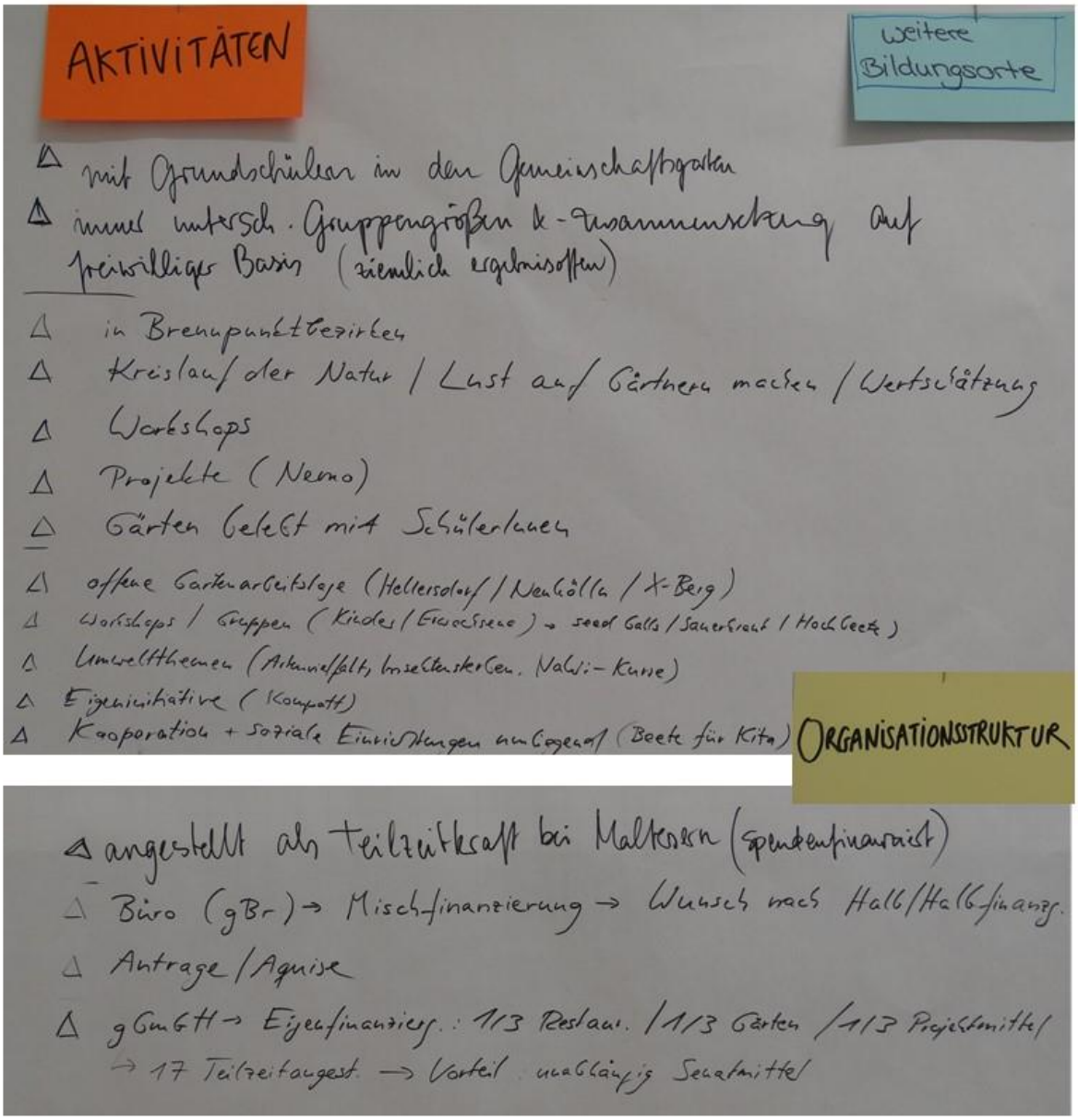
Kategorie der sozialen Effekte: Nahrung



Kategorie der sozialen Effekte: Nahrung

