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Acknowledgements

Scaling Up Initiatives:
How Initiatives Can Contribute to Transformational Change.

A Qualitative Study Using the Example of *UrbanFoodSpots*: Food for Thought.

Master Thesis

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Abbreviations

bn	billion
CO$_2$e	carbon dioxide equivalents
EU	European Union
FAO	Food and Agriculture Organization of the United Nations
MLP	Multi-Level Perspective
NGO	non-governmental organization
SCD	sustainable community development
STS	science and technology study
TOC	total organic carbon
TT	Transition Towns
WRI	World Resources Institute

1 Introduction

1.1 Motivation and Rationale Behind this Work

The global challenge of climate change is first and foremost a question of collective-action. Therefore, it needs to be tackled at multiple units at diverse scales in order to back up the solutions that are in turn negotiated at the global scale (Ostrom, 2010). Ostrom's polycentric approach attaches importance to the following train of thought: Since community organizations increasingly acknowledge the local level as a main cause of carbon emissions, corresponding reduction efforts consequently tend to be most effective if made at the local level as well. Späth and Rohracher (2012) support this line of reasoning by emphasizing the importance of the regionalization process of political debates regarding climate change and sustainability. Against this background, local activities are often embedded in the global challenge by the respective actors. In particular urban feasibility demonstrations can substantially increase the credibility when it comes to concrete alternatives to the current course of action. This increased credibility may in turn lead to the adoption of this performing alternative beyond the local level, e.g affecting research funds and other national institutions. This thesis is grounded in Graugaard's (2014) work, which conducts a case study of a network of thinkers, artists and writers who challenge the prevalent meta-narrative of the western world to rethink and shape a future-oriented, sustainable society. Smith (2006) uses the title 'Green niches in sustainable development' for his research on organic food. In regards to long-term environmental sustainability, the initiative *UrbanFoodSpots* represents organized interests to rethink the food supply structure and consumption patterns as well as the social framework.

In this work, the Multi-Level Perspective (MLP) will be used. This perspective requires a high degree of complexity and qualitative data. Nevertheless, Geels (2002) emphasizes that 'the perspective would become more robust if more case-studies were done, varied over different time-periods and sectors' (p. 1273). This thesis aims to provide a literature review and a case study by analyzing one specific initiative in depth and work out how the MLP can be utilized to generate findings that enhance scaling-up processes.

1.2 Climate Change and Food Waste

The UNEP and WRI (Lipinski et al., 2013 p. 1) jointly define food waste as

> the food that is of good quality and fit for human consumption but does not get consumed because it is discarded – either before or after it spoils. Food waste typically, but not exclusively,

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occurs at the retail and consumption stages in the food value chain and is the result of negligence or a conscious decision to throw food away.

According to the Food and Agriculture Organization of the United Nations (FAO) (2013), an estimated amount of 1.3 billion tonnes of edible food is wasted annually, which amounts to about 1.6 billion tonnes of *primary product equivalents*. This does not only raise ethical and economic concerns. It also causes environmental effects as this amount of food waste is in turn linked with approximately 3.3 bn tonnes of CO_2e that are emitted into the atmosphere per year (FAO, 2013). If the amount of CO_2e food waste causes was placed in a country ranking, it would position third in terms of total GHG emissions, immediately after China (11.7 bn tonnes CO_2e) and the US (6.3 bn tonnes CO_2e) (UNEP & WRI, 2014). Furthermore, the food waste is associated with a water volume of approximately 250 km^3 per year as well as the agricultural area of 1.4 bn hectares, which represents 28 % of the total agricultural area available on the planet. Figure 1 illustrates the contribution of each phase of the food supply chain to food wastage and carbon footprint. The consumption phase represents the highest in terms of carbon footprint (37 %), whereas it ranks third (22 %) in terms of food wastage (mass) after agricultural production (32 %), almost on a par with postharvest handling and storage (23 %).
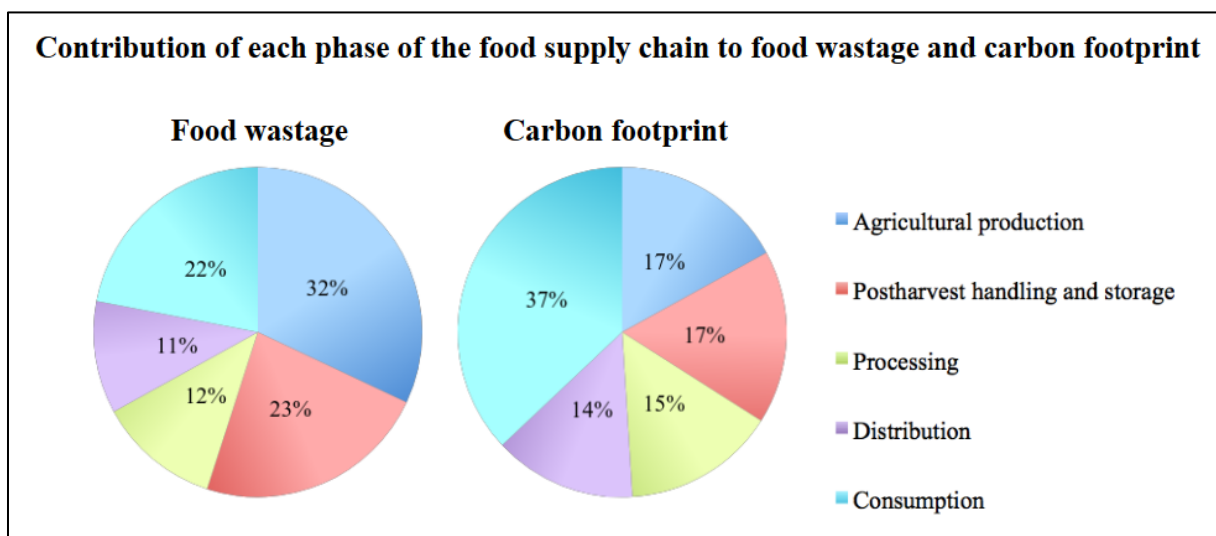
Figure 1: Contribution of each phase of the food supply chain to food wastage and carbon footprint

Source: FAO, 2013, p. 21, own adaptation.

This also represents a question of waste management. From a global point of view, food waste is hardly composted and contributes to the volume of municipal solid waste at the end of the day. Solid waste is largely transported to landfills, which in turn produce greenhouse gases. However, this is not the case in Austria, where landfill disposal of organic material without pretreatment is illegal. Therefore, organic waste needs to be incinerated or undergo mechanical-biological treatment. Moreover, the total organic carbon (TOC) content must not exceed 5 % in

order to be transported to landfill (Council Directive 1999/31/EC). Hence, food waste in residual waste needs special treatment due to its high TOC content.

Nevertheless, a total of about 157,000 tonnes of edible food is not consumed in Austria (Department for Environmental Protection Vienna, Magistratsabteilung 22, n.d.). In the Austrian capital of Vienna, about 40 kg of edible food is wasted per person and year (ibid.; Schneider, 2009). Having worked in a soup kitchen myself for nine years, food waste has become a personal concern in my life. Considering that food waste can be assigned to one specific point of the food supply chain, it becomes clear that this food embodies the energy related to 'growing, nurturing, harvesting, producing, packaging and transporting' (Ganglbauer et al., 2014, p. 912), similar to the distinction in figure 1. This plays a considerable role from an economic, ecological as well as social or ethical point of view.

Food waste is problematic from both a global and national perspective and should gain critical and constructive attention. To give just two examples, the book 'Waste: uncovering the global food scandal' (Stuart, 2009) explores the issue of food waste in much detail and explicitly demands the food industry and public policymakers to respond. The Austrian film production 'We feed the world' (Wagenhofer, 2005) has drawn the attention of the broader public to the issue of food waste. Based on the assumption that today's patterns of demand remain unchanged, the global food production would have to grow by 70 % by 2050 in order to provide enough food for the world population of 9 bn people (Lim et al., 2017). The topic of food waste is of crucial importance when it comes to mastering the sustainability challenge within the realm of the planetary boundaries (ibid.; Boulding, 1966). Even though ecological sustainability is the new buzzword among sustainability researchers, the research on food waste has been limited so far. This represents the reason why this master thesis has been devoted to research on this topic. The reduction of food waste on a day-to-day basis can be influenced and enhanced by emergent technologies and increased awareness that promote resource efficiency (Lim et al., 2017). The UNEP and WRI report by Lipinski et al. (2013) finds that progress in terms of food waste reduction at the consumer level is being made. However, this progress is firstly still in its infancy, secondly relatively slow and thirdly only happening in a few countries. The report aims to contribute to this progress. Eventually, this leads to the question 'How can these initiatives be scaled up?' (p. 25). This thesis' research question will be outlined in the following chapter supported by a literature review.

1.3 Research Question and Research Design Based on a Literature Review

The aim of this thesis is to work out how initiative-based activities can be scaled up; food sharing activities will be analyzed in particular. The initiatives *LebensmittelretterInnen* and

Gleis 21 will be studied in detail in order to use these findings to inform the initiative *UrbanFoodSpots* which is still in the preparation phase at the moment. The research question is the following: What are the conditions and determining factors that enable a locally successful initiative to be scaled up, gain transition momentum and thus promote a socio-ecological transformation?

An *initiative* refers to 'an act or strategy intended to resolve a difficulty or improve a situation; a fresh approach to something' (Oxford University Press, 2017). In this context, the term also refers to a group of people that represent the initiative. Throughout this work, the term *initiative* is used in a general sense unless specified otherwise, e.g. with regard to the concrete initiatives involved in this work. The term *successful* is a central part of the research question and therefore requires specific consideration. In the context of initiatives, *successful* reflects positive contributions in the different dimensions of the initiative and depends on the initiative's individual goals and its activities. *Scaling up* is another essential notion of the research question. Within the scope of this work, it is defined in three ways. Firstly, it means to reach reach groups that are not involved in the initiative's activities (yet). Secondly, it aims at groups that are not 'environmentally conscious' (yet). Finally, it strives to reach beyond the local level i.e. encourage new initiatives, raise awareness, engage other actors and enter the political sphere. With regard to the initiative *UrbanFoodSpots*, the activity is food sharing. The concept of scaling up comprehends sustainability experiments as 'seeds of change that have yet to flourish' (Graugaard, 2014, p. 38). Before the theory behind this concept will be outlined, the following section will provide an overview of the motivations for this work found in the literature.

The purpose of the research question is twofold: Food sharing as a concrete activity on the one hand and its contribution to the challenge of a socio-ecological transformation, i.e. its upscaling, on the other hand. Starting with the challenge of transformation, Geels, Berkhout and Van Vuuren (2016) emphasise the importance of 'analyses of on-the-ground experiences, stakeholder concerns, and learning processes with [...] initiatives' (p. 6) to explore novelties and transitions pathways. More precisely, the actual challenge is to understand and analyze the complex relationship between the social and technical aspects that together make up the system. Having achieved this, the next step is to strive to understand how a system transition can be initiated and promoted with the help of sustainable innovations (Smith, Voss & Grin, 2010). Graugaard (2014) also emphasizes how important it is to conceptualize technologies 'as tools to enable change' (p. 284). Seyfang and Haxeltine (2012) take the view that technological innovations have social character and therefore are in need of a social theory that includes social practices in order for the innovation to unfurl.

The topic of food sharing is not understood sufficiently because academia has not addressed or explored this topic comprehensively. More precisely, there has been progress in the field of the interaction between humans and food but this work does not cover food sharing activities (Lim et al., 2017). For example, there is research on questions regarding food supply such as urban gardening and local food sources on the one hand and research on different sharing activities on the other hand (Wright, 2013; Røpke, 1999).

Gruber, Holweg and Teller (2016) highlight 'the potential of food waste as a valuable resource for personal and societal well-being' (p. 22) in their study. Against this background, their findings suggest that food waste is an important reality within the framework of the western consumption culture. The meaning of food goes beyond the satisfaction of basic needs as it rather fulfils needs of higher order (ibid.). According to a national survey of British Transition Towns (TT), 40 % of the participants stated that 'food and gardening' activities had the highest priority (Seyfang & Haxeltine, 2012). Therefore, it is the most attractive and promising field of action. In particular environmental activism goes hand in hand with the search of community, fulfillment and identity (Bate, Bevan & Robert, 2004).

The Roadmap to a Resource-Efficient Europe (EU Commission, 2011) assigns the nutrition sector a high potential regarding the effectiveness of incentives for a more sustainable food production and consumption. Moreover, the Roadmap also identifies the challenge of implementation in order to achieve fundamental change, which needs to be addressed at different scales. This comprehension leads to the second motivation, which is how this upscaling of change can contribute to a transformation.

It is important to remember that food sharing has been practised since ancient cultures and societies. In contrast to today's communication modes, social technologies and the internet play an important role and can hardly be overrated. Hence, Ganglbauer et al. (2014) advocate more research on free sharing communities as well as the facilitation of these practices. The German website Foodsharing.de accommodates a food sharing community and thus provides a platform to organize food sharing activities. Ganglbauer et al. (2014) close their case study with the following statement: 'For future work we plan to interview members [...] to gain more understanding how and why such new social patterns evolve within a community' (p. 10).

This work's topic of food sharing is innovative in so far as it aims to provide new insights into food sharing activities in urban areas. It aspires to represent a mode of knowledge that stands in contrast to the binary fabric of society and culture on the one hand and environment and nature on the other hand (Graugaard, 2014). Moreover, the aim of this thesis is *not* to give a broad summary or review of different approaches and activities. Rather, this thesis aims to analyze one specific approach in depth and work out how scaling up can be

supported and achieved. In order to successfully evaluate these sustainability experiments or transitions in-the-making, it is of crucial importance to understand what is happening on the ground as well as emerging trends (Turnheim et al., 2015). The understanding of motives and strategies on the ground is important in order to make sure the trends and changes resulting therefrom are sustainably and firmly embedded in society. Moreover, they argue that learning based on initiatives is

> less unified and more heterogeneous [...] involving diverse social actors such as citizens, businesses, civil society organisations and (local) government [...] [and] may be viewed as microcosms of future reconfigured systems (ibid., p. 244).

This practical approach allows the analytical and straightforward assessment of the status quo, which is indispensable for the realization of long-term goals. After that, they can be supported in terms of further development, implementation and scaling up (ibid.). Bulkeley et al. (2014) analyze urban transitions in-the-making and assign urban experiments and projects a high transformative potential. Seyfang and Haxeltine (2012) base their analysis of community-based initiatives on the three key processes managing expectations (realistic, specific and achievable), building social networks (with many different stakeholders), and learning ('second-order learning'), which were defined by Kemp et al. (1998). These processes will be examined in the further course of this work as the goal of this thesis is to enrich and apply these trains of thought in the form of a case study. In the next section, the initiative *UrbanFoodSpots* will be introduced.

1.4 The Initiative *UrbanFoodSpots*

UrbanFoodSpots is a Viennese initiative by the Austrian Institute of Ecology[1] that is currently, i.e. at the time of writing, developing cooling stations with an information system in public spaces to pass on food and hence save it from being thrown away. This concept is depicted in figure 2.

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[1] For simplicity, the Austrian Institute of Ecology will be called 'the Institute' hereafter.
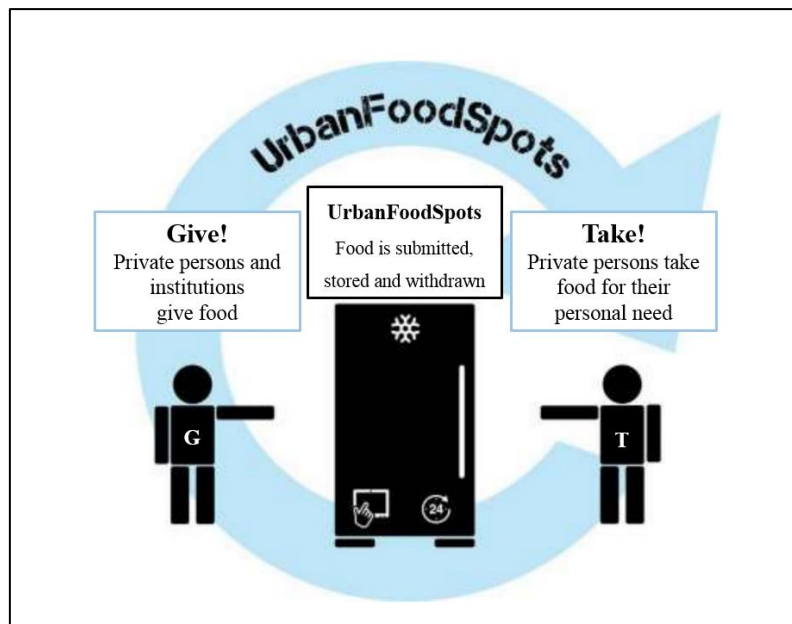
Figure 2: The concept of UrbanFoodSpots

Source: Austrian Institute of Ecology, 2017.

The initiative is the joint collaboration of the Institute, the Vienna University of Technology as well as the private company Ernst Winninger GmbH. Depending on funding of the follow-up project, first prototypes will be available in spring 2018, introducing the test run. *UrbanFoodSpots* is funded by the Österreichische Forschungsförderungsgesellschaft FFG (Austrian Research Promotion Company) and the bmvit (Ministry for Transport, Innovation and Technology).

Food initiatives that pass on food need to follow rules concerning food safety and security. To guarantee these factors, the food should mainly be in its undamaged original packaging, show relevant product information as well as the expiration date. Moreover, the initiative pays particular attention to the issues of gender diversity, the location of the cooling station as well as legal and hygienic measures. For this purpose, 34 (18 women and 16 men) at the age between 18 and 64 were interviewed by the project team in 2015 and 2016 to investigate the requirements of potential users. *UrbanFoodSpots* welcomes a broad spectrum of motivations and explicitly does *not* strive for social redistribution. It is not excluded, but should not become dominant (Bernhofer et al., n.d.). 'The value of shared food is emphasized, and the socioeconomic, ethical and ecological meaning of the activity of passing on food is visualized'[2] (ibid., p. 1, *own translation*).

In 'Food Practices in Transition', Spaargaren, Oosterveer and Loeber (2012) analyze socio-technical innovations taking a long-run, historical perspective. In this context, they

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[2] Original quote in German: 'Der Wert der geteilten Lebensmittel rückt verstärkt ins Bewusstsein, und die sozialökonomische, ethische und ökologische Bedeutung der Lebensmittelweitergabe wird sichtbar gemacht.'

emphasize the evolution of conservation tools such as fridges and other cooling technologies. The aforementioned concept of the *UrbanFoodSpot* can be well incorporated in this evolution. It will affect conventional consumption, which will be outlined hereafter.

In the following, the term *UrbanFoodSpots* will be used for the initiative as a whole, which differs from the term 'cooling stations'. The information provided in this chapter is was accessed through meetings and telephone calls between the project manager Ms Kalleitner-Huber from the Institute and myself as well as the participation in the second stakeholder workshop hosted by the Institute. The workshop took place in April 2017 and was attended by 25 stakeholders from 17 institutions involved in very diverse respects.

1.4.1 The Cooling Station

Figure 3 below illustrates what the cooling station is approximately going to look like. Figure 4 shows the draft layout of the user interface, which will be displayed on the screen of the cooling station.
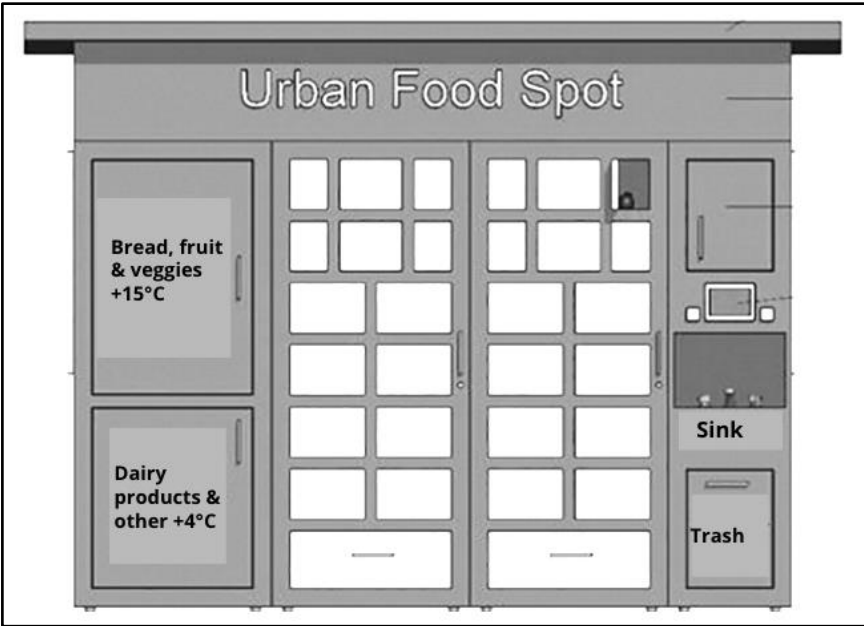
Figure 3: The cooling station

Source: Austrian Institute of Ecology, 2017.

Figure 4: The user surface of the cooling station

Source: ibid.

As the figures show, it will not simply be an open fridge but a technologically advanced fridge designed for food sharing activities. Users will need to register before they can use it. Particularly with regard to food safety concerns, the concept foresees several steps between the delivery and withdrawal of food. First of all, the delivered food will be stored in the left part of the cooling station until it has been controlled and placed in one of the display boxes that allow to withdraw the food through the operating element on the right side of the cooling station. The operation of the cooling station will be available in multiple languages and supported by visualizations to decrease potential barriers. Moreover, information about the different food categories such as allergens will be provided. Additionally, it is planned to produce an app which enables users to see the food that is currently available in the cooling station. Nevertheless, an important aspect within the initiative is that the usage of the cooling station is independent from the app or other internet devices as far as possible to minimize entry and usage barriers. Currently, the idea is to provide a valid email address for each user profile.

Further details are still being debated and evaluated at this point of writing. This does not impair the quality of this work as the focus should stay on the research question rather than on the presentation of the *UrbanFoodSpots* initiative.

Safety

Regarding the question of best before date or expiration date and edibility, which often diverge from the use-by date indicated on many food products, the brochure 'Is that still good – A manual' provides information on the exceedance of the best before dates. In particular, sensitization of users regarding sensory control and confidence in their senses and experience

are addressed. It is an essential part of the test phase of the *UrbanFoodSpots* initiative. The brochure is a joint project of the *Wiener Tafel* ('Viennese Table', a food bank), *MA 38* (municipal authority for food examination) and *pulswerk GmbH*. The latter was founded by nine staff members of the Institute who offer policy consultation in the field of sustainable society development.[3]

Safety will be increased through the control of the food by trained and thus competent legal entities, i.e. private persons or institutions. They will be registered at *MA 59* (municipal authority for market service and food safety) and support the operation of the cooling station. However, this does not answer the question of liability, which is currently still open and being debated. This also applies to the question about necessary frequency of controlling measures. The following list includes the delivery criteria contributing to the quality and safety of the food:

❏ Edible food (it is OK if the best before date has been exceeded, but needs to be marked)
❏ Fruit and vegetables
❏ Bread and baked goods such as pastries

Not allowed are:
❏ Alcoholic beverages
❏ Easily perishable food with use-by date (such as raw meat or seafood)
❏ Home-made food (due to missing information about ingredients, allergens etc.)
❏ Loose or home-made bread and baked goods

The initiative *UrbanFoodSpots* aims to establish cooperations with institutions or groups that first of all physically install and later maintain and operate the cooling station. One of them is the association *Gleis 21* which won the tender for a housing project in Vienna, which will be explained in more detail below.

1.4.2 The Initiative *Gleis 21*

In 2016, about 20 private citizens and parties founded the association *Gleis 21* in Vienna. In June 2017, they have increased in number to 40. They jointly participated in the call for tender regarding a community-based residential building project in the Sonnwendviertel in the 10th district of Vienna. This residential project is currently being planned. The Sonnwendviertel in the 10th district of Vienna is socially challenging and unbalanced and thus needs bridges that connect and reunite the district in order to prevent social division. Having won the tender, *Gleis*

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[3] http://www.pulswerk.at/mindesthaltbarkeitsdatum.htm

21 meets on a regular basis to further develop and define its goals and activities. It is a bottom-up association founded by engaged citizens. The public tender for the urban Viennese neighborhood ('Urbanes Grätzl') around Helmut-Zilk-Park in the 10th district of Vienna states the following (Rieder, 2014, own translation):

> *There is no sustainable alternative to the 'city as a small-scale structured mix', the re-vision of the urban space and life states. The renaissance of a new life culture offering a close relationship of everyday spheres 'working + living + recreation' that is defined by physical activity in public areas represents temporal and spatial luxury and the basis for socially appreciated settings. The uses on the ground floor of the urban area including spatial extensions such as yards, galleries, arcades, public alleys, mezzanines, basements and second floors are not private hermetic borders and thresholds, but are planned to fulfill the conditions to be open exchange areas for operational and social activities. The mobility concept includes joint garages providing noise protection from the north where the tracks of the main station are located. Public transport lies within walking distance.*

Furthermore, *Gleis 21* (2016) say on their website (own translation):

> *We are convinced that functionality, conservation of resources and aesthetics are compatible and not contradictory. Vivid districts emerge from within. Through people who jointly build a new home. And finally, they do not only create a cosmopolitan urban residential building for themselves, the city of Vienna and the district Favoriten, but even more: they create identity with long-term relationships and commitment. Because Vienna is our city.*

Among other residential peculiarities such as a ground floor open to the public, special offers for refugees, a vegetarian restaurant and a multi-functional room, *Gleis 21* is planning to operate a cooling station in their neighborhood. The planned location of the cooling station has been integrated in the construction plan of the building and is going to be available for public use.

Moreover, *UrbanFoodSpots* is planning to cooperate with the association *LebensmittelretterInnen* (female and male food savers) as well as the local food sharing community. The connection with these initiatives has already been established and provides the basis for this thesis. As qualitative research of such free sharing communities as well as the facilitation through technologies is limited (Ganglbauer et al., 2014), the aim is to see the *UrbanFoodSpots* in a broader perspective going beyond the technical aspects. As Smith et al. (2010) suggest, the thesis focuses on a variety of agents, which play an important role regarding the success of *UrbanFoodSpots*. Representing the last chapter of the introduction, the next chapter sets out the outline of this work.

1.5 Outline of the Thesis

Having covered the introduction to this thesis in the first chapter, the following part of the thesis is structured as follows. The second chapter provides a theoretical overview on the topic of change and how it can be scaled up. To do so, it draws on the MLP and the meaning and relevance of learning. Chapter 3 focuses on the reasoning about the methods used in the

empirical research. These are interviews, participatory observation and a case study. Additionally, this chapter deals with the form of generalization that applies to this research. In chapter 4, the general as well as *UrbanFoodSpots*-specific findings are presented, followed by a view of the initiative from the MLP. Chapter 5 first discusses these findings, then works out how these findings could be implemented in scaling-up processes and policies, states the strengths and limitations of this thesis and closes with possible avenues for future research. Finally, the concluding remarks in chapter 6 complete this work.

2 Theory

2.1 Different Approaches to Systemic Change

This chapter approaches the concept of systemic change from different perspectives. It starts with the two concepts of transformation and transition. To begin with the common features of the two concepts, they both aim to bring about change and are often associated with the multiple and intertwined crises and challenges in the literature. In brief, these contemporary global challenges concern the questionability of the foundations of our material and energy use on the one hand as well as the socio-economic foundations on the other. Moreover, both concepts include discontinuous and gradual stages. This suggests (r)evolutionary components how to tackle the aforementioned challenges from a political point of view (Brand, 2012).

Nevertheless, they are often used or even defined interchangeably or similarily (Jackson & Webster, 2016). E.g. O'Riordan (1998) speaks about a green sustainability transition, whereas Spash (2014) calls for '[a] transformation away from greenhouse gas emissions' (p. 34). To give but one relevant example, the report by the German Advisory Council on Global Change (WBGU, 2011) is titled 'Articles of Association for a Great Transformation ('Gesellschaftsvertrag für eine Große Transformation'), but is translated into English as 'World in Transition - A Social Contract'. The following chapter relates these findings and combines them with the research question this thesis aims to answer, i.e. the topic of scaling up.

2.1.1 Transformation

The concept of transformation has its roots in the Latin verb *transformo*, which translates as shape, greatly change the appearance in terms of nature, function or condition (Wiktionary, 2017b). It conceptualizes an intentional as well as autopoietic process of fundamental social change happening in a systematic way (Reißig, 2014). Autopoietic is derived from the noun autopoiesis: 'The property of a living system [...] that allows it to maintain and renew itself by regulating its composition and conserving its boundaries' (Merriam-Webster, 2017a).

According to Brand (2012), a transformation is per definition change happening at several scales from local to global and in various dimensions such as the socioeconomic, political or cultural dimension. As a result, complexity and interdependency are important characteristics of transformations. Climate change can serve as an illustrative example. Turnheim et al. (2015) state that 'current policies are often not sufficient [...] due to a combination of economic, political, social and cultural factors [because] transformations involving technological, economic, social and ecological change are complex' (ibid., p. 240). Therefore, they call for a new socio-technological regime. As it is both top-down and bottom-up driven, it can contribute to a political path that cannot be mechanically controlled but rather represents an open-ended search process.

Looking at the history of anti-capitalist activities, Wright (2013) distinguishes three strategies. First, the ruptural transformations are characterized by a 'sharp break with existing institutions and social structures' (p. 20). It is a revolutionary event that immediately transforms state structures, causing the fall of the existing economic structure. Second, interstitial transformations aim at 'new forms of social empowerment in niches and margins of capitalist societies, often where they do not seem to pose any immediate threat to dominant classes and elites' (ibid.). This represents ideological activities that however demonstrate that other work and lifestyles are feasible and desirable. Third, Wright defines the category of symbiotic transformation taking advantage of 'institutional forms of social empowerment' (ibid.) This transformation addresses practical problems and empowers civil society as well as the state. Finally, Wright advocates a strategic pluralism of all three strategies and uses the ecosystem metaphor to illustrate a gradual transformation (ibid.).

2.1.2 Transition

Transition originates from the Latin verb *transeo* meaning walk, pass over or go across (Wiktionary, 2017a). Reißig (2014) conceptualizes the term transition as politico-institutional change of social order. This goes hand in hand with Brand (2012) stating that it implies the change of politico-institutional regimes through actions from above. The change can also be illustrated more precisely as evolutionary, modernizing as well as as change from one stage to another, often broadly pre-defined, stage (ibid.).

In 'Evaluating sustainability transitions pathways', Turnheim et al. (2015) define transitions pathways as 'patterns of changes in socio-technical systems unfolding over time that lead to new ways of achieving specific societal functions' (p. 240). Socio-technical systems will be considered throughout this work in more detail. 'Transitions are seen as the up-scaling of successful (legitimate) solutions' (ibid., p. 244). One form of these solutions is represented

by initiatives. However, due to the scale, scope and urgency, directing these up-scaling processes is at least difficult, if not impossible. Therefore, the authors argue that initiatives on the ground are of crucial importance because they actively form and drive the transitions happening at that very moment. These transitions are carried out by very diverse actors that experiment, learn and adjust collectively in the same direction as new knowledge, properties and perceptions evolve. These transitions can have a significant effect on the culture which in turn shapes the social order (Kemp & Martens, 2007).

Having said this, local scale activities have a pivotal role as they give insights into the micro-level, i.e. the interplay of very diverse actors like citizens and civil society organizations but also businesses and governments. The activities on this micro-level demonstrate and legitimize sustainable alternatives to current practices, which can then be scaled up. Normative prescriptions most likely cannot bring about these changes or at least not within the necessary time frame (Turnheim et al., 2015).

In summary, comparing the two concepts of transition and transformation, the former requires more social engineering, i.e. technical and management skills, and is in its nature more affirmative and intervening. In the transitions literature, it is often used in plural, which stands in contrast to how the concept of transformation is used. It is more complex, undirected and systemic. Nevertheless, transitions can well promote a transformation. Graugaard's (2014) insights may enhance the understanding of what has just been said about the relationship between transition and transformation. He introduces a meta-level that reflects on human perception: '[A] transition in ontology and epistemology is a qualitative transformation in how the world is experienced and known' (p. 61).

2.1.3 Evolution

Socio-technical systems are complex adaptive systems that are inasmuch separate that they have coevolutionary character (Fischer-Kowalski & Rotmans, 2009). This goes hand in hand with Beddoe et al.'s (2009) conclusion: They use the concept of transitions to express that evolutionary '[c]hanges in our current interconnected worldviews, institutions, and technologies (our socio-ecological regime) are needed [...]. [We] can design the future that we want by creating new cultural variants for evolution to act upon [...]' (ibid., p. 2488). Quasi-evolutionary social theory aims to explain and bring about changes or even a transformation in worldviews based on cultural evolution paired with normative pressure. However, this approach appears useful to a limited extent. Against the background of today's prevalent monopolistic socio-technical systems, it could even lead to more crises and violent struggles over essentials (Elzen et al., 2011).

Graugaard (2014) introduces the theory of evolution to sustainability research, but he does not conceptualize it as selective process. Instead, he conceptualizes evolution as a normative framework with the ability to influence and change the socio-technical regime. From an empirical point of view, research on sustainability applying a coevolutionary approach or theory has been on the upgrade to understand sustainability transitions, sometimes termed sociotechnical transformations (Seyfang & Haxeltine, 2012).

2.1.4 Innovation and Technology

The term *innovation* means the successful realization of novel ideas. *Technology* can be defined as tools, techniques or processes that are able to fulfill a certain task or function. According to these definitions, the two concepts can have an intersecting set: an innovation *can* be a technology and a technology *can* be an innovation, i.e. not all innovations *are* technologies and vice versa.

Innovations are the result of creative processes and hence their success highly depends on the form and degree of creativity involved. Furthermore, success and creativity refer to the feasibility of an innovation and the amount of public support it requires and receives (Rotmans, 2003). The assessment of an innovation and hence its chances of success do not depend solely on a supervisory body but on the actors 'who are willing to work together on a specific transition theme, get together and start joint projects' (Van de Kerkhof & Wieczorek, 2005, p. 737). Considering the initiative *UrbanFoodSpots* and its technological innovation of a public cooling station for food sharing, this condition is already fulfilled as a joint project has been started by the Institute in cooperation with many partners such as the city of Vienna and the Technical University. Smith et al. (2010) conclude that innovation and studies thereof contribute to sustainability transitions. They give the example of transformative innovations that have the potential to alter and improve food or waste systems.

The way technologies are perceived and analyzed can be very diverse. Coutard and Guy (2007) do not conceptualize technologies as purely technical but also assign them a social dimension causing social implications. In order to understand these processes, two aspects need to be taken into account. Firstly, technology is always embedded in a social context, 'in which people create, deploy, and use technologies' (Hirsch & Jones, 2014, p. 106). Secondly, the process of adoption can be lined with ups, downs and conflicts. This represents the mutual shaping of technologies and practices. These just mentioned aspects are the promising spaces that shape urban politics. Coutard and Guy (2007) depict this as 'practices of hope' that allow the combination of science, technology and human values rather than 'politically disabling technological pessimism' (p. 713), reflecting ' "soft" forms of economic, institutional and

technological determinism' (p. 720). Coutard and Guy base their findings on Brain (1994), who assigns the science and technology study (STS) perspective high potential to analyze 'what social relations, institutional practices, strategies of action, and possibilities for transformation are built into cultural artefacts' (Brain 1994, p. 216). Graugaard (2014) argues in a very similar way by suggesting 'spaces for active experimentation with alternative ways of seeing, co-creation of new vocabularies and development of creative practices' (p. 3). Geels (2002) conceptualizes technological transitions as 'major, long-term technological changes in the way societal functions are fulfilled' (p. 1257). This involves a wide range of participants and is evolutionary in two respects: These transitions require variation and selection on the one hand and restructuring and redesign on the other hand, leading to changes in first of all technology as well as in infrastructure, industrial networks and regulations. These changes are mainly initiated by niches and have the potential to lead to systemic changes in user practices, symbolic meaning and culture (ibid.). Interestingly, Geels (2010) argues that the engine of a transitions are changes in ideologies, public opinions and belief systems. These shape values and consumer preferences, which in turn can cause the introduction of laws and regulations by policy makers. On the structural level, Geels (ibid.) identifies the competition of the 21st century between the future option 1, which has been prevalent since the 1980s, and option 2. Option 1 depicts a globalized world neo-liberalist traits such as market focus, economic growth, privatization and limited regulation, whereas option 2 depicts a transformed world implying a strong government, ecological lifestyles, localism, corporate social responsibility and democratization, just to name a few examples. Furthermore, Geels explains that the challenge in the second option, the sustainability option, lies in the diversity of innovations used and promoted by different groups of society. Therefore, civil society and public authorities play an important role in transitions e.g. in the form of social movements supported by engaged academics, thereby influencing public opinion and offering a socio-political approach. The next chapter will briefly treat the topic of sustainable development.

In this chapter, we have seen which factors influence form, speed and direction of transitions. These structuralist aspects are closely related to the role of learning and the MLP, which will be addressed further down in chapter 2.2.

2.1.5 Sustainable Development

Having already mentioned the role of public opinion, values and beliefs, Kemp and Martens (2007) even go further in their article 'Sustainable development: how to manage something that is subjective and can never be achieved'. Taking up the sustainability transitions from above, Kemp and Martens (2007) define sustainable development as 'a new normative orientation of

Western society, inherently subjective concept, new form of science, complementing traditional science' (p. 5). Gibbons et al. (1994) coined the term 'mode-2 science [...] promotes a context in which knowledge is coproduced and provisional' (Kemp & Martens, 2007, p. 8). Furthermore, it is '[a]cademic and social, participative, uncertain and exploratory' (ibid.).

Firstly, rather than breaking or watering down ambiguity, complexity and uncertainty, sustainable development integrates these topics (Brand & Karvonen, 2007). Secondly, instead of adjusting some parameters, sustainable development is about initiating and promoting social change in a positive direction in the sense that inherent conflicts are avoided, striving for social unity (Meadowcroft, 1999). Sustainability challenges need to be worked, dealt and lived with rather than swept away with a non-existing panacea. This allows legitimate diverse opinions, which in turn encourage conflict resolution and learning. Having made this point, diversity in understandings and opinions are accepted and embraced by the transition process. In this new form of science, Graugaard (2014) sees 'a knowledge mode which avoids (re)producing the binary framework of society/culture vs. environment/nature' (p. 36). On the contrary, sustainability can be pursued through the very process of participatory activities embracing and working with the topic. This allows the rethinking and reshaping of human-nature relationships. Graugaard's analysis suggests that *transitions* in worldviews require that social life is *transformed* in order to take up the challenge of sustainability.

These theoretical illustrations are in line with Ganglbauer et al.'s (2014) example of food sharing that increases the potential of sustainable change by introducing a new social pattern. However, as Turnheim et al. (2015) point out, the scale is decisive in the end as 'reduction of food wastes are effective only when widely-practised' (p. 246). This gets to the heart of the research question this thesis strives to explore. When the food sharing initiative is locally successful, the question remains how this can have an impact on the wider scale, i.e. on the macro level. The next chapter will explore this question in more detail and develop possible responses based on a literature review. This will later be paired with the empirical research in chapter 4.

2.2 Scaling Up

The concept of scaling up is rooted in the analytical approach of research at the local scale (Geels et al., 2016). Turnheim et al. (2015, p. 240) explain that

> [i]nitiative-based learning provides a situated micro-perspective on local-scale projects, and focuses on the role and interplay of actors such as citizens, businesses, civil society organisations and (local) government in developing, legitimising and scaling up innovative sustainability solutions in practice.

In 'Growing grassroots innovations: exploring the role of community-based initiatives [...]', Seyfang and Haxeltine (2012) define scaling up with the process that involves the diffusion and growth of an innovation. This finally influences wider society, causing the changes covered in the previous chapter.

2.2.1 The Multi-Level Perspective

The Multi-Level Perspective (MLP) is a framework that offers an evolutionary approach to socio-technical systems. Frank Geels, a British professor of system innovation and sustainability, has significantly influenced and contributed to the MLP. Its application allows new insights into inseparable challenges influenced by the different dimensions of technology, economics, politics and culture. Furthermore, as his research shows, the MLP can contribute significantly to analyses of real-world developments as one of its strengths is that it allows to keep things complex (Geels, 2002). The world is made up of interconnected and complex socio-technical systems. These systems in turn are made up of people on the one hand and technology on the other hand, which is used for a wide range of activities in society. These activities are both drivers of and driven by technologies and involve a large number of actors such as firms, researchers, policymakers or wider public (Geels et al., 2016). In the following, the rationale behind the MLP and its three levels will be explained in more detail.

Socio-technical change is conceptualized on three different scales: the micro-, meso- and macro-level. In the transitions research, the scaling-up process is represented by the question how technological niches can reach the socio-technical regime and hence influence the socio-technical landscape. The MLP is depicted in figure 5.

18
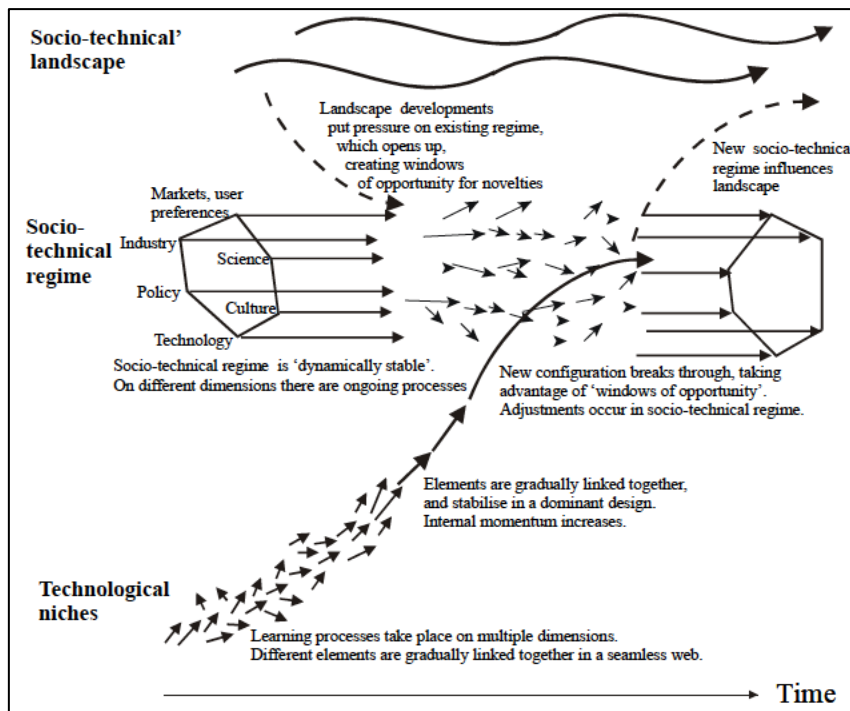
Figure 5: The Multi-Level Perspective

Source: Geels, 2002, p. 1263.