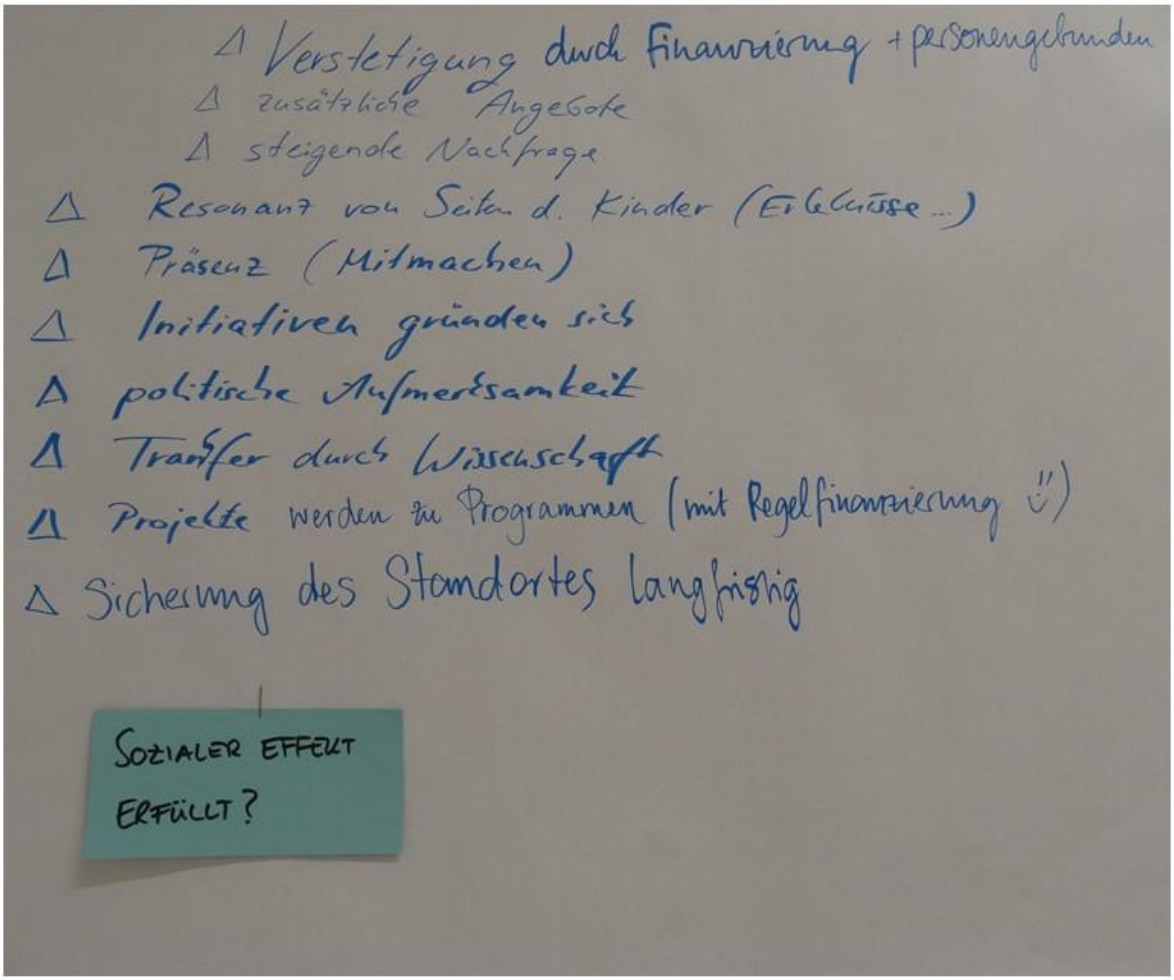


Kategorie der sozialen Effekte: Weitere Bildungsorte