On the micro-level, new technologies are implanted in technological niches, thus causing variation at this level. If these initiatives and projects grow qualitatively and quantitatively, they can have an impact as niches on the regime on the meso-level, which is subject to a selection process at this level. This level in turn is incorporated in the socio-technical landscape, i.e. a wider context (Späth & Rohracher, 2012). In the MLP, the scaling-up process is fueled in two ways: an increasing number of people involved on the one hand and the translation of these new ideas into a language that reaches and speaks to the broad majority of the population, i.e. the macro-level, on the other hand (Seyfang & Haxeltine, 2012).

2.2.1.1 Niches

A niche is 'a protected space where suboptimally performing experiments can develop away from regime selection pressures' (ibid.). This space is intentionally created outside of the prevalent regimes. Geels (2002) uses the metaphor 'incubation rooms' to illustrate its functionalities. These spaces allow uncertainty in terms of financial profit and open questions e.g. regarding ideal function and form (Schot & Geels, 2008). Niches are represented by multiple small initiatives that are intermediary actors and organizations. To give an example, the sum of the different sustainable food activities including food sharing activities represent one niche. Niches serve as global carriers of innovations (Späth & Rohracher, 2012). The term *innovation* can stand for new and best practices carried out in experiments. These practices can in turn be fueled by standards, institutionalized learning as well as lobbying and networking.

Illustrative examples of possible outputs are films, conferences and websites (ibid.; Seyfang & Haxeltine, 2012). Niches function as platforms where networking and learning takes place (Raven et al., 2008). Learning in niches can take on different forms such as learning by doing, learning by using and learning by interacting (Rosenberg, 1976; Von Hippel, 1988; Lundvall, 1988). The learners are represented by the social network which supports the innovation created in the niche. Finally, these niches can potentially become 'new normalities' (Seyfang & Haxeltine, 2012, p. 397).

2.2.1.2 The Regime

Socio-technical regimes imply a broad variety of cognitive, regulative and normative rules that are rooted in the socio-metabolic system (Geels, 2002). Moreover, it is characterized by a set of different institutions, actors and interests. Within the field of research, the regime is conceptualized at different scopes. For example, the Dutch literature describes the regime at the local or regional level, whereas a paper that resulted from an Austrian-German collaboration argues that the regime should be conceptualized at least at the national or global level (Späth & Rohracher, 2012).

Transitions and Transformations

In order to promote a technological transition and overcome predominant systems, the MLP suggests an evolutionary reconfiguration of socio-technical regimes (Geels, 2002). Transitioning processes are implemented by agents of change within civil society, whose role the MLP framework aims to analyze in order to steer these processes. Hence, the MLP is both empirical and theoretical in its nature (Seyfang & Haxeltine, 2012). Moreover, there is a whole body of literature that empirically supports the thesis that the accumulation of niches can bring about a regime transformation (ibid.).

2.2.1.3 The Landscape

The socio-technical landscape represents the exogenous environment that cannot be directly influenced by the involved niche actors nor by the regime. It stands for the external context. Examples are trends such as globalization, climate change or the global and local divide between rich and poor (Geels, 2002).

2.2.1.4 Change from the Multi-Level Perspective

Within this framework, niches and their new practices plant 'institutional seeds' (Roep & Wiskerke, 2012, p. 207) that have the potential to radically change the regime. It is important that the initiators 'stay in charge while scaling up' (ibid., p. 215).

The broader historical and geographical framework are also worth considering to understand technological transitions from the evolutionary perspective (Geels, 2002). From an empirical perspective, cities and regions are physical spaces and socially constructed spaces that have been covered insufficiently by the transitions literature so far (Späth & Rohracher, 2012). On the basis of niches as the starting point of transformative power, the authors suggest more studies focusing on sustainability issues from an urban socio-technical perspective. Due to the agglomeration in urban areas, networks have a relatively high tendency to differ from the mainstream. In accordance with evolutionary theory, actors generate innovations in niches outside the mainstream, which is represented by the prevalent regime. Depending on their performance, they *may* be successful in the sense that they break out into the mainstream, altering or even revolutionizing it. However, Geels (2010) emphasizes that this is a *possible* development process, not a law. The novel approach of the MLP lies in the idea that the 'further success of a new technology is not only governed by processes within the niche, but also by developments at the level of the existing regime and the sociotechnical landscape' (Geels, 2002, p. 1261). The general pattern Geels (2002) deduces from his research states that the breakthrough depends on whether new technologies cooperate with already established technologies. These strategic alliances have a rather symbiotic than competitive character in two respects. Firstly, they may solve initial hurdles such as potential bottlenecks. Second, the niche technology can benefit from the 'kinetic energy' the established technology has built up. This can take on the form of name recognition and popularity, in order to not use the term market power that is already occupied by economics.

Diving deeper into the dynamics of this development process, the niche consolidates itself by means of social activities, knowledge creation and transfer especially on the local level and 'the capacity to 'deliver'' (Wiskerke & Van der Ploeg, 2004, p. 11). Socio-technical relationships are made up of novel technology and its use on a local level, but they nevertheless emerge under the influence of the existing regime and landscape. This interrelation represents a socio-technical relationship. From a conceptual point of view, this relationship becomes more and more stable over time as structure grows and and rules are established, which at some point in time become local practices. These local practices together with the now established technology shape physical infrastructures, lifestyles and culture and hence are also reflected in

landscapes, which are rather rigid, but play a dominant role when it comes to social development and change (Geels, 2005).

The concept of change has been ascribed an ambivalent character within the field of transitions research for a long time (Giddens, 1984). Giddens' (ibid.) Theory of Structuration argues that action and structure cannot be isolated as they stand in mutual relationship. People make up society, but society also influences people, which represents a two-way causality. Finally, the impact of action such as initiatives cannot be estimated with certainty. This is related to the concepts of reflexivity (see further down in this chapter) and double hermeneutics since practices and scientific knowledge are dialectical in the social theory and research. Özel (2002) suggests open systems thinking to understand the social world. Furthermore, the theory of double hermeneutics claims that the 'social world must be understood from within, rather than explained from without' (ibid., p. 10). This is also of high relevance for economics, as Polanyi's, Keynes' and Schumpeter's works reveal (ibid.). According to the philosophical approach of critical realism, 'we will only be able to understand - and so change - the social world if we identify the structures at work that generate those events or discourses' (Stuttaford & Coe, 2007, p. 194). The more aware and emancipated the actors are, the more likely social change becomes. Graugaard (2014) concludes that the MLP bears the potential to see 'innovation within socio-technical regimes as incremental and looks to niches, conceived as 'protected spaces' where rule structures are less rigid, for 'path-breaking' innovations' (p. 51).

In 'Food Futures in the Making', Spaargaren et al. (2012) conclude that ''modern' food futures do not just emerge or drop from the air' (p. 316). Instead, construction, training and finally learning are at the focus as well as a diverse set of individual but organized actors. Taking up the theory of evolution, research on alternative food networks shows that either *even though* or *because* they have evolved over time, their powers to challenge and reform the dominant food regime should not be underestimated (Van Otterloo, 2012). Van Otterloo (ibid.) has identified three significant aspects in food transitions. First, established consumer organizations and NGOs have an agency role and hence large influence on food regimes in Europe. Second, these organizations' largest sphere of influence is the cultural sphere including values and norms which then influence attitudes, expectations and practices towards food. Third, the historical analysis reveals that there has been variation regarding food concerns over time. Whereas e.g. the focus of the 1950s and 1960s was on convenience and low price, the concerns changed towards fair trade and animal protection in the 1900s and have reached consumer awareness, values and sustainable development today. These also fuel the transitioning processes (Spaargaren et al., 2012). To give a concrete example at the end, Wiskerke and Van der Ploeg (2004) analyzed the agricultural transition towards co-operative

farming. They found that the governing board played an important role as it primarily supported creative and active farmers, which in turn increased supportive activities of all actors involved. The researchers describe this novelty production as cascading effects (ibid.).

The MLP in the IAM Framework

The MLP is part of socio-technical transition theory and analysis which in turn can contribute to integrated assessment model-based analyses. Whereas the latter do not include social science concepts as they are epistemologically hard to integrate, the former emphasizes cooperative interaction and supports a pluralistic approach that could also embrace the heterogeneity of local initiatives focusing on urban innovations (Geels et al., 2016). Kemp and Martens (2007) confirm this by stating that 'change towards sustainability can occur only with community-based approaches that take local cultures seriously' (p. 6), which is a strength of the MLP. This can also improve the informative value of integrated assessment model-based analyses. These assessments identify drivers and obstacles of the status quo in order to formulate the findings in a strategic, forward-looking way, rather than in an instrumental manner.

With regard to the further course of this thesis, it should be kept in mind that the MLP has also limitations. For this thesis, it will be challenging to evaluate the findings in terms of their sustainability potential. Moreover, the combination of qualitative methods, which will be illustrated in chapter 3, affects the generalization (see 3.5) of the findings (Geels et al., 2016). However, these limitations can also be turned into strengths as this thesis is not an independent research work but embedded in the initiative *UrbanFoodSpots*, which was started and is being developed further by the Institute. Therefore, this study strives to provide a theoretical perspective on *UrbanFoodSpots*, offer a better understanding and finally outline a possible strategy based on on-the-ground experiences. This can help fathom the direction of the emerging trajectories, which are represented by the interactions and partnerships the initiative forms in regards to e.g. knowledge and practices from similar or earlier activities. These trajectories pursued by the niches influence the regime and finally shape the transitions pathway (Raven et al., 2008).

Genus and Coles (2008) criticize the MLP as being heuristic because it is not based on plain data. Before this criticism will be encountered, heuristics will briefly be introduced: Heuristics is characterized by its potential to contribute to the state of knowledge. This knowledge contributes to the solution of problems or challenges that are not straightforward but rather complex and difficult to manage. Consequently, heuristic methods refer to subjective assessment and rely on traditional knowledge (Thommen & Siepermann, n.d.). On the contrary, Geels (2010) encounters that Genus and Coles' view can also be interpreted as advantage of the

MLP because it explicitly provides one defined perspective on an issue by asking specific questions. That explains why it *doesn't* and does *not aim* to integrate all social theories in the first place, which does not contradict its high flexibility. In conclusion, Geels (2010) argues that, given the very nature of the sustainability challenge, transitions can only benefit from or may even require the dialogue of various methods. The combined findings of different methods will lead to something bigger than the sum of its parts. What starts with a programmatic idea has the potential to develop from a niche with a relatively homogeneous culture through learning and experimentation to a regime change (Späth & Rohracher, 2012). The MLP serves as a framework to understand how these niches aggregate and hence can influence the regime level. In the next chapter, the concept of learning and its role in the scaling-up process will be illustrated.

2.2.2 The Meaning and Relevance of Learning

Within the scaling-up process, learning is an important and essential process. This chapter will first of all give an overview including different forms of learning and then apply these to the topic of transition management. Finally, the meaning of expectations in scaling-up processes will be examined.

Unlike other living organisms, the human species has the ability to identify with the adaptation process itself, which in turn enables it to look ahead and consciously and deliberately shape its future world (Kolb, 2014). Learning is a many-sided concept that first of all will be defined, being aware of the danger that the following definition may make things seem clearer than they are. However, it will become clear that even though the packaging material may differ, the content is broadly structured in the same way. 'Learning describes the process whereby knowledge is created' (ibid., p. 49). This knowledge is acquired through the transformation of instruction, study or experience and can be expressed in a certain skill or behavior.

Seyfang and Haxeltine (2012) analyze the TT movement. It is a 'rapidly growing civil society movement aims to address the twin challenges of climate change and peak oil, through local community-based action' (ibid., p. 382). A survey among the members shows that 95 % of the participants state that awareness raising is the most widely used activity. The authors interpret awareness raising as a form of learning that facilitates action and thus the viability and subsequent growth of the movement. This preface has broadly outlined the concept of learning. The following part will dive deeper into different forms of learning and apply them to the research question.

2.2.2.1 Forms of Learning

Two Levels of Learning

Throughout the learning literature, there is a distinction between two categories prevalent, which however have a slightly different focus, as will be pointed out hereafter. Seyfang and Haxeltine (2012) distinguish between first-order and second-order learning processes. Whereas first-order learning leads to adaptation within the sphere of the prevalent framework and systems, second-order learning involves a different level of understanding as it also challenges and reflects on the prevalent framework and systems. Similarly, Geels (2010) differentiates between behavioral and cognitive learning. The former applies learning by doing, which is based on the evolutionary concept in the sense that it relies on feedback loops leading to adaptation and change. Cognitive learning, on the other hand, is powered by active reflection and sensemaking. The distinction between first-level and second-level learning is analogous to the former definitions. First-level learning refers to the cognitive learning and analysis within a given problem and context. On the contrary, higher-order or second-level learning reveals new insights on a meta level that enables a normative analysis and can also be termed political learning (Van de Kerkhof & Wieczorek, 2005).

Learning activities can also be viewed from the perspective of an organization. According to Argyris and Schön (1996), organizations have two characteristics: From the outside, they 'can be seen as a monolithic entity and [...] treat that entity as an impersonal agent' (p. 5). The learning paradox of organizational learning is that productive i.e. first-order learning impedes deeper i.e. second-order learning. The cause for the learning paradox lies in emerging defensive patterns, which can be actively prevented through the following steps that should be taken jointly by all participants: Firstly, it is important to identify and describe the patterns that hamper deeper learning. Secondly, the participants jointly develop strategies to interrupt these patterns. The third step represents the assessment of the (negative) effects the strategies will have on the first-order learning process. Fourthly, it needs to be worked out how the designed behavioural world is paradoxical i.e. work out how certain desired behaviors hinder other desired behaviors. The fifth step includes sessions in which the participants dive deep into the paradoxes in order to gain skills and insights how to overcome them. Sixthly, the power of framing will be helpful. The defensive way of argumentation can be turned into a productive one that fosters learning. Finally, it is important to monitor the further development learning and detect further outgrowths of the learning paradox. Although this step sequence may seem linear, it will require regressions, loops, unexpected action steps and, last but not least, experience, i.e. learning by doing (ibid.). Nevertheless, the learning processes triggered through

the overcoming of the learning paradox will certainly contribute to learning processes at the other levels and thus improve the organization's overall state.

Martens (2006) describes sustainability science as emerging field that focuses on nature-society systems, innovations and transitions. He emphasizes the importance of learning and distinguishes between learning by doing, which is based on use and the acquisition of practical experience, and learning by learning, which requires a meta-analysis.

Most interestingly, in 1996 Lundvall saw an urgent need for systems of innovation and a learning economy as response to the socioeconomic challenges. However, 'the learning economy will not be sustainable if these tendencies are not countered by a *New* New Deal which puts the focus on the distribution of capabilities to learn' (ibid., p. II, italics own emphasis).

In 'Towards a million change agents', Bate et al. (2004) state that '[r]adical change often involves a collective, interactional and emergent process of learning and sensemaking' (p. 24). In particular, they assign second-order learning a pivotal role as it creates incentives for new participants to join a social movement. This stands in contrast to e.g. often practised film screenings scoring high deterrent and dooming stimulation but low activating stimulation. Consequently, careful awareness raising that triggers learning processes should be the first step. It will primarily attract local people, of which some will then become active participants. These elaborations have shown that learning can promote a socio-ecological transformation.

Social Learning

As mentioned in chapter 2.1.4, the sustainability challenge is not a technocratic or technological challenge. Given the many different actors involved, it relies on and requires social learning (Stirling, 2007). Generally speaking, learning is based on cognitive categories. Social learning is primarily based on double-loop learning, i.e. the kind of learning that questions one's beliefs, norms and preferences regarding different spheres of life. 'Transition initiatives aim to offer practical activities in numerous areas – such as food growing and learning skills – which are all valuable opportunities for social learning' (Seyfang & Haxeltine, 2012, p. 394). In social learning processes, transmission and persistence are critical factors contributing to success. However, regarding social and experiential learning strategies, one can challenge these lines of argumentation and question whether the relationship between mind and behavior change is necessary or merely sufficient. Empirical research suggests that in order to reach the wider public that is not aware of the issue, initiatives and community-based activities are most attractive if they are put into practice. Most interestingly in terms of logical thinking, learning can result from practice. To reach the wider public, incentives should be composed of immediate advantages such as enjoyment, consumption, social exchange, social recognition or

monetary benefits, to give only a few examples. The pragmatic approach to invite people to try out new systems that provide new products or services may in return change current behavior, prevalent ways of thinking and e.g. promote environmental consciousness through local food networks (Seyfang, 2006). Learning may not necessarily be followed by action and even if, this action may not necessarily be effective. Additionally, as Stuttaford and Coe (2007) remark, action can take place independent from time and space and 'not lead to action in the place where it is learnt; action as a result of learning may happen hours, days, months after the learning' (p. 193f.). In conclusion, social learning can result both from experience and a cognitive approach and finally lead to a lifestyle change of society (Seyfang & Haxeltine, 2012).

Learning and Technology

Geels (2005) argues in accordance with economic approaches as they use the concept of learning to explain how price and performance of a product change over time. This is depicted in learning curves. Learning curves are driven by technological change and technological change is carried out by firms who gain and accumulate experience through learning-by-doing activities (Arrow, 1971). Geels (2005) questions this theory by challenging its market-centeredness. He poses the question of how non-market aspects can be integrated and explained. These aspects are e.g. symbolic meanings, regulations or usage practices and play a pivotal role in diffusion processes. The diffusion of an innovation does not necessarily proceed linear or continuous due to the fact that social and institutional influence factors such as articulation of problems, the build-up of knowledge or the sharing of that knowledge and experience should not be underestimated. They provide a much more colorful and realistic picture of diffusion processes as they aim to incorporate different dimensions like 'user preferences, regulation, infrastructure, policies, symbolic meaning, maintenance networks' (ibid., p. 80).

Garud and Rappa (1994) describe a similar process to illustrate the dynamics of technological change. Existing artefacts are connected with certain preferences and beliefs, which shape cognitive categories. When researchers or engineers create new artefacts, e.g. an innovation, these undergo evaluation routines of individuals and consequently affect people's preferences and beliefs. Since these preferences and beliefs also affect researchers and engineers, new artefacts are created according to these preferences and beliefs. This process is depicted below in figure 6.
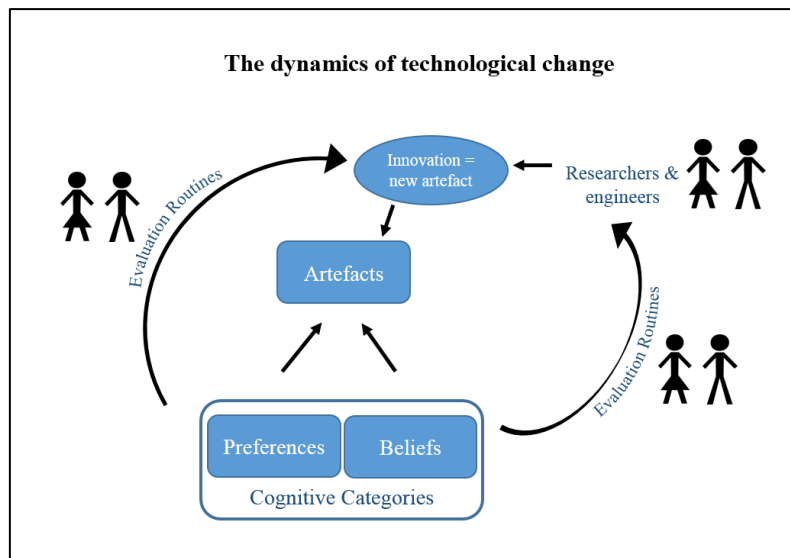
Figure 6: The dynamics of technological change

Source: Own illustration.

Returning to double-loop learning, the understanding and evaluation of new artefacts is based on existing cognitive categories and rules, but can also change and create these. '[N]ovelties do not emerge in a vacuum, but in an established context, surrounding an incumbent technology [...], knowledge and cognitive routines' (Geels, 2005, p. 45). This conceptualization goes hand in hand with two previous findings regarding the relationship between society and technology. Firstly the evolutionary character of socio-technical systems described in chapter 2.1.3 and secondly the role of the socio-technical regime in the MLP described in chapter 2.2.1. Figure 7 summarizes the relationship between technology and context as well as the role of social learning. Generic technology and the universe of local contexts are influenced by retention, which in turn are the result of social learning. The figure differentiates between retention in the sense of technological competences and retentions in the sense of context and supportive institutions.
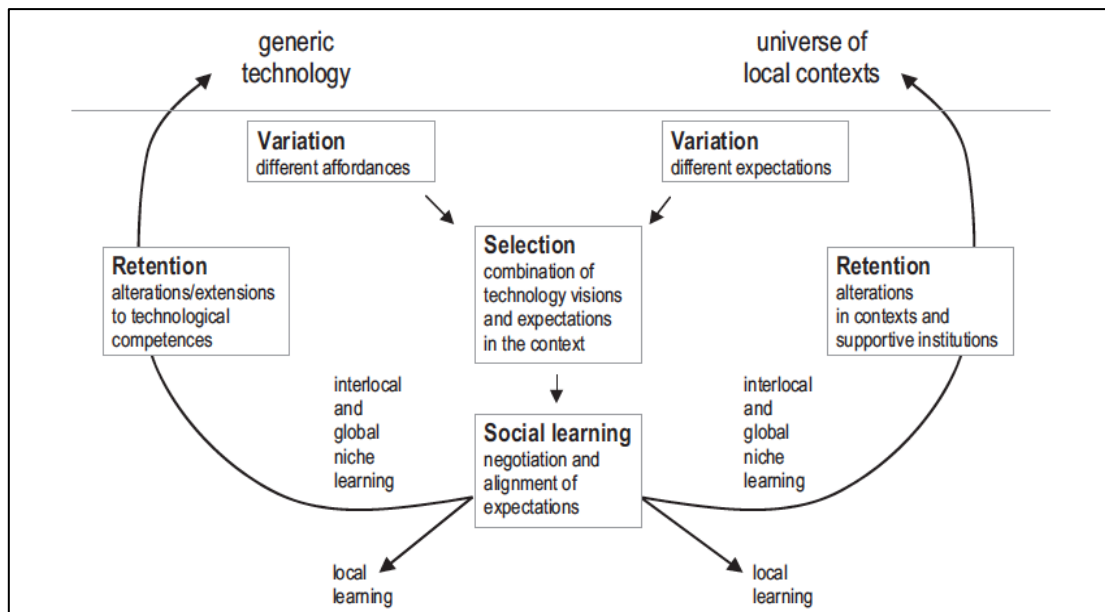
Figure 7: Variation, selection and retention in the interplay between technology and context

Source: Raven et al., 2008, p. 474.

Scaling Up and Learning

Within the MLP, the regime can foster double-loop learning if it takes part and promotes experimental projects, e.g. initiatives that provoke the reflection of one's routines. This inevitably leads to the question to what extent an individual shapes its environment and vice versa. Social theory terms this *reflexivity*. Reflexivity deals with circular relationships between cause and effect that by definition cannot be isolated within society. In summary, it can be noted that double-loop learning has the power to change current beliefs and can be encouraged by the regime (Bos & Grin, 2008).

Empirical studies are a useful approach to understand how knowledge is gained. Seyfang and Haxeltine (2012) investigated the British TT movement and in particular assessed 'its attempts to grow and influence wider societal sociotechnical systems' (p. 381). In order to better understand how to achieve this scaling-up process, they analyzed how and why new participants are attracted and base their analysis on a national survey of TT groups, a single-group membership survey and participant observation. In the single-group membership survey, 19 out of 59 respondents, i.e. 32 %, stated that the participation in this movement was their first encounter with environmental action. Among the 59 respondents of the movement, 54 % heard from friends, colleagues and other groups they were involved with (ibid., p. 388). The motivations were manifold as figure 8 illustrates. They can be helpful to design learning opportunities.
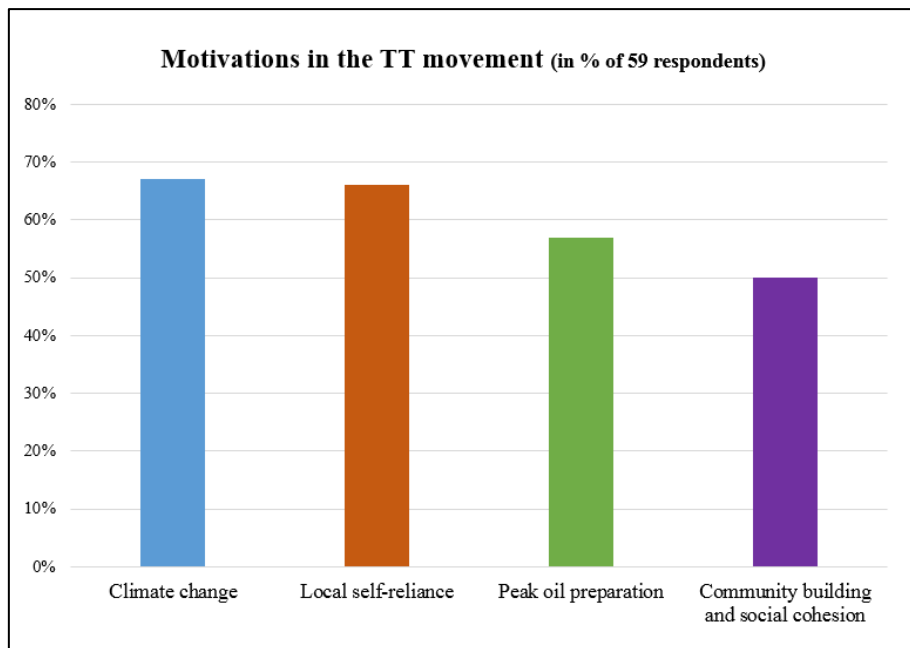
Figure 8: Motivations in the TT movement

Source: Seyfang & Haxeltine, 2012, p. 388.

The analysis concludes that for the TT movement, the scaling-up process can be divided into two stages. Whereas initial local growth represents less of a problem, public awareness raising 'outside the 'green belt'' (p. 389) can be very challenging and lead to stagnation. The metaphor 'green belt' stands for the 'unconverted' (ibid.), i.e. not(-yet) environmentally-aware people. In order to further scale up the movement or initiative, the current group needs to 'spread the word' through smartly arranged events and activities that attract these groups likewise (ibid.). This line of argumentation suggests that scaling up and societal change are results of the attraction and education of the wider society.

Ostrom (2010) addresses scaling-up processes in her work by arguing that 'individuals may recognize that they can achieve benefits as a result of taking costly actions that combine with the actions of others to reduce the threat faced by all' (p. 555). She analyzes learning, collective action and global change against the background of the MLP and questions the feasibility of 'global solutions negotiated at a global level' (ibid., p. 550). On the contrary, the importance of diverse scales, i.e. different actors ranging from individuals to governments on the one hand and spatial distribution ranging from local to global on the other hand are emphasized. Ostrom uses the term *polycentric systems*. Experiential learning contributes insofar that it acknowledges that individuals are neither completely nor perfectly informed (Prasad, 2015). Nevertheless, development of trust at different scales is pivotal to solve social dilemmas. In order to develop trust, information about the issue and other involved actors are of relevance rather than externally imposed rules, control or penalties. As a starting point,

Ostrom instances activities within families and neighborhoods. Due to the relatively strong feeling of togetherness and close communication, preferences, expectations and finally behavior can be shaped and influenced towards ethical responsibility and sustainability awareness. As 'GHG emissions are the result of an extraordinarily large number of actions taken at multiple scales' (ibid., p. 552), face-to-face discussion leading to small-scale achievements have the potential to cumulatively make a difference. Ostrom points out that it is important to provide more information about these activities and their benefits to encourage understanding and social learning at multiple scales. She closes with positive empirical evidence that many governments and organizations *do* undertake local actions to reduce GHG emissions that help overcome sustainability challenges.

2.2.2.2 Learning and Transition Management

Transition management is a rather novel policy strategy based on the assumption that system change is not only the result of technological innovations but also the result of institutional and sociocultural transformations (Van de Kerkhof & Wieczorek, 2005).

Research literature on sustainability raises the question that Kemp and Martens (2007) address in their article 'Sustainable development: How to manage something that is subjective and never can be achieved?' Being aware that this question bears the potential to fill libraries, the following thoughts only refer to the research question of this thesis. Kemp and Martens (2007) argue that precisely *because* the aspired goal of sustainable development is betterment of humankind, which in itself cannot be measured in a value-free vacuum, it is in need of social participation striving for a social consensus about its development. Due to this subjectivity by design, transition management cannot and must not provide a blueprint nor predetermined target values.

The transition process is only manageable to the extent that it is stimulated in terms of direction and speed. This is made possible through two practical activities: Firstly the creation of framework conditions that foster socio-technical innovation and secondly the connection of the diverse actors, their expectations and interests. Finally, this transition can potentially bring about a systems change, which however cannot be monitored or planned per se (Van de Kerkhof & Wieczorek, 2005). Therefore, '[t]ransition management helps to work towards a sustainability transition even when no one knows what a sustainable society would actually look like and the very idea of achieving sustainability may be illusory' (ibid., p. 13). The tool of transition management does not and cannot guarantee cultural change. It rather represents an attempt to invite society to actively participate in the transitioning process by encouraging innovation that is embedded in and supported by society (O'Riordan, 1996).

In order to encourage and facilitate different modes of learning, research on transition management suggests participatory methods such as societal debates, visioning exercises or stakeholder events (Rotmans, Kemp & Van Asselt, 2001). The concept of learning by doing plays an important role in transition management. The evolutionary processes it aims to organize, steer, monitor and evaluate are happening simultaneously and entail a large number of stakeholders, a high degree of uncertainty and little structure (Van de Kerkhof & Wieczorek, 2005). Hence, complexity and uncertainty encourage a learning-by-doing approach that embraces evolutionary development. Geels (2010) terms this trial-and-error method.

Albeit these intangible statements, the authors define two concrete criteria for learning and transition management. First of all, clear learning objectives need to be defined in transition experiments such as initiatives since technological innovation alone does not imply that (ibid.). Second, the government should take on a leading role in the transition management process, '[n]ot by acting as the great commander, enforcing change, but by inspiring a collective learning process and encouraging other actors to think along and participate' (ibid., p. 736). This stimulates first-order learning by providing new insights into existing policy options as well as second-order learning by challenging goals, values and norms. The outcome of these collective learning processes can affect policy makers and scientists, which encourage further stakeholders who in turn trigger new learning processes. This illustration reflects the open and evolutionary character of learning processes that make room for novel ideas on the one hand and the critical reflection on prevalent social structures and thought patterns on the other hand.

Learning processes in transitions are a balancing act between homogeneity and heterogeneity among the actors. They require a mix of sufficiently diverse actors and opinions regarding a particular issue in order to inspire each other and effectively lead to a solution (Van de Kerkhof & Wieczorek, 2005). Nevertheless, the actors involved also need some homogeneity in order to mutually enrich and inspire each other. According to this topic, Loorbach and Rotmans (2006) developed three criteria: First of all, the willingness to actively contribute to the transition, which requires energy and time; second a large degree of autonomy in the sense that they can develop, share and implement visions in the transition process; and third the ability to develop creative ideas that go beyond their comfort zone and promote open-mindedness. Furthermore, Van de Kerkhof and Wieczorek (2005) emphasize pragmatic characteristics. These include 'practical, strategic, executory, and near-term thinking styles' (ibid., p. 739), the ability to initiate practical and short-term experiments as well as good communication skills in particular when the actors have different backgrounds, interests and levels of knowledge.

A second balancing act is composed of the dominance and power between the actors. Although there should be sufficient useful opportunities to be heard and get involved, this bears the danger that the less dominant and small actors are undermined or even neglected. This in turn would limit the space for innovation and learning. If managed wisely, it will be an asset enabling balanced collaboration (Van de Kerkhof & Wieczorek, 2005).

Process Facilitation

Having mentioned the challenges of transition management, the authors propose the role of a process facilitator: 'an independent organisation that is an expert in mediation and process management and has a good overview of important activities in the field' (ibid., p. 738). The process facilitator has the task to challenge the mindset of the collective and shift the focus toward information and perspectives outside the usual environment. This increases the sensitivity for the unconscious level and the normative assumptions, which in turn create a positive distance. Finally, this makes room for new ideas that, once implemented within the transition, will have an impact in the long run.

Based on the analysis of a Dutch climate project, Van de Kerkhof and Wieczorek (2005) have identified four indicators for the facilitation of transitioning processes that effectively encourage learning. These are commitment, fairness, transparency and competence. Commitment can be increased by diverse learning opportunities. Each of these opportunities should offer a sufficient information base to conduct small experiments and make sure that all participants interact with each other. It increases the likelihood of positive group dynamics and the sense of responsibility and ownership. Commitment is not a one-way street because it 'is not only a condition for learning but also a product of the T[ransition] M[anagement] process as a result of constructive dialogue, careful facilitation, or interesting information input' (ibid., p. 742). Fairness can be interpreted as the cumulative effect of attendance, contribution, discussion and decision (Webler, 1995). They should each be assigned to the participants to make sure that the transitioning process is not preconfigured. The documentation of the ongoing processes should always be up-to-date regarding rules and principles, intermediate findings, tasks and responsibilities to minimize entry barriers for new participants, make communication easier and finally increase opportunities for learning. Last but not least, learning is encouraged through competent participants. It may seem trivial, but the justifiability and reasoning of certain visions and choices have a large influence on the learning outcome. This kind of competence should not be confused with high-level education. Competence is attained through sufficient time, oral and written communication, the presentation and definition of standards,

explicit statements about uncertainty and controversy regarding new knowledge as well as peer reviews. These aspects of process facilitation help to embrace the complexity of transitions.

Incentives for Learning

Putting learning into the context of social issue behaviors, it represents the first level of strategic instruments; the second and third level being marketing and law respectively (Rothschild, 1999). Rothschild defines education as 'messages of any type that attempt to inform and/or persuade a target to behave voluntarily in a particular manner but do not provide, on their own, direct and/or immediate reward or punishment' (ibid., p. 25). This goes hand in hand with other definitions and approaches to learning: Firstly, learning can be a solution based on voluntary behavioral change that entails certain sacrifices (Wiener & Doescher, 1991). Second, Rasmuson et al. (1988) refer to health communication and state that learning influences knowledge, attitudes, and beliefs that altogether lead to healthier behavior.

This education approach follows the logic that knowledge is a prerequisite for change as it sensitizes for certain topics and behaviors. Rothschild (1999) argues that education increases awareness but acknowledges that awareness is not sufficient as it needs to be turned into behavior changes that last in the long run. Marketing pursues 'attempts to manage behavior by offering reinforcing incentives and/or consequences in an environment that invites voluntary exchange' (ibid., p. 25). In particular social marketing is highly dependent on exchange, which represents a significant influence factor for behavior management, going beyond education (ibid.). Two illustrative examples relating to food waste reduction found in the literature is that initiatives distribute flyers or place an advertisement giving practical tips (Gruber et al., 2016). Rothschild (1999) suggests that marketing should be combined with education except for those cases when marketing does not provide additional benefits, i.e. if exchange is either not possible or not necessary. In contrast to learning and marketing, law is a structural measure that controls the behavior of the individual and is hence decidedly political. Taylor and Singleton (1993) did research on this phenomenon and found that social connection and a sense of belonging can push the effectiveness of education and thus postpone the compelling, additional necessity of marketing or law. Hence, building up and fostering a shared identity is an additional approach to social learning. In summary, the outcome, i.e. change, can be increased if the goals of these different approaches and levels find some common basis. This could be a specific goal such as social benefits or environmental protection.

Another approach to social issue behaviors presented in the literature is the practice of collaborative consumption (Botsman & Rogers, 2011; Hamari, Sjöklint & Ukkonen, 2015). Collaborative consumption refers to the radical change in the consumer attitude from ownership

towards access and experience. In practice, this means the rise of activities like sharing or swapping. These activities are carried out with the help of information and communications technologies. They facilitate networking opportunities that enable communities to connect from a local to a global scale. Collaborative consumption has the potential to contribute to a transformation of consumerism and business as well as the redefinition of quality of life (Collaborative Consumption, n.d.). A study on the motivations of collaborative consumers revealed that the motivations are manifold (Hamari et al., 2015). It is a mix of awareness of sustainability issues, economic benefits and 'mere' enjoyment. The authors place special emphasis on three findings. Firstly, there is at least a correlation between a positive attitude towards collaborative consumption and awareness of sustainability issues. Secondly, a positive attitude towards collaborative consumption is a necessary precondition for participation therein. However, this leaves the question unanswered whether there is also a causal relationship, i.e. whether awareness of sustainability issues is the cause of change in consumption behavior. Finally and thirdly, they put up the following thesis for discussion: A positive attitude towards collaborative consumption does not automatically lead to change in behavior. Nevertheless, it could provide an incentive for learning.

Initiative-Based Learning

The article 'Evaluating sustainability transitions pathways: Bridging analytical approaches to address governance challenges' emphasizes the relevance of initiative-based learning as analytical approach to overcome governance challenges (Turnheim et al., 2015). Its role in the analytical approach is illustrated in figure 9 below.
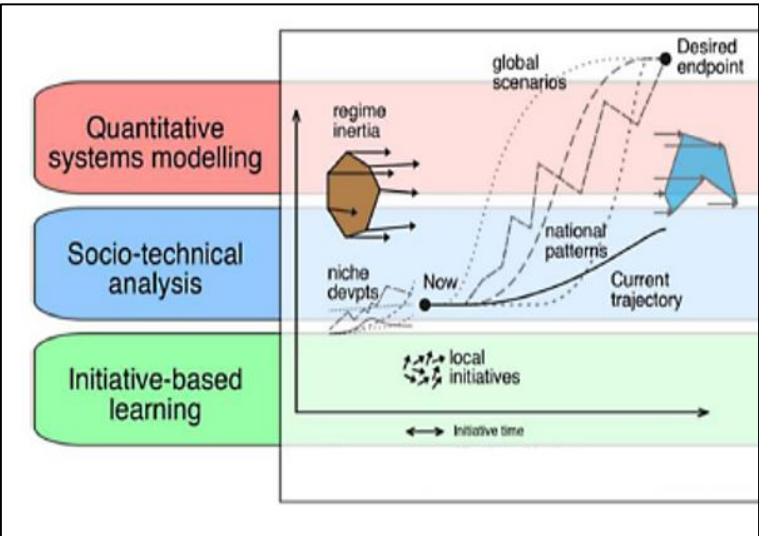

Figure 9: The role of local initiatives and initiative-based learning against the background of analytical approaches

Source: Turnheim et al., 2015, p. 248.

Initiative-based learning is a rather diverse approach, but based on four communalities. Firstly, it is about understanding expectations and socio-technical practices. Secondly, it includes learning-by-doing aspects; thirdly, it incorporates the influence of environment and resource constraints on the rationality of the actors involved and finally, initiatives represent the micro-scale, where processes emerge and are being shaped. To illustrate the meaning of this approach to transitions, the authors formulated the following statement: 'Going from A to B will only be achieved if the relevant actors are involved in defining and legitimising new technologies and practices. Understanding the motives and strategies of actors on the ground is critical to making transitions socially-robust and sustainable' (ibid., p. 244). Furthermore, initiative-based learning is insofar irreplaceable as it provides insights into initiatives such as their motivations, concerns, success and obstacles. This very process makes room for learning activities such as coordination functions, exchange of ideas as well as often diverse interests of the different actors. Thereby, the social and ecological dimensions of transitions can be merged, which finally helps to foster, steer and adjust the transitions (ibid.).

In order to support these transition activities, the methodology of participatory action research may serve as source for 'connecting people, participation and place' (Pain, Kesby & Kindon, 2007, *book title*). For instance, it emphasizes that '[w]here there are multiple participants, there are multiple knowledges and multiple interfaces for sharing knowledge' (ibid., p. 188), which intensifies learning effects. The understanding of learning as participatory activity attaches more importance to social learning and practical application of knowledge. Consequently, experiments should be encouraged and welcomed as they might grow locally or be replicated elsewhere (Turnheim et al., 2015).

Institutions

In the transitions literature, institutions building is an often addressed aspect in regard to social change towards sustainability (Späth & Rohracher, 2012; Geels, 2010; Seyfang & Haxeltine, 2012).

Starting with an overview of definitions found in the literature, Menger (1883) describes institutions as social phenomena that occur without being deliberately created or provoked. According to Hodgson (2006), institutions are 'systems of established and prevalent social rules that structure social interactions' (p. 2). The relation between individuals and institutions is interdependent since they affect each other. From the perspective of institutional economics, Veblen (1899) and Commons (1931) conceptualize institutions as structure or power that is able to change preferences and the purpose of agents. David (1994) uses the metaphor 'carriers of history' to illustrate the function of institutions. The concept of institutions integrates

commonly accepted and lived values that are manifested in a mechanism that executes those values.