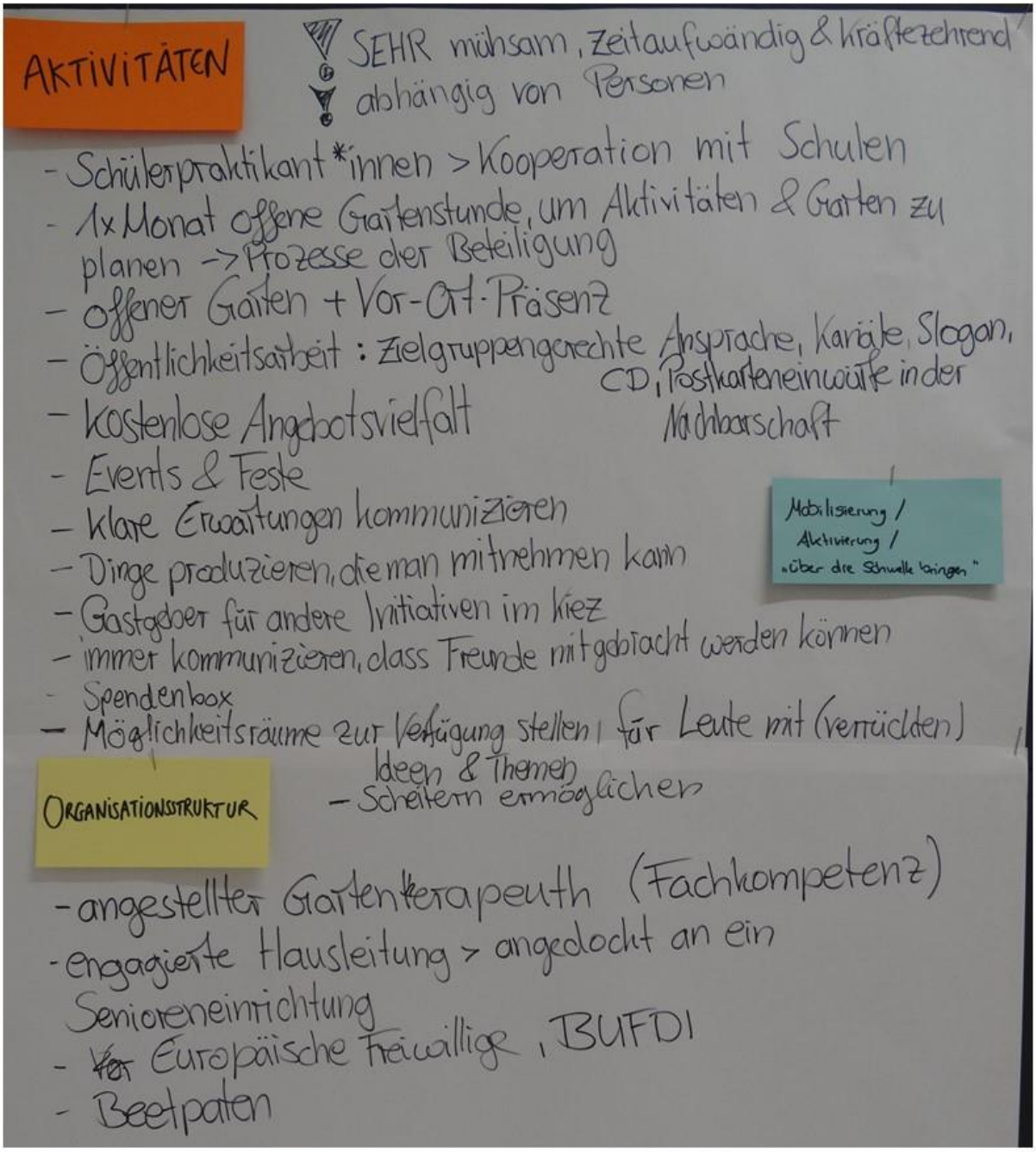


Kategorie der sozialen Effekte: Weitere Bildungsorte

Soziale Indikatoren:

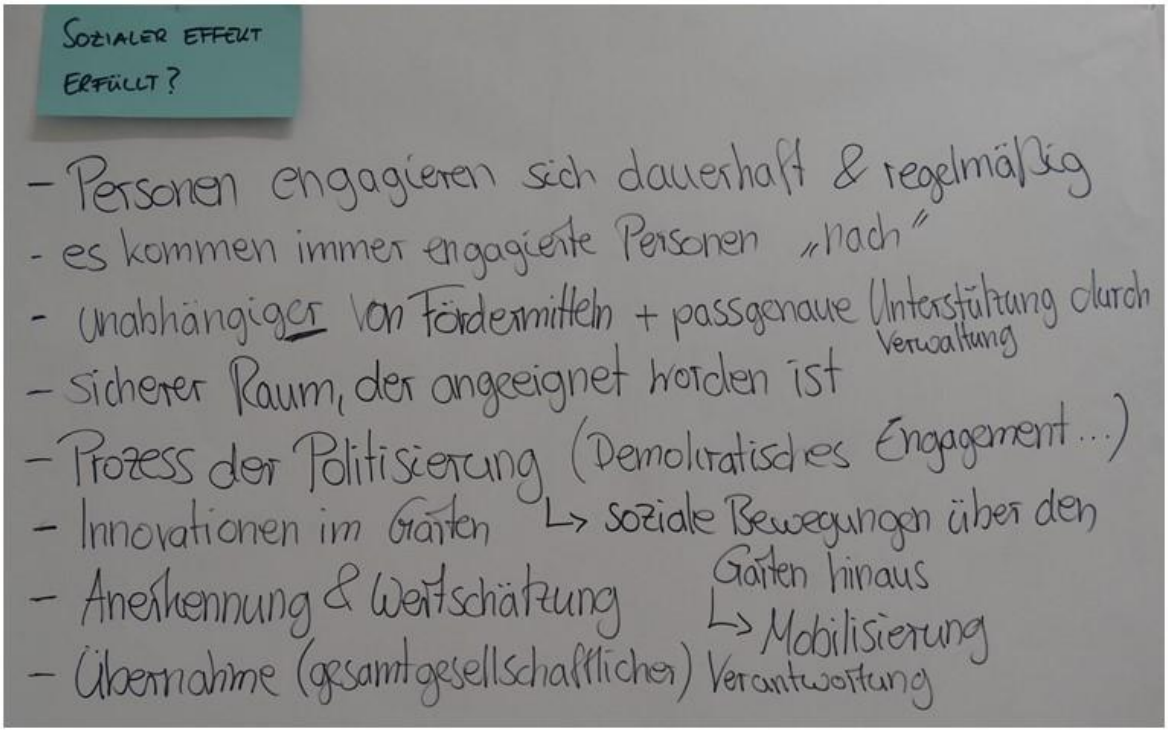


Kategorie der sozialen Effekte: Mobilisierung-Aktivierung

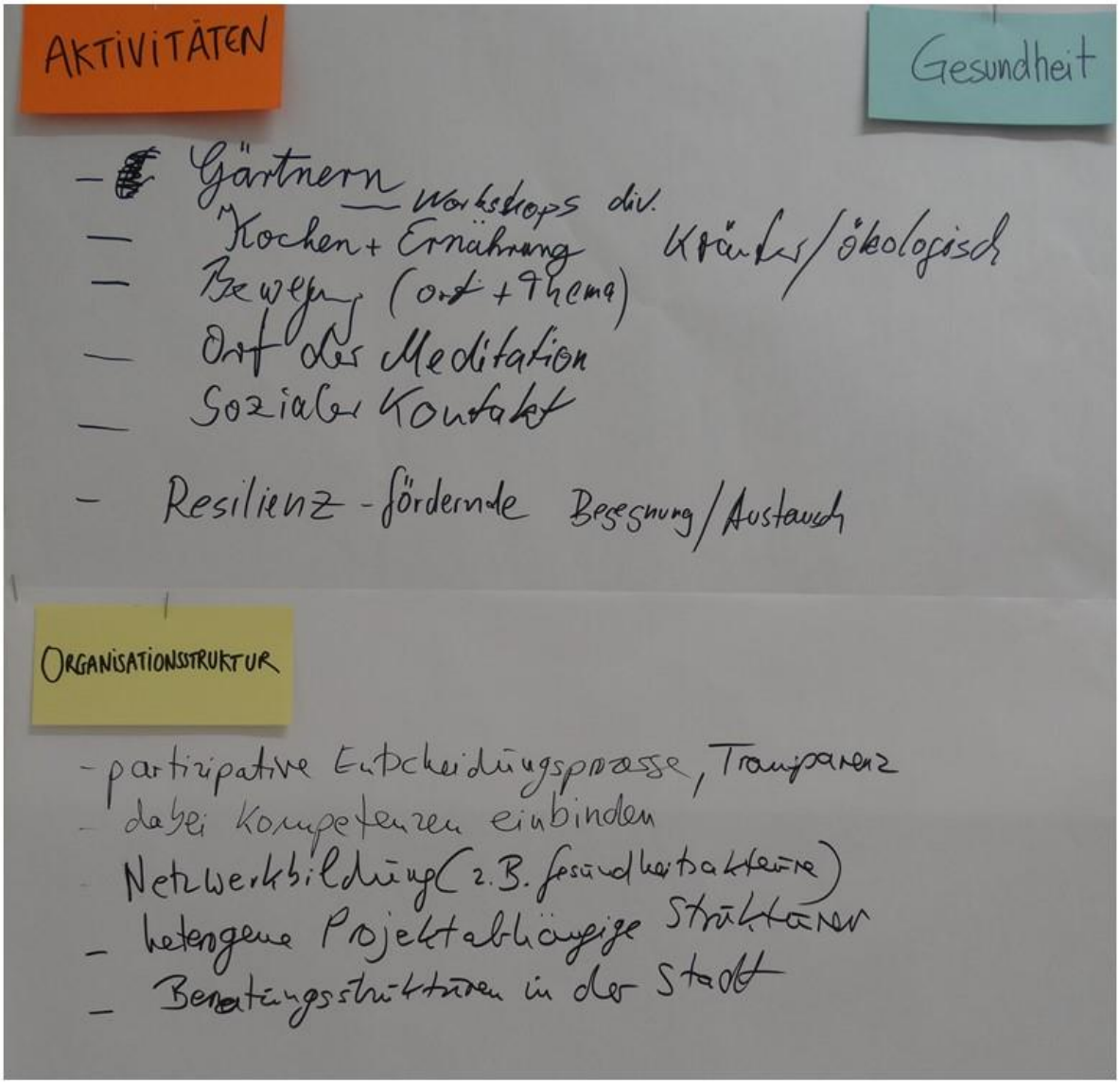


Kategorie der sozialen Effekte: Mobilisierung-Aktivierung

Soziale Indikatoren:

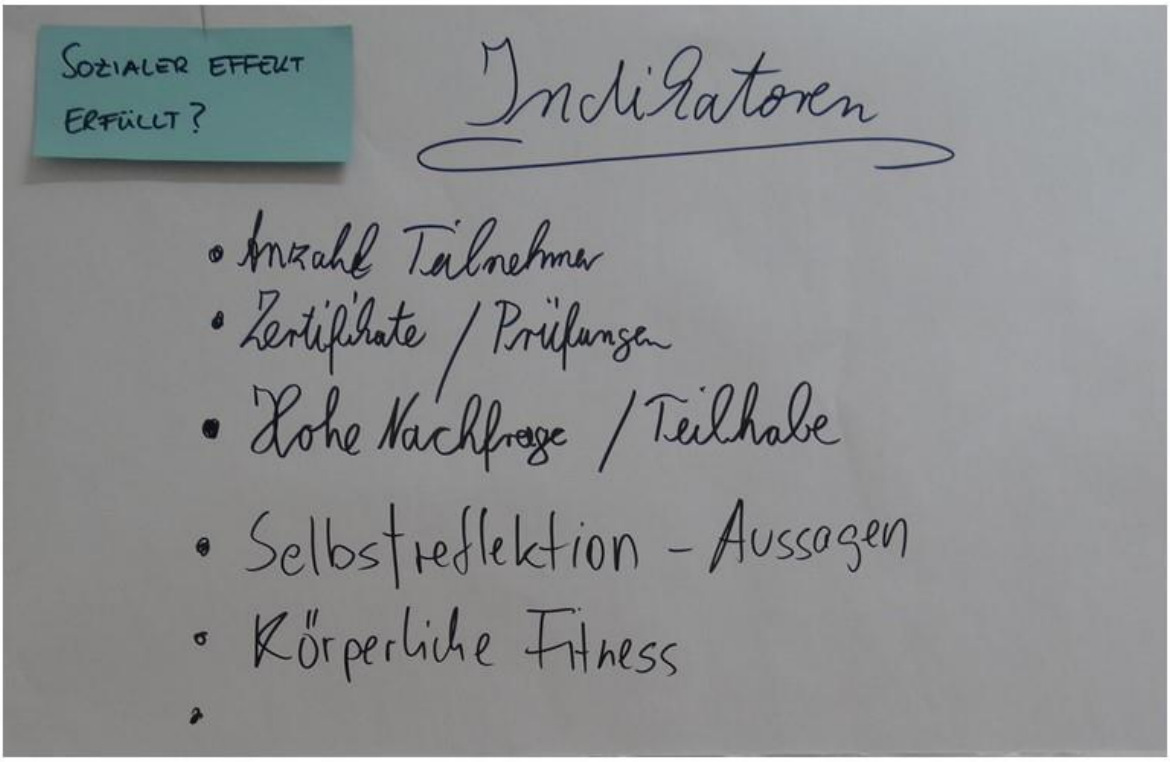


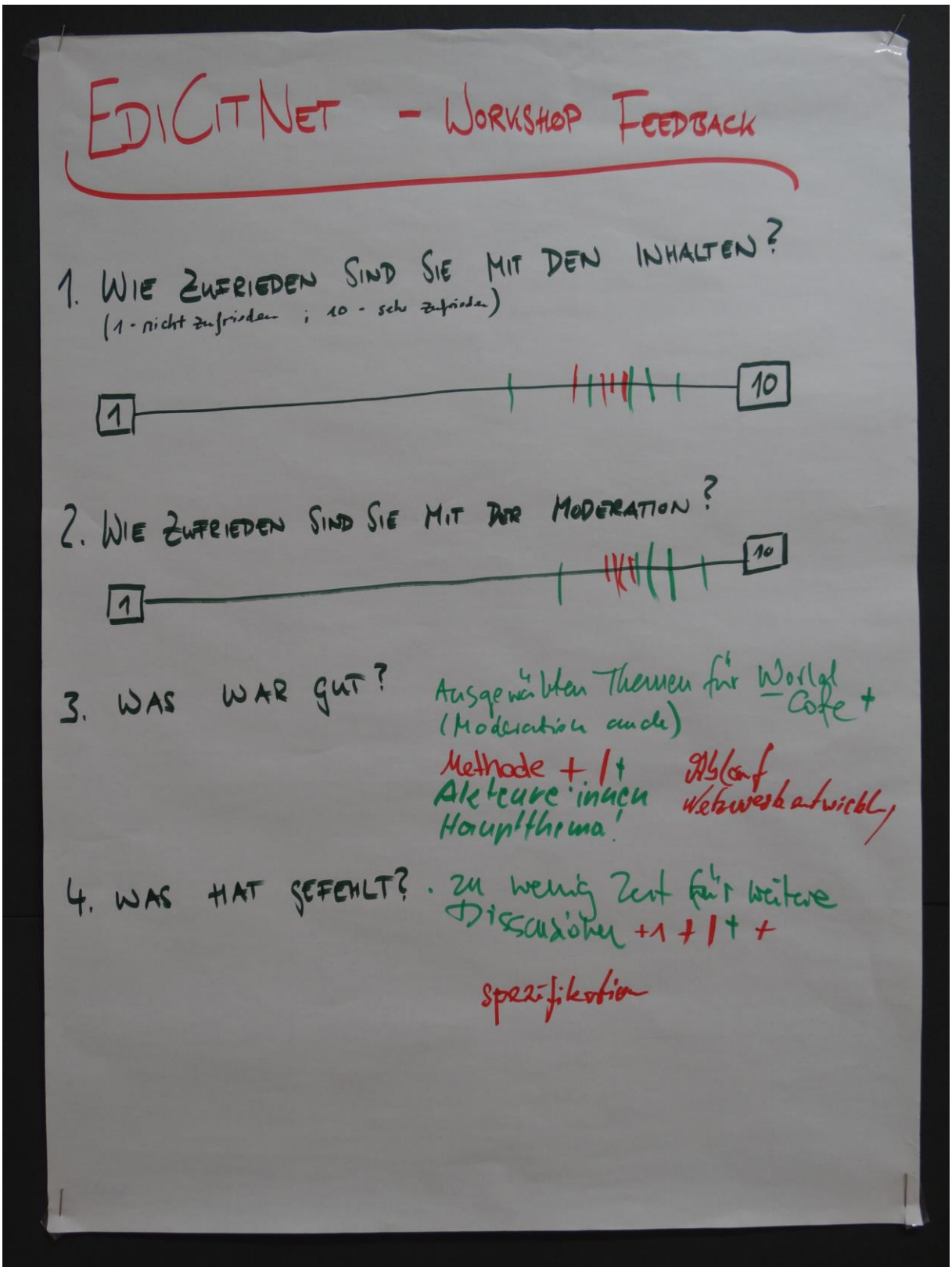
Kategorie der sozialen Effekte: Gesundheit



Kategorie der sozialen Effekte: Gesundheit

Soziale Indikatoren:




EDICITNET - WORKSHOP FEEDBACK
1. WIE ZUFRIEDEN SIND SIE MIT DEN INHALTEN?
(1 - nicht zufrieden ; 10 - sehr zufrieden)
1
10
2. WIE ZUFRIEDEN SIND SIE MIT DER MODERATION?
1
10
3. WAS WAR GUT?
Ausgewählten Themen für World Cafe +
(Moderation auch)
Methode + / +
Akteure innen
Hauptthema!
Ablauf
Netzwerkentwicklung
4. WAS HAT GEFEHLT?
zu wenig Zeit für weitere Dissensionen +1 + / + +
spezifikation