In the process of learning, institutions become visible in the way new actors are introduced and become familiar with the social surroundings such as rules and practices. Moreover, communication needs to be established with regard to information channels and processing modes. David enlarges upon *formal* institutions, which are characterized by communication and negotiation rules. This implies the definition of different roles and tasks, which in itself is a learned process that shapes knowledge and finally culture. This relates to what Arrow (1974) terms the learning of a *code*. Due to path dependence, it is irreversible and thus highly sensitive. Arrow takes the view that organizations, i.e. also initiatives, 'learn more in the direction of their activity and become less efficient in acquiring and transmitting information not easily fitted into the code' (ibid., p. 57). Hence, the code of the organization has the power to shape and influence the behavior patterns of its participants. Geels (2005) confirms this line of argumentation. Since the communities of initiatives are insofar homogeneous that they share a particular material environment as well as culture, values and beliefs, these shape conventions and rules and thus are ingrained in their behavior and actions.

As the extract of the title 'Path dependence and the evolution of conventions, organizations and institutions' suggests, unintentional and seemingly insignificant choices at the initial stage will establish and self-reinforce over time. The factors causing this process are increasing experience and knowledge, the explicit definition of expectations, spatial expansion and last but not least the resultant actions. These altogether are subject to spur-of-the-moment choices that should be made in awareness of their potential consequences as they pose the risk of path dependence and costly corrective measures in terms of time, effort and money, if reversibility is given at all. Therefore, David recommends a clearly defined and communicated 'recruitment convention' (*own wording*) at the outset, which is maintained and extended as the structure develops.

It becomes clear that David (1994) assigns an important role to institutions and institutional learning for development processes. Hence, this also applies to the development and growth processes of organizations such as initiatives. The next chapter will elaborate on the role of expectations within learning and scaling-up processes.

2.2.2.3 Expectations

Expectations serve as a basis for coordination if actions are not centrally coordinated and steered. The historical perspective on experiences suggests that a shared past and hence the accumulation of experiences play a decisive role when it comes to the formation and

crystallization of expectations. As the initiative learns and grows, expectations should be mutually coherent. The increasing alignment of expectations has a positive impact on the self-reinforcing dynamics and adds momentum to the small-scale actions (ibid.).

Development and growth of community-based initiatives highly depend on expectations (Seyfang & Haxeltine, 2012). Expectations need to be realistic and achievable in two respects. First of all, these conditions apply to the internal sphere, i.e. the initiative including all members. Moreover, the external sphere should not be neglected as the expectations between the initiative as a whole and the wider public are important. Taking up the aforementioned aspect of immediate benefits as a result of participation, these can be generated in a wide range of shapes and colors such as sociability, community or self-expression, which in turn attract more participants. These benefits can meet expectations by two means. On the one hand, they fulfill expectations regarding the activity itself and on the other hand, the activity attracts new participants. This leads to growth, which fulfills expectations regarding the initiative's impact on society, i.e. serves at least as a basis for scaling-up processes. In conclusion, in order to have an influence on the regime-level, the study recommends to develop and maintain realistic expectations of and with the participants of the initiative 'by delivering tangible opportunities for action; and to embrace a community-based, action-oriented model of social learning (in preference to a cognitive theory of behaviour change)' (ibid., p. 395). Increased ethical and environmental awareness as a result of learning leads to explicit expectations regarding the behavior of others, which in turn can lead to further efforts. Considered cumulatively, this implies the possibility of an upward spiral in favor of sustainability (Ostrom, 2010). Lim et al. (2017) pursue the approach that food waste reduction in particular is more effective if purposefully designed. Community-strengthening actions are highly beneficial because they fulfill expectations to a certain extent and leave a margin for desirable but at the same time *unexpected* surprises. The authors vividly term this composition 'social recipes' (ibid., p. 18). Besides, these opportunities potentially serve as platforms for exchange of knowledge and creativity and further debates on topics such as cooking with leftover practices, storage or hygiene (ibid.; Spaargaren et al., 2012). Particularly with regard to an innovative niche technology, expectations should not and cannot be underestimated. On the contrary, negotiation processes about expectations are the very driving force when it comes to the introduction of such a technology to a local project or an initiative as they pave the way for learning processes (Raven et al., 2008).

This theoretical chapter 2 has elaborated on the research question by providing a literature overview on the topic of change and how activities can be scaled up from the MLP

and learning perspective. Chapter 3 presents the combination of the methods that were applied in the empirical part of this research.

3 Methods

3.1 Methodology

This work shall be characterized by an ontology and epistemology of hope (Coutard & Guy, 2007) as it understands urban development 'as a set of potentials which contain unpredictable elements, as a result of the coevolution of problems and solutions' (Amin & Thrift, 2002, p. 4). New technologies and their use(r)s mutually shape each other, thereby offering the potential for change (Coutard & Guy, 2007).

Moreover, the research of this thesis is by nature interdisciplinary because it combines understandings from various fields, which are rooted in the nature of the *UrbanFoodSpot* initiative. Moreover, speaking of and evaluating sustainability in practice, i.e. a particular initiative, implies an inevitable starting point or viewpoint of the researcher on the goals and approach of the initiative (Graugaard, 2014). This stands in contrast to quantitative approaches as they do not capture aspects such as behavior, norms and values in the way qualitative approaches do (Turnheim et al., 2015). The combination of theoretical and empirical dimensions leads to more productive research as it is not merely descriptive (instead of theory building, hypothesis generation and testing) but based on organizational and intellectual space throughout the research process. Finally, observation paired with thought of both the researcher and the research object or community will contribute to fruitful research and relevant findings (Whyte, Greenwood & Lazes, 1989).

Due to the fact that the research question is composed of both a theoretical and practical part, the requirements in terms of the methods that need to be applied are diverse. Firstly, with the focus being on the initiative *UrbanFoodSpots*, the methods need to embrace a broad variety of actors and stakeholders as well as their different motivations. Secondly, the method should support the analysis and further evolution of social acceptance, objectives, practices and technologies. Lastly, mutual interaction of the researcher and the initiative are desirable in order to make room for unforeseen findings. Consequently, the method(s) need(s) to allow a relatively large degree of flexibility. Turnheim et al. (2015) recommend a multi-dimensional assessment focusing on properties and dynamics as they emerge because it contributes to the visualization of transitions pathways. Therefore, the three methods of interviews, participatory observation and a case study were chosen.

3.2 Interviews

Interviews are 'the royal road of practical research' (König, 1962, p. 27). For this work, semi-structured interviews were conducted. This kind of interview is characterized through a certain degree of flexibility and openness regarding the question and aims to understand the interviewee's perspectives, opinions and experiences. The semi-structured interview deliberately avoids standardization to a large extent and aims to adapt to the individual research situation and interviewee. Hence, the guideline is an auxiliary means for the research, rather than an instrument (Kromrey, 2013).

The interview guideline (see annex) was informed by a preceding literature review and the participation in a stakeholder workshop held by and for the *UrbanFoodSpots* initiative. The guideline is structured in three main categories and several subcategories, which were tentative at that time. These are:

1 The concepts of the initiatives *UrbanFoodSpots* and *Gleis 21*
- environmental awareness
- information management
- expectations and hopes
- political orientation

2 Concrete questions regarding food waste and the feasibility of *UrbanFoodSpots*
- awareness of environmental impacts of food and food waste
- willingness to actively participate
- safety concerns and regulations
- framework regarding opening hours and location

3 Further development and future visions
- group size
- role of rules, standards and conventions
- (everyday) routines

The interview partners were accessed through a member of *Gleis 21* who is in charge of the cooperation between the *Gleis 21* and the Institute, i.e. *UrbanFoodSpots*. The responsible person approached the group of *Gleis 21* and forwarded their contact details to me. The actual agreement on a date, time and place happened partly via email, phone and after the large group meeting of *Gleis 21* which I attended. I interviewed six members of *Gleis 21* and two experienced, semi-professional food sharers. The interviewees are very diverse in regards to age, family status, professional activity and attitude towards food (sharing). This became e.g. noticeable in the meeting point and time of day for the interview. They ranged from workplaces through playgrounds, parks and coffee shops to private homes and from mornings to evenings. Nevertheless, the interviewees have a number of common characteristics which are based on

the membership in *Gleis 21*, their educational academic level as well as their social awareness and lifestyle. The latter aspect reflects their environmental sensitivity and social awareness.

The interviews were recorded and subsequently transcribed in the form of a protocol. Protocols are more condensed than transcripts and thus support the category identification and refinement against the background of the research question. In order to analyze the collected data, a content analysis using the approach by Mayring (2014) was conducted. This approach is based on the formation of inductive categories and is suitable because the research methodology of this work is mainly explorative in the sense that the literature review provides a preformulated set of categories. These were used to develop the interview guideline with tentative inductive categories. After that, the data collection took place (participatory observation in the stakeholder workshop of *UrbanFoodSpots* and large group meeting of *Gleis 21*). The step of producing protocols can be interpreted as the first step in the content analysis by Mayring, i.e. the summary of the transcript. Striking statements that could not be assigned to a category were marked in color. Hereafter, the aforementioned categories were expanded and refined with the help of the protocols and transcripts. This analysis entails the limitation of a precise definition of distinct and non-overlapping categories.

Once these categories were successfully reduced to major ones, they had to undergo plausibility and reliability checks before the results were interpreted and sorted by importance. This represents an iterative process as every interview offers new insights about the topic and thus challenges the researcher to define delimitable categories, which then feed the definition of the findings. Compared to teamwork, this iterative process represents a challenge as there is no peer-reviewed process. However, there was a feedback loop to a certain extent in the form of support and review by the supervising professor and the project team by the Institute. Moreover, the restrictions of this empirical work in regard to time and availability of interviewees represented a challenge. Nevertheless, the awareness of these issues actually allowed to take them into account and overcome or mitigate them.

3.3 Participatory Observation

Observation is the earliest form of empirical data collection since it is closely linked to everyday information procurement (Schnell, Hill & Esser, 1999). Nevertheless, scientific observation is more controlled and systematic than everyday information procurement. Although scientific observation is a recognized method, it is not backed up with theory. Generally speaking, there are four types of observation, which differ in the categories '(non-)participating observation' and '(un)structured approach'. For this research purpose, the type of observation is participating as regards the stakeholder workshop and structured, i.e. based on the literature review and the

tentative definition of categories. Both were field observations because it were natural situations for the initiatives. Moreover, both observations were overt, i.e. the participants were informed about my research and my role. Corresponding notes were taken in the form of a protocol during the stakeholder workshop and large group meeting, respectively. Whereas I actively participated throughout the former event, I introduced myself at the beginning of the latter, but did not participate in the main part because active participation is limited to members of *Gleis* 21.

Jahoda, Deutsch and Cook (1966) define scientific observation using the following four characteristics: First, it serves a research purpose; second, instead of being uncoordinated, it is systematically planned; thirdly, it strives for general judgements instead of focusing on peculiarities and finally, it needs to be repeatedly checked regarding its validity and accuracy. Following these requirements, the method of observation provides insights into the working methods and practices of the initiatives. Compared to interviews, this method does not give the researcher the option to steer the events or what is said. Nevertheless, it offers the advantage that things are observed which would or could not be confronted in the interview for different reasons such as subtle, but meaningful aspects, inappropriateness or mere unawareness (Reitmeier, 2016).

UrbanFoodSpots Stakeholder Workshop by the Austrian Institute of Ecology

In April 2017, I participated in a half-day stakeholder workshop organized and held by the Institute in Vienna. On that day, I met the representative of *Gleis 21* who is in charge of the cooperation with *UrbanFoodSpots* in order to clarify the details in regard to the interviews. At the point of writing, the initiative *UrbanFoodSpots* was at a stage where the conceptual phase was well-advanced in terms of technical aspects on the one hand, and there were still questions regarding collaborations, operation, responsibility and liability. These questions were openly addressed in the big group as well as in smaller working and brainstorming groups that captured their ideas in the form of posters. The 25 participants were very diverse, ranging from interns to representatives of a supermarket, associations and the city of Vienna such as the Working Group for Gender Mainstreaming to the Department of Environmental Protection.

Gleis 21 Large Group Meeting

Gleis 21 holds large group meetings on a regular basis. In May 2017, I could spontaneously attend one. Although it was spontaneous, I had prepared to a certain extent in advance as it was included in the research concept and so the balance between preparation and openness was ideal. The meeting starts with a welcome ritual, in which all those present get to say a few words

in front of the group. After that, the meeting follows the detailed agenda, which depends on the status quo of *Gleis 21*. On that particular meeting, the goal was to work out and assess the construction materials and requirements of the building.

3.4 Case Study

The case study approach allows the observation and capture of the mechanisms and dynamics of localized activities. Moreover, the detailed examination of an aspect of a certain episode is useful to study the dynamics and characteristics of various forms of initiatives. This creates a large degree of flexibility on the one hand that is based on empirical research on the other. Ideally, this method uncovers evidence of causal mechanisms which in turn contribute to theory development (George & Bennett, 2005). Lindblom (1959) describes this interplay of content analysis and theory development in 'The Science of "Muddling Through"':

> Man cannot think without classifying, without subsuming one experience under a more general category of experiences. The attempt to push categorization as far as possible and to find general propositions which can be applied to specific situations is what I refer to with the word "theory" (p. 86).

A case study analysis is a useful way to observe, capture and understand the mechanics and dynamics of local activities contributing to transitions in-the-making because the method allows the researcher to be concrete about the challenges that are faced (Turnheim et al., 2015).

In the following, the case study method will be explained based on George and Bennett (2005). In order to be theory-oriented rather than descriptive, case study analyses first of need to focus on a universe subgroup. In this work, this is represented by the initiatives *UrbanFoodSpots*, *Gleis 21* and the food saving and sharing initiative *LebensmittelretterInnen*. Second, the research objective and strategy needs to be pointed out clearly. The research objective is stated in the research question (chapter 1.3), the strategy is represented by the research design (chapter 1.3) and the combination of the three methods was stated above (chapters 3.1-3.3). The guideline for the interviews was based on the research objective and theoretical framework of the MLP. The questions were partly general and partly specific with regard to the respective initiative in order to make the answers comparable and the findings applicable to different contexts. Finally, theoretical variables of interest are to be identified as a result of the research process. In this work, the aim is that they have the potential to contribute to the scaling-up process and promote a socio-ecological transformation.

The case study can be structured in three iterative and interdependent phases. First, the research objectives, the research design and structure need to be defined. This has already been done in chapters 1 to 3. Regarding the independent variable, the role of learning (chapter 2.2.2)

was identified during the literature review. The case selection already happened in the very beginning with the selection of *UrbanFoodSpots* and its cooperating initiatives. At this point, the research has been narrowed down to one particular context. This bears the potential of a selection bias. According to Collier and Mahoney (1996), research often requires to be narrowed down in order to understand the causal relations that are to be explored. The authors prefer to speak of a 'larger set of tradeoffs among alternative analytic goals' (ibid., p. 56). Instead of overgeneralizing qualitative findings, Collier and Mahoney call for a modest scientific attitude, which will be pursued throughout this work. The guideline for the semi-structured interviews was tailored to *UrbanFoodSpots* and *Gleis 21*, but also allowed a certain degree of freedom for the two interviews with experienced food savers and sharers that are not members of *Gleis 21*.

In the second phase, the case study is carried out, i.e. observations, descriptions and interviews are transformed into explanations. This phase bears two challenges. First, the process can be over-intellectualized as causes can be interrelated and can rarely be viewed in isolation. In this work, this is mainly represented by the content analysis of the data collected during the stakeholder workshop, the large group meeting and the eight interviews. This challenge was overcome during the analysis by using different colors and by designing the work phases rather short with regular breaks to activate networked thinking. Second, during the interviews, the interviewees can be biased in the sense that they are aware of 'looking back' when they answer the questions asked by the researcher. This challenge seemed to be less relevant as the interviewees were actively involved at the time of the interviews. Moreover, the interviews contained only few questions about past events, but rather focused on current developments and personal assessments.

The third and last phase connects the findings of the case study with the research question. In order to do so, the question of generalizability arises, which will be addressed in the following chapter.

3.5 Generalization

Lewis and Ritchie (2012) point out that the concept of generalization is more diverse in qualitative than in quantitative research. They describe the three forms representational, inferential and theoretical generalization. For this research, theoretical generalization is most relevant as it strives to develop 'theoretical propositions, principles or statements from the findings of a study for more general application' (ibid., p. 264). The article 'Generalization in quantitative and qualitative research: myths and strategies' refers to this as case-to-case transferability (Polit & Beck, 2010). By applying the MLP, this case study aims to contribute

to the theoretical understanding of scaling-up processes. Lewis and Ritchie (2012) conceptualize theory as 'fluid collection of principles and hypotheses [...] depending on the extent to which research or other empirical evidence exists to support them.' (p. 267).

According to George and Bennett (2005), generalization in case studies can take place at three levels. The findings can hold for one case only, to a class of cases or to neighboring cases, which brings the danger of overgeneralization. One goal of this work is to provide recommendations for actions for the initiative *UrbanFoodSpots* based on interview partners from *Gleis 21* and *LebensmittelretterInnen*, which is a relatively homogeneous set of samples in terms of lifestyle, values and beliefs. This work identifies with the first and second level of generalization.

4 Results

First of all, as Raven et al. (2008) state, 'ready-made solutions cannot be dropped into a context' (p. 475). Therefore, the following findings are no panacea as there is per definition no one-size-fits-all approach to a transformation. Nevertheless, the following findings aim to provide an overview and a directory for further research and practical orientation. The findings are based on the literature review and empirical research of this thesis.

4.1 General Findings

The general findings are divided into the nine categories *informing, learning, building and making use of networks and collaborations, process facilitation and management, visions and expectations, conventions, rules and standards, participant characteristics and group composition, urban aspects* and *scaling-up activities*. They are ranked in their importance, starting with the most important category. Each category includes the following three steps: empirical findings, the relationship with theory and finally findings and recommendations for the successful upscaling of initiatives. The findings apply to initiatives in general and are independent from *UrbanFoodSpots*, *Gleis 21* or *LebensmittelretterInnen*.

1 INFORMING
The first finding concerns the perhaps surprisingly modest aim of an initiative to inform.

Empirical Research
The topic of informing has been present throughout all eight interviews. According to four interviewees, there is a lot of superficial knowledge and superstition with regard to challenges or topics that initiatives tackle or address. Furthermore, it became clear during the interviews

that the uncertainty rooted in the external impact of an initiative is something that challenges the participants or may even threaten their participation because the anticipation of positive external effects are a major motivating factor. The category *visions and expectations* will point out how motivation can be created and maintained anyway. Based on the statement 'People need to be informed. [...] Many people do not take the broader view to think outside the box but say: 'We are doing fine anyway''[4], political considerations were addressed within the category of informing.

Theory

Ganglbauer et al. (2014) claim that the mere action of providing information is already a political statement and act in itself. This relates to the secondary goal of raising awareness as a consequence, which can bring about a change in thinking and behavior. From both a theoretical and practical point of view, complete or perfect information is not possible (Prasad, 2015). Instead, the development of trust can be enhanced through information provision.

Recommendations

The initiative should inform about and argue with facts. Nevertheless, rather than merely providing technical information, the initiative should work out and make use of the social-psychological aspects of its motives, which will be pointed out in the category *participant characteristics and group composition*. Any explicit goals in other directions such as persuasion or pressurizing methods should be avoided since the external effects of the initiative can neither be planned nor predicted. The attribute of scepticism is anchored especially in western societies, which is why the credibility of an initiative is pivotal. Initiatives should inform about global and national developments without being politically explicit or biased e.g. for a certain party. One result of information sharing (and subsequent awareness raising) is the creation of knowledge, which requires the intermediate process of learning.

2 LEARNING

Learning is an essential determining factor to scale up locally successful initiatives as it anchors lasting change.

Empirical Research

Focusing on the findings from the empirical part of this work, it can be derived that the information the initiative shares can trigger learning processes and knowledge creation, which

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[4] Quote of the interviewee in German: 'Die Menschen müssen informiert werden. [...] Viele sehen nicht über den Tellerrand und sagen uns geht es eh so gut.'

in turn can lead to changes on a daily basis such as new routines and behaviors. Eventually, this can improve the initiative's working mode and the sum of these changes can have an impact on a person's lifestyle in the long run. An example for a learning process within the initiative is the communication method within *Gleis 21*. 'After we had started with chaotic mass emails, we had to learn a lot about how to communicate effectively and introduced the communication app *Slack*.'[5]

Another finding related to learning is the upbringing of children. Three interviewees stated that their lifestyles were significantly shaped by their parents as role models. Now being adults, they realize how much knowledge and practices they have consciously or unconsciously adopted from their families. One interviewee stated that s/he only realized how strict s/he was raised in environmental regard when she tried to continue and refine this lifestyle in her early adulthood. In her/his view, this became too extreme so s/he had to balance out and find her personal lifestyle, which was also a learning process.

Theory

The concept of learning and its relevance throughout the literature have already been covered in chapter 2.2.2. In summary, learning is an essential intermediate step when it comes to lasting change (Kemp & Martens, 2007). In order to achieve behavior and social change, Seyfang and Haxeltine (2012) emphasize the importance of an action-based rather than a cognitive-based approach.

The statement of three interviewees about the way they were brought up by their parents goes hand in hand with the literature research. The meaning of the marketplace, the role of consumption and the awareness of being a consumer are learned in childhood (Ward, 1974). Moreover, it is well-understood that food and its cultural linkages are learned through socialization during childhood (Mochis, 1985). This offers an explanation why today's fast pace of society is accompanied by a depreciation in value of food in lifestyles i.e. people use less time to cook and eat.

Recommendations

Regarding the impact and success of initiatives, a finding related to the internal functioning of initiatives is the aim to learn most effectively and efficiently by making use of already existing knowledge represented by the participants' skills. Everybody should participate in accordance with her/his skills. Generally, experiential learning is desired, but can also be leapfrogged if possible with the help of knowledgeable participants. Drawing on the methodology of

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[5] Quote of the interviewee in German: 'Anfangs hatten wir chaotische Massenmails, doch dann haben wir gelernt, dass Kommunikation auch effektiver sein kann und haben die App *Slack* eingeführt.'

participatory action research, the creation of 'connective spaces of dialogue and learning in-between' (p. 226) for all people involved is important to achieve change (Pain et al., 2007).

3 BUILDING AND MAKING USE OF NETWORKS AND COLLABORATIONS

Networks and collaborations are a promising form to gain new participants, both from the perspective of an individual and the initiative as a whole.

Empirical Research

During the interviews, networks and collaborations were often implicitly addressed as a matter of course. For example, one interviewee stated: 'After I picked up the fruit and vegetable leftovers from the market once a week, I call up my people and other food savers who then pick up the food and pass it on among their groups.'[6] Moreover, participants of an initiative can be fruitful networking and collaboration partners in many ways. E.g. they can network within the initiative i.e. among themselves. They can furthermore make use of their personal networks that exist outside the initiative to invite new participants or win other useful partners such as organizations or governmental bodies. One interviewee is a well experienced and committed food saver and sharer today, but was very sceptical when her/his friend invited him to participate five years ago. This illustrates how a personal relationship can overcome barriers and doubts.

Theory

Following the analysis of Alvord et al. (2004), the three patterns of effective initiatives for the purpose of transformational change are: increasing the number of people benefiting from the initiative's activities, the collaboration with the initiative's primary stakeholders, which need to be identified in the first place, and the influence on actors with impacts going beyond the initiative itself. Seyfang and Haxeltine (2012) recommend to scale *out* by 'network[ing] widely outside the movement, with resourceful stakeholders' (p. 394) such as companies, supermarkets or urban planners. Moreover, parallel movements, initiatives or campaigns and emerging cultures or mainstream trends can be promising network partners. Petitions and events are activities that can be supported or joined (Ganglbauer et al., 2014).

Furthermore, the initiative can also reach *up* to organizations and agencies such as (trans-)governmental agencies, local policy-making bodies or authorities. These institutions have the power to bring about or even enforce change on a different scale (Pain et al., 2007).

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[6] Quote of the interviewee in German: 'Nachdem ich jede Woche die Obst- und Gemüsereste vom Markt abgeholt habe, rufe ich meine Leute und andere Lebensmittelretter an, die das Essen dann abholen und es in ihren Gruppen verteilen.'

Political path-shaping represents a form of controlled intervention suggested in the transitions literature. It follows the line of argumentation that the political rules of the game are obstructive for the upscaling of initiatives and therefore need to be changed (Brand, 2012). Späth and Rohracher (2012) come to the conclusion that the 'interplay of local and non-local discourses and the dynamic relations between local initiatives and non-local networks' (p. 461) are decisive when it comes to the legitimization of (political) change of socio-technical structures as well as the installation of specific infrastructure. However, it needs to be noted that local feasibility demonstrations are an indispensable prerequisite for this form of upscaling through national and other institutions.

From the MLP, such networks that go beyond the local level bear the possibility to trigger change on the regime level: A feasibility demonstration on a local level rebut the arguments of e.g. national-level, interest-driven proponents of change and thereby grants initiatives some official credibility. This can possibly change the course of debate or even influence politico-institutional regimes and hence strengthen upscaling processes (ibid.; Brand, 2012). Examples that could bring about or accelerate change on a different scale are nudging approaches to government policies or consumption behavior, public procurement policies or simply changes of policies that are currently hindering scaling-up processes (Westhoek et al., 2014).

Recommendations

In Austria in particular, pioneering initiatives such as local feasibility demonstrations can smooth the way for support by allies in federal ministries such as social capital, public funding or the award of prizes (Späth & Rohracher, 2012). These activities in turn increase the level of awareness and make room for a pluralistic debate about socio-ecological issues. Other practically oriented researchers suggest the establishment of a platform that invites participants from business, academia, government and civil society (Kemp & Martens, 2007).

Analyses of on-the-ground experiences, e.g. in the form of a case study, provide a basis for policy strategies, improve and accelerate learning processes and are also a channel for concerns (Geels et al., 2016). Further promising collaboration and communication opportunities are professional associations, publishers, conferences or international seminars (Raven et al., 2008). Partnerships are of crucial importance as their social and physical meaning initiate systemic social change (Connelly, Markey & Roseland, 2011).

The perspective of the individual focuses on peers, family and friends, representing target groups #1 and #2, i.e. people that are not involved in the initiative's activities for different reasons such as lack of awareness or interest. In contrast, the initiative as a whole should focus on other institutions with whom symbiotic relationships can be built. These relationships lead

to synergy effects and cross-fertilization and can of course be build, but existing relationships should be maintained and extended as well.

4 PROCESS FACILITATION AND MANAGEMENT

Empirical Research

The Institute and the cooperations with other institutions such as the Technical University of Vienna and local authorities in Vienna serve as high-quality indicators in favor of *UrbanFoodSpots*, as all eight interviewees have stated. In addition, three interviewees explained that in their opinion, the mere fact that this master thesis deals with *UrbanFoodSpots* has led to higher support thereof. Moreover, the way the process facilitation and management are financed and the initiative's general financing strategy were mentioned as important indicators of an initiative's quality by three interviewees.

Based on the explanations in chapter 2.2.2.2, the empirical investigations of this work have confirmed the importance of 'an independent organisation that is an expert in mediation and process management and has a good overview of important activities in the field' (Van de Kerkhof & Wieczorek, 2005, p. 738). The initiative *Gleis 21* is also being supported by external organizations. The interviews have revealed that difficulties or even conflicts will arise most likely, but with the help of experienced process facilitators and managers, they will make the initiative stronger. 'For us [*Gleis 21*], there were a number of time- and energy-intense challenges. We needed to hang on and develop customized solutions. However, in retrospect, these have strengthened our group.'[7] Process facilitators and managers can help clarify what went wrong and why in order to work out possible solutions. Furthermore, process facilitation and external management can improve the overall image of an initiative.

Theory

Generally speaking, it is a challenging task for any social group if they want to coordinate themselves for a number of reasons such as lack of impartiality, changes in the group's size or unclear priorities. Therefore, in order to not remain redundant hot air, social groups are in need of guidance. Nevertheless, as Olson (2009) pointed out in his work 'The logic of collective action', small groups have the advantage of low costs in the broad sense of the term i.e. communication, willingness to compromise, arrangement of meetings etc. The larger the group size, the higher these costs.

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[7] Quote of the interviewee in German: 'Bei uns [*Gleis 21*] gab es einige Herausforderungen, die viel Zeit und Energie gekostet haben. Wir mussten durchhalten und individuelle Sonderlösungen finden. Rückblickend hat das alles unsere Gruppe jedoch gestärkt.'

The need for management and process facilitation can be illustrated with a quote of Guy Kawasaki (2004): 'Ideas are easy, implementation is hard'. Although this quote primarily speaks to business ideas, it applies to initiatives as well. Kawasaki explains that for the implementation of any innovative idea, a solid concept, i.e. visions and expectations, as well as expertise are important. This confirms what has been said about learning above. Instead of following a top-down or dominant role, the management should aim to embrace 'the messiness of on-the-ground initiatives' (Geels et al., 2016, p. 580). This co-creation leads to more social acceptance of the management and the initiative, which in turn leads to more trust, cooperation and commitment. This idea can also be applied to the categories *conventions, rules and standards* and *building and making use of networks and collaborations*. The independent manager can provide an overview and thereby acknowledge the progress made (Cameron, 2007).

Recommendations

Concerning management, it is important to manage the participants not only according to their skills, but also according to their current capacities in order to not overburden individuals. The larger the group, the more tasks can be distributed. Although this may seem trivial, it reveals new insights to the question of scaling up. Generally, it is important to define how decision-making power is distributed among the participants and how decisions are eventually made at an early stage. Moreover, transparency and autonomy are important scaling-up factors. These factors concern daily activities, but also broader issues such as financing. Financing represents the last finding within this category. The question of financing has a qualitative and quantitative dimension. The former refers to the sources of funding as well as their characteristics and conditions. Generally speaking, multiple sources of money, of which at least one is public, are beneficial. The quantitative dimension refers to the amount of funds available. The form of financing and the initiative's financing capability also affect visions and expectations, which represent the fifth category.

5 VISIONS AND EXPECTATIONS

Already outlined throughout the theoretical part in chapter 2.2.2, visions and expectations play a decisive role when it comes to the topic of scaling up.

Empirical Research

During the interviews, it became more and more clear that the visions and expectations should not be related to a single target group of an initiative because this would limit the initiative's potential from the beginning. In order to create scaling-up potential, visions and expectations

should be formulated wider than the initiative's core activities, its view on environmental issues and any party-political statements. One interviewee stated clearly: 'We do have an ideology, but we are not dogmatic.'[8] Another interviewee said: 'We must avoid acting with a wagging finger at all costs, which often happens in today's society.'[9]

Theory

Turnheim et al. (2015) positively assess a shared vision as the theorized form of 'granular changes' (p. 245). This is both time-consuming and costly, which is, just like the former category of process facilitation and management, a monetary issue as well. The research of Tversky and Kahneman (1981) has shown that the effect of framing can hardly be underestimated. In summary, ''What are we for?' is a much richer and empowering position than 'Who are we against?' (Seyfang & Haxeltine, p. 390). Visions are a source of motivation because they 'challenge the dominant perspective of past and present and can inform action' (Kemp & Martens, 2007, p. 9).

Based on a literature review, Van de Kerkhof and Wieczorek (2005) formulate four criteria for visions. Visions should be imaginable and sensible in the first place. Secondly, they should contain innovative approaches that provoke broad and creative thinking. The third criterion states that visions should be transparent and consistent within and between themselves. The different pathways, their assumptions and data situation should be stated clearly. Fourthly and lastly, visions should focus a qualitative level, e.g. technological aspects need to be seen against an socio-cultural or institutional background. However, this should not be taken ad absurdum because this would bear the danger of a blueprint. Therefore, they suggest a basket of visions that adapts and develops at the speed of the learning process.

A method that helps to find this balance in developing and dealing with visions is interactive backcasting (Quist & Vergragt, 2003; Loorbach & Rotmans, 2006). It plays with different degrees of distance and involvement and thus challenges the participants. Interactive backcasting starts off with one or several vision(s) and then, together with the participants, works out the measures that would need to be taken in order to realize this vision step by step. These measures then can be categorized into opportunities, hurdles and milestones, which altogether are important elements of a robust strategy (Van de Kerkhof & Wieczorek, 2005).

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[8] Quote of the interviewee in German: 'Wir haben eine Ideologie, aber sind nicht dogmatisch.'

[9] Quote of the interviewee in German: 'Wir dürfen keinen erhobenen Zeigefinger haben, der in unserer Gesellschaft öfter zum Einsatz kommt.'

Recommendations

The best point in time to define visions is when the initiative is still young. The clearer the definition, the more helpful it will be for the development of the initiative. Moral statements or judgements should generally be avoided. Once the visions have been coordinated and agreed upon, it is very advisable to write them down and remind each other and especially new participants of them as time goes by and the initiative develops further. One way of steering expectations in a realistic and encouraging direction is the development and definition of tangible opportunities to participate in the initiative (Seyfang & Haxeltine, 2012). Finally, just as important as the definition of visions and expectations, is the preparation for situations when they are challenged or even fail. However, since practice differs from theory, the implementation of ideas is never a straight line and should not lead to discouragement, but rather to adjustment and improvement.

6 CONVENTIONS, RULES AND STANDARDS

Conventions, rules and standards are useful tools to make processes smoother, thus increase efficiency and provide solutions to recurrent coordination problems.

Empirical Research

Conventions rules and standards can highly increase the efficiency of an initiative. One interviewee stated that 'it is so costly to always work out the right solution in a recurring situation anew. Therefore, rules and standards are very important.'[10] During the stakeholder workshop of *UrbanFoodSpots*, this category was still to be defined, whereas the large group meeting of *Gleis 21* already practiced a lot of them.

According to the empirical analysis, the category *conventions, rules and standards* should give particular attention to the topic of communication. Due to the interrelatedness of these two topics, communication was not assigned the role of a separate category, but was subordinated to the former one. Communication is a broad topic and can hardly be underestimated.

Theory

In order to align expectations without a central coordination body, conventions such as behavior and linguistic patterns serve as a solution to this coordination challenge. Once expectations have been aligned, it is easier for conventions to be introduced and followed, which will finally foster social interaction. As communities of initiatives tend to share particular values, beliefs,

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[10] Quote of the interviewee in German: 'Es ist so aufwändig, in einer Situation, die immer wieder vorkommt, jedes Mal aufs Neue die richtige Lösung zu finden. Deshalb sind Regeln und Standards sehr wichtig.'

conventions and rules, they are also visible in their behavior and actions, which makes the introduction of conventions, rules and standards easier (Geels, 2005).

In the case of an initiative, conventions, rules and standards are both defined and practised by the same actor, which represents advantages and challenges. Comparing the meaning of rules from an individual and a societal perspective, they can facilitate and make things easier on an individual level, but are more obstructive in the latter perspective as they may impede creative ideas, experiments and possibly helpful responses to societal challenges (Geels, 2011).

Conventions, rules and standards often emerge unconsciously e.g. in the form of innovative practices or routines, benefiting the development of the initiative (Turnheim et al., 2015). The goal is to first of all identify them and then either sort out the obstructive ones and select and foster the beneficial ones.

Recommendations

Just like visions and expectations, conventions, rules and standards should be jointly defined and agreed upon as early as possible to support the further development of the initiative. Moreover, it has proven helpful to regularly remind the participants thereof. As conventions, rules and standards are defined and practised by the same actor, they should be critically reflected upon from time to time. New participants need to be familiarized with these agreements in particular. It is advisable to define actions or solution approaches for exceptional situations in advance. This guarantees some beneficial uniformity and consistency for the initiative. Experienced process facilitation and management can minimize the risk of avoidable mistakes and undesirable developments in the category of conventions, rules and standards.

The initiative should at least agree upon and use two channels to communicate internally and externally. Examples are personal meetings, teleconferences or applications such as as *Slack* or emails, just to name a few. It is very important to define which topics are discussed on which channel. For example, fundamental discussions or questions should always be discussed in person due to the high chance of misunderstandings. Furthermore, during communication processes, there should always be the opportunity to ask questions in order to avoid misunderstandings and make sure new participants are informed sufficiently. Also, information and past decisions should be made available and distinguished between 'must-read' or 'additional info'. One interviewee, who was not too well-informed, blamed himself right away and used the word 'collectable debt'[11] to point out that the information is actually accessible to him, but he trusts the responsible decision-makers. Over time, the need for discussion and thus

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[11] In German: 'Holschuld'.

also the overall information flow should naturally decrease and stabilize as conventions, rules and standards establish.

7 PARTICIPANT CHARACTERISTICS AND GROUP COMPOSITION

This category focuses on the assessment of group dynamics and the group's composition as well as the initiative's impact.

Empirical Research

The empirical research of this work allowed for a limited derivation of findings. Nevertheless, the theoretical research has suggested this category. The participation in the stakeholder workshop by *UrbanFoodSpots* and the large group meeting by *Gleis 21* as well as the interviews represented certain participant characteristics in terms of variety. The stakeholder workshop, on the other hand, was composed of a rather diverse set of participants from different fields and institutions that nevertheless had an academic and/or governmental background. The *Gleis 21* group as well as the interviewees had a similar level of education, social awareness and lifestyle. In summary, they shared a high degree of ecological and social sensitivity. However, it became clear that for the implementation and operation of the initiatives, participant characteristics and group composition are not decisive in themselves but need special attention for fruitful community building and lasting impact.

Theory

Ganglbauer et al. (2014) state that individuals can be very diverse with respect to social, ecological and economic values and motivations, which can be an asset for the community. In order to have access and use a diverse set of means and resources extending the impact of the initiative, Späth and Rohracher (2012) recommend a 'sufficiently "heterogeneous" actor network' (p. 470). It is interesting that the authors use the attribute *heterogeneous* with quotation marks. Perhaps they want to depict that this does not precisely express what they want to say. One could interpret that the question of homogeneity or heterogeneity, as illustrated in chapter 2.2.2.2, does not fully express what needs to be asked. When it comes to the goal of scaling up, the questions of sensitization and mutual understanding need to be put into focus. The socio-psychological dimensions of the initiative can help to develop a group identity, promote group cohesion and a collective purpose, which encourage long-run engagement and hence lasting impact of the initiative's activities (Seyfang & Haxeltine, 2012).

Recommendations

First of all, the initiative should be aware of the fact that it has an internal and external impact. It has the potential to equally influence its participants and people who are not participants (yet).

Moreover, it should sensitize its participants to understand and accept that people have different motivations and starting positions.

At the end of the day, it comes down to the rhetorical question whether the 'mainstream', i.e. the people who are not engaged in the initiative's activities due to lack of awareness or interest, actually want to be part of this group or community, i.e. in the sense that one becomes a member and shares a large portion of her/his time, values and beliefs with the community of the initiative. Using the help of the defined target groups, it can be derived that the target group #2, i.e. people who are not environmentally conscious (yet), are actually reached the moment they participate in the initiative's activities. This does not necessitate any group membership or identification in the narrow sense and should not be enforced for this very reason. Therefore, it seems much more appealing to build a community that

> itself lives and is enlivened by the various interactions between individuals that fulfil different roles. Mutual understanding, helping behaviours between and within community members, engaged voluntary action, and receiving help add up to collective problem solving (Ganglbauer et al., 2014, p. 919).

Sharing activities promote the sense of community. Instead of encouraging people to engage using moral arguments, pro-active calls and direct instructions e.g. using polite imperatives addressing potential and already active participants have proven to be effective (ibid.). Additionally, the authors call for 'tensions and hot debates about political and cultural implications' within the initiative (ibid.). As much as this may seem to contradict the preceding definition of community, the authors' attribution ''global-issue-based' community' (ibid.) is an oxymoron. It implies a political statement about the discrepancy and interdependency between local and global politics. An initiative can strive to bridge this gap by stimulating re-thinking and debates, leading to public awareness. An initiative should by no means force participants to become part of the community, but rather offer it by creating the opportunity to connect with others during the activities as much as and when they wish to do so. This requires patience and is no 100 % winning formula, but the only way a genuine sense of community can be achieved (Lim et al., 2017). This growing sense of community in turn can be applied to the category of learning. The community might also create joy and appetite for learning as it offers an additional opportunity for exchange of information and the acquisition of new skills, e.g. by using the technical system of the initiative. Moreover, it can inspire to think creatively and try out new things or combinations (ibid.). In brief, the participation in the initiative should be fun. All eight interviews were pervaded with positive emotions and excitement, which is hardly a matter of

coincidence, but an in- and output of the initiatives. To conclude, a statement by an interviewee: 'It [*Gleis 21*] *is* work and decision-making, but it does not *feel* like work.'[12]

8 URBAN ASPECTS

Empirical Research

The empirical part of this work has implicitly and explicitly revealed the desire of community within the city. The fact that the three initiatives investigated for this research are located in a city and foster sharing and community activities implicitly shows that there is a need for it in the city. There were also concerns during the large group meeting of *Gleis 21*. One interviewee decidedly said that s/he wishes to 'live with people in an environment where I feel comfortable. A 'Grätzl' in the city where living in a context takes place and where we realize projects'[13].

Theory

In 'Sharing Cities: A Case for Truly Smart and Sustainable Cities', McLaren and Agyeman (2015) argue that digital technologies together with sharing activities offer new approaches to the issues of sustainability, solidarity and justice. Rather than merely creating new business ideas such as *Uber* and *Airbnb*, their approach envisions sharing activities that build trust and cooperation. Most interestingly, the city government and political engagement of civil society play a decisive role when it comes to the scaling up of these activities and finally achieving a change in values and norms. These progressive urban lifestyles decrease anonymity of the city and put living in a context again (ibid.).

Recommendations

Initiatives that are located in cities should design and adapt their activities to these urban aspects embracing digital technologies. Trust and cooperation should be core values and fostered through their activities to scale up their impact and contribute to a socio-ecological transformation. Furthermore, city governments and politics should be invited to engage or participate as they have influence urban societies.

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[12] Quote of the interviewee in German: 'Es [*Gleis 21*] ist schon Arbeit und Entscheidungen, aber es fühlt sich nicht so an wie Arbeit.'

[13] Quote of the interviewee in German: 'Wohnen mit Leuten in der Umgebung, wo man sich wohlfühlt. Ein 'Grätzl' in der Stadt, wo Leben in einem Kontext stattfindet und wo man Projekte verwirklicht.'

9 SCALING UP ACTIVITIES

Empirical Research

The following factors that have shown to be useful in fostering scaling-up processes based on other initiatives. Firstly, one (young) initiative can receive and benefit from a positive connotation thanks to other successful initiatives that are located nearby e.g. in the same city and/or that are related in terms of their visions and activities. This cumulative effect can accelerate scaling-up processes and serves as empirical evidence for the argument that global transitions require local demonstrations, which is a motivational factor of this thesis (chapter 1.1). The second aspects concerns other successful initiatives. The fact that other Viennese initiatives, namely *LebensmittelretterInnen*, *Fairteiler* (public fridges in restaurants, coffee shops and supermarkets), *Offene Bücherschränke* (open bookcases) and *City Bikes* (sharing bikes)*, were mentioned multiple times during the interviews indicates that these activities are explicitly recognized, used for comparison and thus serve as a benchmark. I did not expect to be able to make any content-related statements about other initiatives based on the literature review before the conduction of the interviews. Mayring (2014) explicitly encourages his readers to look for 'surprising or noticeable features' (p. 62), which has proven useful.

Theory

Drawing the link to the MLP framework, this indicates change on the socio-technical regime level. As a result of the empirical investigation, this regime change could be brought about in the form of a new profession related to sharing activities, which in turn could challenge and hence have an impact on the socio-technical regime and the socio-technical landscape (Geels, 2002). David (1994, p. 216) summarizes how scaling up can be achieved:

> Part of the self-reinforcing dynamic is attributable to the consequences of the accumulation of experience, the crystallization of expectations, the widening circle of their diffusion, the diffusion of the knowledge thereof and of the actions predicated upon that knowledge. These serve [...] to establish spontaneous informal social conventions more solidly and to entrench [...] rule structures more deeply (David, 1994, p. 216).

Recommendations

In order to illustrate the content of an initiative's activities more clearly, one suggestion is to assess its content by thinking the following two questions through: Firstly, *do they encourage a sense of community?* A sense of community is magic inasmuch as the activities of a community are more powerful than the sum of its individuals. The second question aims at the feasibility of the informal replication of the initiative's activities: *Is it possible to carry out the initiative's core activity without the formal framework of the initiative?* The probability for this

question to be answered affirmatively is higher if the first question has been answered affirmatively too because the sense of community encourages the informal replication.

Figure 10 illustrates the scaling-up process from the perspective of an initiative. Over time, its impact increases as more and more factors and conditions are established.
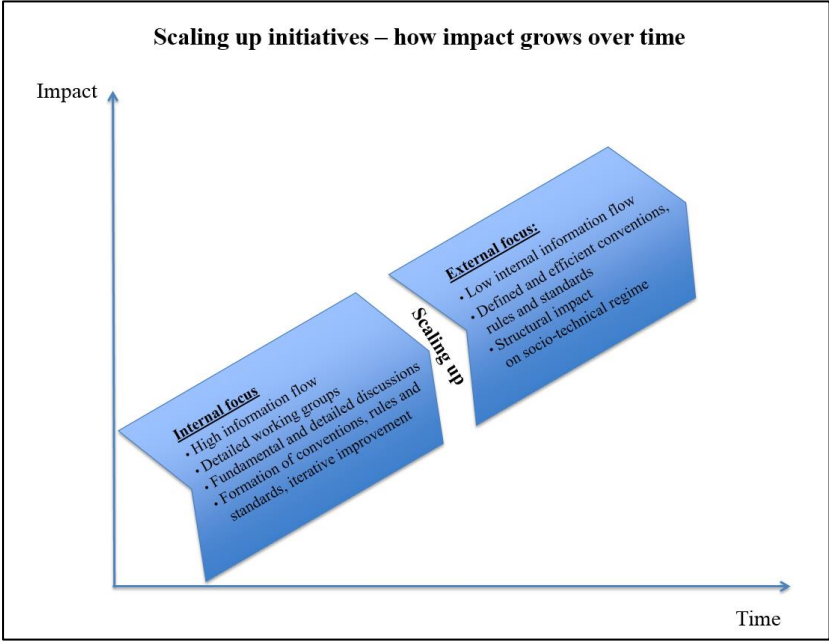

Figure 10: Scaling up initiatives – how impact grows over time

Source: Own illustration.

4.1.1 Social, Ecological and Economic Perspective

Socio-technical systems are characterized by combining the technical aspect of technology and a mix of social aspects such as culture, practices, policies and markets (Geels, 2002). Lim et al. (2017) note that it is important to minimize the effort required by its users during the development and maturation of the technology in order to make the technology socially appealing and to increase its social acceptance.

A potential threat to an initiative that contributes to socio-ecological change are the prevalent predominant performance criteria, which follow strict economics logics. However, there are first signs of change in performance criteria e.g in addition to maximization logics as new socio-technical systems emerge. Turnheim et al. (2015) state that 'fundamental change roots in norms and values' (p. 247) on the one hand, 'that is most challenging to purposefully steer and stabilise in the long run' (ibid.) on the other hand. Pearce (2003) emphasizes the impact of initiatives that disregard profit maximization and rather focus on the development of a community that lives by principles of equity, redistribution, solidarity and mutuality. The

environmental dimension of this perspective is anchored in the idea that the emergence of alternative systems goes together with a reduction of environmental impacts caused by production and consumption activities. Both individual and social benefits for producers and consumers are favorable in order to increase attractiveness of alternative systems (Kemp & Martens, 2007). As a result, initiatives can offer a protected space to express and live green and alternative values and are not exposed to market pressures (Seyfang & Haxeltine, 2012).

The concept of Sustainable Community Development (SCD) gives an illustrative example how goals such as social justice, democracy, a social economy and, last but not least, environmental sustainability can be pursued step-by-step on the local level. Initiatives are highly desirable as they function as catalysts (Connelly et al., 2011). The example of food sharing shows how social, ecological and economic motives can equally have systemic effects on the social, ecological and economic sphere (Ganglbauer et al., 2014).

4.1.2 Political Perspective

Even though an initiative may by no means intend to act explicitly or implicitly in a political way, its activities inevitably imply a political statement themselves (Ganglbauer et al., 2014). For this reason, avoiding this topic should not be an option from any initiative's perspective. This chapter first of all discusses the term political or politics, then explains why initiatives are inherently political and finally suggests a possibility how initiatives can incorporate this in their activities.

Broadly speaking, rather than one precise and clear definition, the notion of *politics* can take on a wide range of meanings. For the purpose of this research work, two definitions are applicable. The first is 'the art or science of government' and the second is 'the total complex of relations between people living in society' (Merriam-Webster, 2017b). The article 'What does "Political" Mean to You?" states that the relation 'between ordinary people and the world of politics is difficult' (Fitzgerald, 2013, p. 453) because 'some people operate with a sense that very few themes are political while others perceive many as such' (p. 454). This represents a challenge that initiatives should address and try to overcome with the exchange of ideas and open debates about the topic. The example of the British TT movement, which strongly claims to be apolitical, shows that as a consequence, the movement is apolitical inasmuch as it addresses symptoms rather than causes (Trapese, 2008; Seyfang & Haxeltine, 2012).

Aristotle claimed that human beings are by nature political beings. This paves the way for the merger of the social with the political sphere. However, it can be opposed that the fact that moral-social values are inevitably present in political considerations and actions is an argument in favor of explicitly stating these normative values (Collins, 2006). The literature of

political science incorporates this concept in *The Third Way*. It strives to recognize and treat citizens as moral human beings. These therefore responsible individuals, in turn, are members of communities and ultimately society. Giddens sees a promising new form of politics in *The Third Way* which fosters political engagement and represents a citizen-based form of response to the contemporary global policy challenges of globalization, climate change, the necessary sustainability transformation and the meaning of personal life (Bryant & Jary, 2003).

4.2 Findings Specifically Applicable to the Initiative *UrbanFoodSpots*

The following findings are first or all applicable to the initiative *UrbanFoodSpots*. Moreover, they could be of relevance for the initiatives *Gleis 21* and *LebensmittelretterInnen* as they played a central role in the empirical study.

The findings are divided into the six categories *information and education, involvement of different actors in the field of food waste, social consideration, process facilitation and management, conventions, rules and standards* and *urban aspects*. They are ranked in their importance, starting with the most important category.

1 INFORMATION AND EDUCATION

For the initiative *UrbanFoodSpots* and its activities, the goal of informing has different dimensions. First of all, it should inform about the issue of food waste in general. Second, it should inform about quality criteria of different food products and their right assessment. For this purpose, the *Wiener Tafel*[14], the *MA 38* (municipal authority for food examination) and *pulswerk GmbH*[15] have jointly developed and composed the booklet 'Is That Still Edible?'[16]. It is a manual that explains how to assess the edibility of food products, putting a special emphasis on best before dates. It provides guide values and smell and taste tests as an answer to the question how long different food products are edible once the best before date has passed.

One interviewee said that this public information would be useful to 'fight the food industry mafia'[17], which is a very extreme way to express the interdependencies and goals on the regime level. Another aspect could be information on origin and seasonality of different foods, which are pivotal indicators of sustainable nutrition. Another illustrative direct quotation is the following: 'Feasibility of the initiative *UrbanFoodSpots* is not the problem, but its

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[14] Food banks of Vienna

[15] http://www.pulswerk.at/mindesthaltbarkeitsdatum.htm

[16] In German: 'Ist das noch gut?'

[17] Quote of the interviewee in German: 'Es kann so gegen die Lebensmittelmafia vorgegangen werden.'

credibility.'[18] This shows that it is decisive to display a professional and trustworthy attitude when advertising *UrbanFoodSpots*. For example, the distinction from food banks, who explicitly focus on redistribution, should be stated clearly. This topic will be addressed in more detail in the *social considerations* below. Two pleasant surprises during the interviews showed that upscaling can happen in places and in ways that are unexpected. One interviewee stated that that due to the *planned* cooling station in her/his building, s/he is already rethinking and adjusting her/his priority setting regarding her/his grocery shopping behavior and quality requirements for food. Another interviewee pointed out that *UrbanFoodSpots*, together with other initiatives s/he has heard of, and the interview in particular, increase her/his knowledge and thus awareness of food waste. As we have seen before, this is a fundamental requirement for effective action.

2 INVOLVEMENT OF DIFFERENT ACTORS IN THE FIELD OF FOOD WASTE

The successful involvement of different actors in the initiative *UrbanFoodSpots* was not only reflected in the stakeholder workshop and the large group meeting, but also in the interviews. *UrbanFoodSpots* has communicated and presented itself in a transparent way and on an equal footing from the beginning.

The literature review and the analysis of the initiative *UrbanFoodSpots* show that the consumer level is a promising approach. Nevertheless, state interventions on the agri-industrial and retail sector are necessary to approach this issue in a holistic manner. *UrbanFoodSpots*, being very engaged in a dialogue with a broad spectrum of stakeholders and partners, has built and is currently building networks and collaborations. The further development of the initiative can be enhanced through academic research and scientific support. The involvement of the local authorities of Vienna has proven to be beneficial and will certainly continue to be helpful in the future. Moreover, *UrbanFoodSpots* is in touch with farmers' markets, restaurants and supermarkets.

As has been stated above, it is useful to collaborate with other food-related activities. As far as food saving and sharing activities in Vienna are concerned, there are currently about 3,500 active food savers and sharers in the city according to one experienced food saver. Among these 3,500 people, financial motives play an insignificant role. The interviewee also confirmed that s/he plans to integrate the cooling station in her/his sharing activities. A study conducted by the Institute on behalf of *MA 22* (Viennese Department for Environmental Protection) emphasizes the importance of networks and collaborations in order to coordinate food sharing

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[18] Quote of the interviewee in German: 'Die Glaubwürdigkeit der Initiative *UrbanFoodSpots* ist nicht das Problem, sondern seine Glaubwürdigkeit.'

activities of sorted out, but still edible foods. It recommends the double-track strategy of strengthening and optimizing existing relationships and collaborations on the one hand and building new ones on the other hand (Bernhofer & Pladerer, 2013). Consequently, upscaling can be fostered through the involvement of the 'right' people. Promising opportunities to establish these contacts are e.g. dumpster diving groups, social media platforms such as Facebook or the regular picnics in the park organized by the *LebensmittelretterInnen* in Vienna during summertime. Potluck picnics are an effective and at the same time non-binding social publicity event. It offers an appropriate framework to invite, inform and meet curious or sceptical as well as people that are already involved.

The following three initiatives serve as illustrative examples for the successful involvement of different actors in the field of food waste. The British 'Love Food Hate Waste' campaign serves as a good example for consumer education and effective collaborations at multiple scales, working together with actors along the supply chain as well as local authorities (Gruber et al., 2016). The article 'The rise of the 'food charter'' also offers inspiration for effective networking strategies. It is based on a 'food charter', which is 'a statement of aims which bring together businesses, practitioners and other bodies involved or interested in sustainable food systems' (Hardman & Larkham, 2014, p. 400). Over time, this charter becomes a symbol for cooperation and a unified voice in favor of a common objective. In the US, the three projects *City Harvest* in New York, *DC Central Kitchen* in Washington D.C. and *Philabundance* in Philadelphia pursue the three goals of reducing food waste, urban hunger and building local communities. To achieve these goals, food waste is systematically collected from over-producing large institutions and subsequently distributed throughout the city. Although the project *Refood*, which was started in Lisbon in 2011, pursues a similar strategy, it additionally focuses on small institutions such as coffee shops or small restaurants (Felix, 2013). In conclusion, in order to achieve long-lasting change at multiple levels, it is important to not disregard or underestimate small-scale activities.

3 SOCIAL CONSIDERATIONS

Food sharing is an activity that induces bottom-up social change. Social inequality is a complex issue which food banks only cover to a certain extent because they require a proof of income in order to have access to them. One interviewee gave the illustrative example of a person who actually earns a decent income, but due to indebtedness and alimonies, s/he cannot afford to buy food after two thirds of the month have passed.

Although the initiative *UrbanFoodSpots* should by no means aim to complement or extend the offer of food banks, social inequality is an issue that cannot and must not be ignored

either. All eight interviewees brought up this topic when they were asked about secondary or implicit goals other than the reduction of food waste. Consequently, this topic should gain particular attention of *UrbanFoodSpots*. Possible considerations are first of all the entry barrier. The decision about the entry barrier represents a balancing act between freedom and security because it will decide about the chances of success on the one hand and the chances of misuse on the other hand. E.g. if the barrier is too high, it might discourage or even cause a feeling of shame. Therefore, the two suggestions seem reasonable to foster positive intentions: Firstly, to require a valid email address upon registration fulfills a certain level of safety requirements. Secondly, it seems reasonable to locate the cooling station in a much frequented area, but not in a main street. This decreases the probability of spontaneous vandalism and feelings of shame and at the same time increases the probability that the person's short detour is motivated by good intentions, i.e. appropriate use of the cooling station.

From the perspective of the user group as a whole, three interviewees addressed the topic of a balanced relation between give and take. They all explained that they would be afraid to take too much and thus cause imbalance from a social point of view. Most interestingly, the evidence in the literature points in the opposite direction. The 'free-rider phenomenon that is criticized in many other communities is actually welcome' (Ganglbauer et al. 2014, p. 916). A possible explanation could be that the interviewees had a certain number of common features such as their academic level as well as their social awareness, as mentioned in chapter 3.2.

In conclusion, it can be said the interviewees are certainly not representative for the user group of the cooling station. Although the goal is not to think within these categories, let alone track the user activities, donors and takers should be 'able to co-exist and in some cases mutually re-enforce each other' (ibid.). This could be achieved through the development of a sense of community as explained in *participant characteristics and group composition*. Potential activities to get to know each other and decrease the 'give vs. take' way of thinking are e.g. communal cooking events or processing or preservation of food that can be shared with others or donated afterwards.

4 PROCESS FACILITATION AND MANAGEMENT

Currently, the task of process facilitation and management is performed by the *UrbanFoodSpots* team of the Institute. Taking into consideration that it is the initiator of the initiative and that it is in the late conceptual phase, the Institute qualifies as an adequate process facilitator. The process facilitation and management of the Institute work very well so far, as the stakeholder workshop and the positive references by the interviewees and *Gleis 21* have attested. The Institute has done an excellent public relations job by providing information about

the *UrbanFoodSpots* in various forms to the public such as a field study, a local newspaper article or, last but not least, on their website. Also, the responsible manager emphasized that the interviewees should contact her in case of open questions. As regards further public relations work, the option to order advertising material such as posters, flyers or stickers and a contact email address could be taken into consideration (Ganglbauer et al., 2014).

The Institute foresees that the responsibility and operation after the installation of the cooling stations on site will be transferred to another actor. The concrete steps and timeframe have not been defined in detail yet as they probably need to be customized to the needs of the individual cooling station and its location. During the empirical research, it has become clear that the responsibility for operation and maintenance of the cooling station is decisive for the image of *UrbanFoodSpots*. Whereas maintenance will be executed by the company Ernst Winninger GmbH that constructed the cooling stations, the question of operation has not been decided on yet. This includes the question whether this is based on voluntary or paid labor. The experience of the two long-term food savers and sharers that have been interviewed shows that the answer to this questions decides about how long the cooperation will last. This, in turn, will have an impact on *UrbanFoodSpots'* overall success. One interviewee suggested the ideal case of staff that is convinced of the concept of *UrbanFoodSpots* and additionally paid by the city of Vienna. To make voluntary work more attractive and win volunteers in addition to paid staff workers, one option could be to engage them for a limited period as one interviewee stated that her/his job would not allow a long-term commitment. *Gleis 21* has already made the agreement that every adult resident should work about 15 hours per month for the community. This opens new perspectives for this particular cooling station, but will certainly not be the precedent case. Furthermore, it will be helpful to precisely define the tasks regarding the operation of the cooling station to ensure the same conditions throughout the different locations. In addition to that, one task could be to (re)distribute the foods among the different locations to make sure that the cooling station is never empty, which would not be attractive. The redistribution could be adjusted over time based on each location's intensity of use. These considerations would certainly entail a sophisticated level of management, which would raise further questions of means of transportation and finances.

UrbanFoodSpots is currently financially well-placed due to the support by the city of Vienna. Nevertheless, it would be advisable to build a circle of financial supporters in the long term as one interviewee has e.g. pointed out the dependence on the City as well as the danger in case this financial source ceases. One significant statement from the interviews is 'If it [the initiative *UrbanFoodSpots* and its goal to reduce food waste] is desired by society, society

should also provide the financial means'[19]. The term *society* against the background of this statement can be interpreted in different ways such as tax money or donations of private persons, NGOs or other institutions. Another finding from the interviews is the principle that the way the *UrbanFoodSpots* deals with financial questions will in turn influence its image, appreciation and hence finally also its chances of success.

5 CONVENTIONS, RULES AND STANDARDS

For the initiative *UrbanFoodSpots*, reasonable conventions, rules and standards could concern the three topics of trust, fairness and cleanliness. If *UrbanFoodSpots* develops these topics further and frames and communicates them adequately to the users, they will certainly contribute to the high quality standards of the cooling stations in addition to the regular quality checks.

6 URBAN ASPECTS

The book 'Spaces of Hope' written by Harvey (2000) analyzes political engagement and emphasizes its meaning against the background of the ongoing globalization. The book 'Cities: Reimagining the Urban' defines urban development 'as a set of potentials which contain unpredictable elements, as a result of the coevolution of problems and solutions' (Amin & Thrift, 2002, p. 4). The city is the place where new technologies are introduced into society and where they mutually shape each other (Coutard and Guy, 2007).

In Vienna, local neighborhoods ('Grätzl') and sharing activities within this Grätzl foster creativity, openness and networking activities. As Ganglbauer et al. (2014) state, 'sharing food requires a critical mass of active participants in a geographically bounded area' (p. 911), which is given in the concept of the Grätzl. The city of Vienna undoubtedly serves as good example with its Smart City Initiative, which was started by the mayor in 2011. The initiative pursues a strategy that fosters innovations to increase life quality without increasing resource consumption (TINA Vienna, n.d.).

Due to spontaneity and the short-term nature of urban lifestyles and the features of the app that is currently being developed, *UrbanFoodSpots* could consider the option of a 30-minute reservation of an item in the cooling station. This would do justice to the short-term way of life on the one hand and give the option of at least some assurance on the other hand.

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[19] Quote of the interviewee in German: 'Wenn es eine gesellschaftlich gewünschte Sache ist, dann soll das die Gesellschaft auch finanzieren.'

In case *UrbanFoodSpots* chooses to redistribute food among different cooling stations, the mode of transportation within the city could be based on bikes that are specially equipped for transportation and cars for large food transports such as the ones from farmer's markets.

4.3 The Initiative *UrbanFoodSpots* from the Multi-Level Perspective

This chapter positions the initiative *UrbanFoodSpots* in the scaling-up process of the MLP in figure 11. The three stages are not necessarily linear and can also be parallel. *UrbanFoodSpots* has clearly passed the first stage. The second stage is already on the agenda as its network is growing, which paves the way for community mobilization. As far as the third stage is concerned, it has awoken policy interest by the city of Vienna and research institutions. Furthermore, it has initiated a behavior change by challenging its stakeholders and prospective participants. Forthcoming potential challenges are the initiation and consolidation of already initiated behavior changes, the further formation of a positive public opinion, which goes hand in hand with community mobilization, and finally the awakening interest at different policy levels (Geels, 2002).
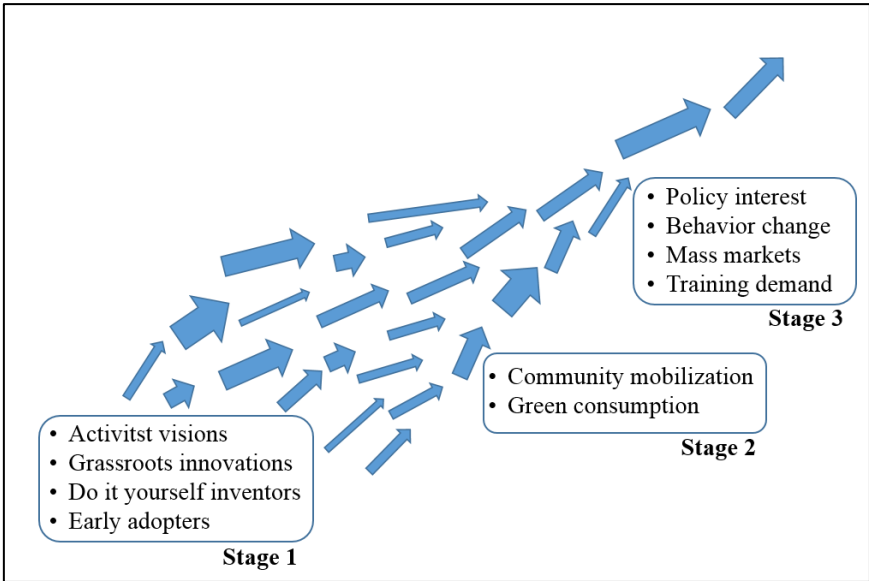
Figure 11: The scaling-up process of the MLP framework in three stages

Source: Own illustration based on Geels (2002).

5 Discussion

5.1 Discussion of the Above Findings

This chapter will critically reflect on the findings presented in chapter 4. First of all, the transitions literature urges its readers to carefully consider their networking actions. Spaargaren et al. (2013) explain that in order to make use of collaborations to foster scaling-up processes,

the authors advise caution if power struggles or dominating behavior patterns arise during the preceding negotiations. In this context, Trapese (2008) sensitizes its readers to keep in mind that the prevalent capitalist system will not be changed solely by a niche activity, but requires the communication and collaboration with wider audiences, which is represented by target group #3, i.e. the political sphere. Seyfang and Haxeltine (2012) point out the potential conflict within the niche about the willingness to compromise, or cost of 'selling out', in order to reach the mainstream. In contrast, pure technological innovations do not depend on these social coordination processes and hence tend to have a larger diffusion potential (Hielscher, Seyfang & Smith, 2011). However, if the niche manages to overcome this challenge, it will hold an even stronger position within the mainstream.

As the category of networks and collaborations has pointed out, (trans-)governmental agencies and local policy-making bodies or authorities are resourceful partners. However, cities and regions also entail a number of restraints or rigidities, which are e.g. related to the regime level as the regime 'is essentially characterized by a plethora of institutions, actors and interests' (Späth & Rohracher, 2012, p. 466). Therefore, the role of niches can be questioned. Nevertheless, against the background of the MLP, by causing marginal deviations, niches have the potential to cumulatively build a powerful network that challenges the prevalent regime. On this account, cities and regions offer a specific and local context that promotes these processes (ibid.).

With this in mind, the meaning of context will be elaborated further. Lindblom (1959) used the following words to express this issue: 'Attempts to rank or order values in general and abstract terms so that they do not shift from decision to decision end up by ignoring the relevant marginal preferences' (p. 82). Regardless of the level of experience, any local activity such as an initiative will be challenging anew in two respects. Firstly, experiences and lessons learnt from the past are not easily transferable as every activity will follow a different path. Kemp and Martens (2008) also warn against 'the modernistic trap of rational decision making that disregards local cultures' (p. 5). Secondly, the exploration of the social context with its cultural peculiarities are important and cannot be transferred from past activities (Raven et al., 2008). Therefore, as Raven et al.'s meta-analysis of 27 case studies confirmed, context and local embeddedness are imperative in order to successfully implement a project. Two examples are customized communication methods and participation methods. Regarding the former, the researchers suggest investigations on demographic factors and the prevailing, currently working forms of communication. To give an illustrative example, family festivals are a good information event and proven form of initial contact between the initiative and visitors, but also between rural and urban areas. To better explain the complex meaning and effects of context,

the idea of coevolution may be helpful as it is not only the context that changes between different initiatives. Additionally, the context changes over the course of the increasing concretization of one specific initiative, which also implies the alteration of its activities, which in turn changes the context. In brief, the initiative and its context coevolve (ibid.).

This is in line with the concept of sustainable development, which aims at human betterment. It order to define and evaluate that betterment, a social consensus is necessary and as a result, sustainable development by definition rejects a blueprint or predetermined end state (Voss & Kemp, 2006). Although the way of a transformation to a sustainable society needs to be explored both practically and theoretically, one learning outcome is that local communities need to work out the feasibility of sustainable forms of life (Roseland, 2012).

Regarding the role of visions, is is important to reflect on them against the interests of different participants or groups. Instead of representing the interests of select participants or groups, they should represent the interests of the initiative as a whole (Kemp & Martens, 2007).

As the initiative develops further, the danger of over-standardization might occur due to a growing set of conventions, rules and standards, which can hamper further development or even threaten the initiative. In order to avoid this danger, the conventions, rules and standards should be revised and adjusted as required over time. A rule of thumb is to provide conventions, rules and standards for the 'bigger picture', i.e. core functional areas, and 'decide the details on the way', i.e. the subsections of the aforementioned conventions, rules and standards such as exceptions and conventions, rules and standards that do not concern the bigger picture or core functional areas.

The discussion of the findings with regard to the different interview partners reveals that the different partners answered and argued similarly to a large extent but still differently in a certain manner. Although their environmental, social and ecological concerns and motivations were not congruent, they still agreed as a whole about the visions of *Gleis 21* and its collaborations e.g. with *UrbanFoodSpots*. This goes hand in hand with the category of *participant characteristics and group composition*. As explained above, scaling up is not necessarily achieved through congruent concerns and motivations, but through sensitization and mutual understanding.

5.2 Scaling-Up Processes and Policy

This chapter points out how what topics require particular attention when putting the above findings into practice and how they relate to a broader context.

It is important to be aware that a number of these categories favoring scaling-up processes are long-term oriented as they seek to challenge and alter the dominant regime. This

is contrary to the incentive and motivation systems that define the behavior of the different actors. Causes are the seemingly desirable fast pace and impatience of our age, ever greater turnovers and profits through a noteworthy variety of means, and not last due to short policy and election cycles, just to give a few examples. These would each provide enough substance for independent research projects. This work presumes by no means to provide an answer to this interdependent state, but merely aims to draw attention to it relating to the above findings. One guiding principle of policy-making is the understanding thereof as a 'Science of "Muddling Through"' (Lindblom, 1959, p. 86):

> Policy is not made once and for all; it is made and re-made endlessly. Policy-making is a process of successive approximation to some desired objectives in which what is desired itself continues to change under reconsideration.

David (1994) also sensitizes his readers in this respect. Unlike technological development, the change of a socio-technological system requires 'reinvention and rediscovery of organizational techniques and institutional arrangements that have been lost and found several times over' (ibid., p. 219). This iterative approach also applies to the upscaling of initiatives and is of vital importance for the above explained emphasis of contextualization. The detailed analysis of an initiative's initial conditions bears opportunities and threats likewise. The measures derived therefrom can potentially constrain the further development of the initiative and its 'organizational structure can become 'locked in' to a comparatively narrow subset of routines, goals and future growth trajectories' (ibid., p. 214). To avoid this danger, the development of an initiative should gradually build its structure with regular consistency checks.

5.2 Strengths and Limitations of this Work

As with every research, this thesis has strengths and limitations. First of all, qualitative studies often follow an inductive approach i.e. start on the specific level and aim to derive general conclusions. This stands in contrast to quantitative studies following a reversed deductive approach. The former approach therefore implies a higher level of uncertainty. However, this does not automatically diminish the research quality if addressed adequately and combined with abduction as follows: 'Abduction is a logic of discovery, that is, a means of finding something new' (Patokorpi, 2009, p. 125). It is a form of reasoning that produces hypotheses such as plausible explanations. In combination, abduction and induction are strong because they can produce novel, progressive explanations and theories (Patokorpi, 2009). In regards to this research, a strength of its findings is that they are derived inductively and underpinned by abductive reasoning that in turn is inspired by a preceding literature review and theory.

Second, the analytical frame of this research has the advantage of being specific with regard to the initiative *UrbanFoodSpots* on the one hand. The fact that the empirical part is based on interviews with a very specific target group, i.e. members of *Gleis 21* and food savers and sharers, limits the transferability of the findings to other initiatives on the other hand. This is a potential danger of this thesis as it might mislead its readers to follow patterns of thinking that are not valid in general. In the long run, this could lead to streamlining of empirical realities that are based on theoretical knowledge rather than on empirical investigations. Nevertheless, the reader's attention can also be directed to issues that have not been noticed so far such as regime dynamics or selection processes within the MLP framework (Schrape, 2014). In this case, the wish is that critical readers align their ways of thinking with the one present in this work and thus adjust and filter the above findings on their own initiative. Global sustainability implies solutions that are implemented on a local level embracing the local context and behavior (Kemp & Martens, 2007).

With this in mind, a strength rather than a weakness of this research is the high degree of specialization and the analysis of the initiative *UrbanFoodSpots*, which facilitated a large expertise. This expertise served as a good basis for the derivation of both general and specific findings.

Coming to the major strength of this study, it has examined the initiative *UrbanFoodSpots* from both a practical and theoretical point of view in order to derive a possible strategy therefrom. This has sketched out emerging trajectories starting in niches that can influence the regime and landscape level and thus promote a socio-ecological transformation (Raven et al., 2008).

It is beyond the scope of this study to formulate any predictions or assessment of future developments. Rather, the aim of this analysis is to deliver accumulated insights inspired by the literature review including historical developments in combination with empirical research giving insights into ongoing initiatives and transition activities.

A limitation of the empirical research part is certainly the combination of a limited number of interviews (8) and participatory observation events (2). This limitation applies only to a small extent because the interviews were very detailed and long. The large diversity of the location of the interviews can be interpreted as an indicator for the diversity of the interview partners. Moreover, the fact that they are homogeneous to a large extent, i.e. regarding their values, beliefs and lifestyles, in fact offers a realistic picture of the composition of initiatives.

The next aspect rather represents a challenge than a limitation. This research involved a number of institutions and persons whose interests and priorities were not congruent such as the academic supervisor, the project manager and further representatives of the initiative

UrbanFoodSpots as well as its stakeholders such as the city of Vienna, *Gleis 21* and, last but not least, the author. This did not only represent a challenge in terms of coordination and communication, but also in terms of focusing on the research question throughout the research and writing process. Hopefully, the diverse interests of the different institutions and persons involved have been addressed adequately and led to a satisfactory outcome of this work.

The reader should bear in mind that the study is based on the MLP framework, which allows a high degree of complexity. One the one hand, this increases the quality of analyses of real-world processes and events. However, on the other hand, the quality of MLP analyses highly depends on the quantity and quality of the used data (Geels, 2002). Considering the scope of a master thesis, factors such as time frame, data availability and experience in both theoretical and empirical research are limited. Nevertheless, this work has appropriately handled these limitations and optimized the quantity and quality of the data collection and analysis.

Concerning time restraints, it was possible to accompany the initiative *UrbanFoodSpots* during its conceptual phase, but not during its pilot test phase. Following Lim et al.'s (2017) line of argumentation, the actual impact of the findings and their practical relevance can only be validated over a longer period. The fact that the diffusion time, i.e. also the time to tap the downstream market, of new technologies has been decreasing over time could support the thesis that the time frame for MLP analyses can also be decreased (Schrape, 2014).

In summary, this research has both strengths and weaknesses and, as has been pointed out above, the weaknesses can be overcome or minimized and thus only apply to a limited extent. It can be concluded that this research helps drive forward research on transformative change and the potential of on-the-ground experiences.

5.3 Possible Avenues for Future Research

Over the course of this thesis, a number of related possible avenues for future research could be identified. Based on the above mentioned limitations that are caused by the conditions a master thesis entails, the initiative *UrbanFoodSpots* could be further accompanied to get an even deeper understanding. This would certainly lead to new generalizations that can promote theory development (Lim et al., 2017).

As outlined above, the MLP is a promising approach, but also entails a high degree of complexity and data quality. The larger the collection and availability of data varied over time and sectors, the more case studies can be conducted. Moreover, boundary work i.e. research on the three different levels of the MLP is necessary. Further research in these areas will lead to an increased significance and robustness of the MLP (Geels, 2002). This is in line with the

request to create 'a wealth of stories with transformative potential' (Graugaard, 2014, p. 233), to which this thesis adds one story representing a further piece in the mosaic.

While this research presents a snapshot, it would also be interesting to explore to what extent the attitudes and behaviours of the participants of *UrbanFoodSpots* or another initiative change over time. In this context, it could e.g. also be worthwhile to analyze different diets such as vegetarianism or veganism, which have not received any attention throughout this work because it would have exceeded the scope of this thesis. Another research focus could be put on different kinds of food as cereals account for 34 %, meat for 21% and vegetables for 21 % of the global carbon footprint of food waste (FAO, 2013).

The study mentioned in chapter 1.3 by Gruber et al. (2016) recommend the avenue of transformative consumer research. In particular, they suggest to start e.g from dumpster diving activities to understand how they relate to food waste as well as the concepts of sustainability and societal well-being.

This research has found out that participant characteristics and community building are important success factors for initiatives and upscaling processes. As regards sharing activities, it would be worthwhile to investigate the impact different relationships can have on sharing activities (Lim et al., 2017). Examples are friends, families, colleagues or neighbors.

Schelling (1978) suggests studies along the lines of critical mass. In order to achieve the critical mass, the setting of a small and rather homogeneous group has a higher willingness to act or change as a result of education. However, as the group grows in size and diversifies, this becomes more and more challenging. He proposes quantitative analyses of the connection between the three methodological approaches of education, marketing and law against the background of a socio-ecological transformation.

Last but not least, it will be worthwhile to explore the underlying structures by which the multiple and intertwined crises and challenges were caused and are still rooted. Chapter 5.2 gave the examples of the fast pace and impatience of our age, the growth imperative and posed the question how to better deal with the short policy and election cycles. These issues could be investigated with regard to food, food sharing and other sharing activities on the one hand, but certainly provide food for thought for many diverse areas of application.

6 Concluding Remarks

This concluding chapter is divided in two parts. Whereas the first section focuses on the topic of food sharing, the second focuses on social change. The US-American economic and social theorist Jeremy Rifkin (1992, p. 234) said about the nature-society relationship and food:

> We know nature largely by the various ways we consume it. Eating establishes the most primordial of all human bonds with the environment [...] [it] is the bridge that connects culture with nature [...].

Food can gain in importance again if we value its natural origin and view it in relation to ourselves. It then becomes something of value is too high to waste be easily wasted. In food waste, the complex challenges of the 21st century become visible as it includes social, ecological and economic aspects such as inequality, commercialization and ecological consequences thereof (Kreutzberger & Thurn, 2012). This thesis suggests a new form of consumption that treats food with respect and reduces or even avoids waste. It has become clear that the activity of food sharing presents an approach to food and nutrition that is different from the usual one of food being a vital necessity. Block et al. (2011) also propose 'a more positive, holistic understanding of the role of food in overall well-being' (p. 5) both from an individual and societal perspective. This implies 'food socialization, food literacy, food marketing, food availability, and food policy' (ibid.). At the end of the day, this will increase culinary pleasure and well-being in general. This starts on a small scale, i.e. in our houses and in our everyday lives. *UrbanFoodSpots* clearly contributes to this understanding by making food supply a sharing and thereby a social activity. Besides, we can contribute to the establishment of a sustainable society that respects the limits of our planet.

This thesis has answered the research question about conditions and determining factors enabling a locally successful initiative to be scaled up, gain transition momentum and thus promote a socio-ecological transformation with the nine general and six *UrbanFoodSpots*-specific categories as well as the localization of the initiative in the MLP framework. Following an epistemology of hope, the MLP has shown that the sum of initiatives can achieve social change. However, there is no one-size-fits-all approach such as a political programme or an all-connecting ideology. With this in mind, social change needs to start on the small-scale or individual level i.e. at home, at work and in local communities and then be supported at other scales. Halpin (2002) pursues this approach in 'Hope and education: The role of the utopian imagination': What might have seemed unimaginable at the beginning, becomes utopian, imaginable and finally realistic in the form of upscaled social change.

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Appendix

Interview Guideline (in German language)

1. Allgemeine Fragen: Initiativen: Das UrbanFoodSpot-Konzept und Gleis 21

- Du bist Mitglied des Vereins Gleis 21. Wofür steht die Gleis 21 für dich?

- Es ist ja ein UrbanFoodSpot innerhalb der Wohnanlage Gleis 21 geplant. Dabei handelt es sich um eine Kühlstation zur Lebensmittelweitergabe. Inwieweit bist du darüber informiert oder sogar in die Planung involviert?
  - Wie stehst du zu diesem UrbanFoodSpot?
  - Wie umsetzbar und erfolgversprechend schätzt du den UrbanFoodSpot ein?

- Was sind deine Erwartungen an Gleis 21? Was erhoffst du dir davon?

- Die Initiative UrbanFoodSpots hat das direkte Ziel, Lebensmittelverschwendung zu reduzieren. Wie stehst du dazu?
  - Gibt es für dich weitere Ziele?
  - Sollte die Initiative eine politische Rolle einnehmen müssen/dürfen/können? Falls nötig *politisch* definieren: aktive Beeinflussung der Umwelt/der Gesellschaft in Kooperation mit anderen Menschen
    - Was ist deine Sicht auf die Initiative durch deine politische Brille?
    - Welche Auswirkungen könnte die Initiative deiner Meinung nach auf den Alltag in Gleis 21 haben?

2. Konkrete Fragen: Lebensmittel und die Umsetzung des UrbanFoodSpots

- Welche Umwelteinwirkungen von Lebensmitteln sind deiner Meinung nach die bedeutendsten?

- Ist die Verschwendung von Lebensmitteln ein Thema, mit dem du dich bereits befasst hast?

- Könntest du dir vorstellen, dich in UrbanFoodSpots einzubringen?
  - Z.B. Abgabe und Entnahme von Lebensmitteln, Reinigung, Kontrolle von Lebensmitteln
  - Wenn ja, wie viel Zeit könntest du ganz grob wöchentlich aufbringen?
    - Würde es für dich einen Unterschied machen, ob dies eine ehrenamtliche oder eine bezahlte Arbeit wäre?

- Sollte der UrbanFoodSpot zu jeder Tageszeit geöffnet sein?
  - Warum bzw. warum nicht?

- Welche Aspekte sind dir bei der Wahl des Standortes des UrbanFoodSpots wichtig?

- Wie wichtig ist dir Sicherheit in Bezug auf den UrbanFoodSpot?

3. Fragen bezüglich Weiterentwicklung und Zukunftsvisionen

- Wie empfindest du die momentane Gruppengröße und -zusammensetzung von Gleis 21?
  - Ist die momentane Gruppengröße der UrbanFoodSpot-Gruppe womöglich zu groß oder zu klein?
  - Was funktioniert deiner Meinung nach an der Arbeit der derzeitigen UFS-Gruppe gut und wo gibt es Verbesserungsbedarf?
    - Sind dafür Standards/Regeln notwendig?

- Fehlen dir Informationen über den UrbanFoodSpot? Welche weiteren Informationen würdest du dir wünschen?
  - Auf welche Weise hättest du diese Infos gerne verfügbar?
    - Z.B. E-Mail, vor Ort an der Kühlstation, regelmäßige Treffen?
- *OPTIONAL (je nach Zeit & Einschätzung der Notwendigkeit):*
  Wir Menschen tendieren ja durchaus zu Gewohnheiten, um insbesondere den Alltag zu organisieren. Welche Gewohnheiten hast du in Bezug auf deine Beschaffung von Lebensmitteln?
  - Z.B. Planst du deine Mahlzeiten im Voraus, wenn ja, wie, wo kaufst du ein?

- Sind deiner Einschätzung nach Veränderungen im Umgang mit Lebensmitteln nötig, um den UrbanFoodSpot erfolgreich zu machen? Dies betrifft sowohl dich persönlich als auch die Gruppe Gleis 21.
  - Welche Änderungen deiner Gewohnheiten wären deiner Meinung nach nötig, um zum Erfolg des UrbanFoodSpots beizutragen?
  - Z.B. App, Reservierung, (evtl. gemeinsames) spontanes Kochen je nach Verfügbarkeit von Lebensmitteln

- Hiermit sind wir fast am Ende des Interviews. Dieses Interview trägt zur Entwicklung der UrbanFoodSpots bei. Könntest du dir vorstellen, dich für solch eine Art des Interviews auch in Zukunft noch einmal zur Verfügung zu stellen, wenn die Initiative fortgeschrittener ist?