

Can't see the fruit for the trees:

How social norms and discourses affect fruit-picking behaviour
in Copenhagen

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Abstract

People are moving from rural to urban areas at an unprecedented rate, resulting in a high concentration of people subsisting on outside resources being constantly brought in. This presents a variety of complex sustainability problems. It is a resource-intensive system susceptible to supply shocks which could threaten food security. Many foods grow in cities, such as fruits on city trees, so utilising these resources is a step towards reducing this vulnerability and improving urban sustainability and livability. I examined the case of Copenhagen, where fruit-picking is permitted but is not a widespread activity. In order to investigate why this is and what could be done to get people to use these resources, I conducted a discursive analysis of themes resulting from analysis of the municipal website, interviews with municipal employees and foraging groups and surveys with Copenhagen residents and self-identified fruit-pickers. Results showed that fruit-picking is largely excluded from the current discourse, and that the practice of fruit-picking is therefore largely perceived by residents to break social norms. The diffusion of innovations theory is used to conceptualise the process of change individuals go through within society in order to adopt an innovation, which in this case, refers to fruit-picking. Suggestions are made on how the municipality can help favour the adoption of this innovation, with normative confirmation of the legitimacy of the activity being a key factor for residents seeing it as a valued activity. Foraging groups also play a role in spreading and normalising the idea of fruit picking. Adoption of this innovation would result in a more resilient food system and improved social and environmental sustainability.

Key words: fruit trees, urban sustainability, foraging, social norms, diffusion of innovations, food systems

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1 Introduction

The world's increasing population is more and more concentrated in urban areas (Elmqvist & McDonald, 2013). Managing pollution, waste, energy and water demands and traffic are just some of the challenges cities face as a result of this urbanization (Elmqvist & McDonald, 2013). Furthermore, this high concentration of people relies almost exclusively on food being continually brought in from other, far away areas in order to sustain themselves (Clark & Nicholas, 2013). The vast majority of this food is produced by means of industrial agriculture, which is responsible for 14% of global greenhouse gas emissions and is a strong driver of biodiversity loss (Convention on Biological Diversity, n.d.; Environmental Protection Agency, 2013). These impacts are of particular concern as they contribute to two of the planetary boundaries outlined by Rockström et al. (2009) for a safe operating space for humanity, that have already been surpassed. In terms of ecological footprint, some cities could require an area of non-urban land equivalent to several hundred times the area of the city itself in order to accommodate the urban metabolism of resources coming in and waste products going out (Rees & Wackernagel, 1996, in Clark & Nicholas, 2013). This creates an immense burden on non-urban areas. The sprawl that accompanies urban population growth also threatens to encroach on productive land, pushing food production even further away from population centres, resulting in increased costs of production and transport (Godfray et al. 2010 in Clark & Nickolas, 2013). The systems cities depend on in order to subsist could be thrown off by “climate change, geopolitical insecurity, energy supply disruptions, transport failures, and a variety of other unpredictable supply shocks” (Clark & Nicholas, 2013), which could threaten urban food security.

This highlights the need for increased food production in cities in order to reduce the reliance on this resource-intensive system and ensure more sustainable and resilient long-term food security. One such measure which has become increasingly popular in recent decades is urban agriculture (Thibert, 2012). Environmentally, it has positive effects by reducing the reliance on and therefore impact of industrial agriculture. On a societal level it also provides cultural and provisioning ecosystem services, it reconnects people with where food comes from and is a community-building tool (R. J. McLain et al., 2012a).

Urban agriculture is one of many emerging initiatives towards more sustainable cities but as with any solution, it has a number of drawbacks. Namely, it requires continual maintenance and a space on which an individual or group can produce, thereby making it accessible only to a small percentage of the urban population who has the time, space and investment required. The urban environment is host

to complex sustainability problems, and there is no panacea (Ostrom, Janssen, & Anderies, 2007). Urban agriculture won't solve it all; many initiatives are needed. One solution is surprisingly simple, yet relatively unexplored: eating fruits from trees growing in the city.

Fruit trees grow without substantially different maintenance requirements than other common urban-growing trees (Københavns Kommune, personal communication, March 20, 2014), but have the added benefit of providing a food source for residents. Utilising these resources provides the same benefits as urban agriculture, but avoids the downsides of high maintenance and low accessibility. Many cities are also focused on planting trees at the moment, so planting fruit trees would be a harmonious way of meeting the goals of both initiatives. While urban agriculture and planting trees have the greening component in common, they have until now remained relatively separate in terms of implementation (Clark & Nicholas, 2013). This planting of trees improves urban resilience by regulating cities with the ecosystem services of water and climate regulation, erosion control, biodiversity habitat, fresh air, as well as provisioning, cultural and recreational services, making cities more liveable and contributing to better mental wellbeing (Clark & Nicholas, 2013; Kaplan, 1995).

1.1 Research gap

Planting fruit trees would provide cities with the advantages connected to planting non-fruit-bearing trees, as well as providing food for residents. However, simply planting fruit trees does not necessarily ensure that people actually forage for and eat the locally grown fruit rather than simply buying all of their food at the grocery store, like they're used to.

While foraging in cities has become more common in recent years, it is still very much a fringe practice in Western society (McLain et al. 2012a). A reason for this disconnect between the human-controlled parks and wild-growing food products in cities could be what has been termed the “museumification” of nature, where we have come to see only a very restricted set of acceptable uses of green spaces, particularly in urban areas (Gobster, 2007). It “can be accidental or intentional and its aim might be to conserve or commodify, but the end result is a shift in the meanings, behaviours, and experiences people have in relation to a place or subject” (Gobster, 2007, p. 100). Even urban agriculture maintains the paradigm of cities being human-controlled, and is therefore less of a leap from a museumified landscape than foraging.

There is compelling evidence that cities have the potential of meeting a high percentage of their population's dietary requirement of fruits through strategically planting fruit trees (Clark & Nicholas,

2013). It seems, however, that even if fruit trees are planted, the current social discourses surrounding the use of green spaces in cities could keep many from picking and eating food growing “wild” in urban areas. There is increasing recognition that sustainability solutions must involve not only structural or technical change, but social change in terms of norms, habits and values (UNESCO, 1997). “Sustainability will be achieved, if at all, not by engineers, agronomists, economists, and biotechnicians but by residents” (Prugh, Costanza, & Daly, 2000, p. 5).

1.2 Aim and Research questions

The aim of this thesis is:

to explore why it is that people don't normally pick urban-grown fruits, and what can be done to get residents to eat fruit from urban fruit trees.

In order to frame my examination of the phenomena surrounding fruit-picking in urban areas, I will rely on the case of Copenhagen. Case study research is “concerned with the complexity and particular nature of the case in question” (Bryman, 2004, p. 48). This particular study is an exemplifying case, in that it provides a suitable context for the research questions to be answered (Bryman, 2004). The reason Copenhagen is particularly appropriate to examine is because it is a city with existing circumstances that would allow this social change to happen, but where it has not yet substantially taken place. There are fruit trees, as well as plans to plant more (Københavns Kommune, 2013b), and it is permitted for residents to collect fruits in public parks (Københavns Kommune, 2014b), yet most people do not.

I will address the aim of this thesis by answering the following questions:

1. What are the current discourses surrounding fruit trees in Copenhagen and how do these influence people's behaviour?
2. How can theories of social norms and behavioural change inform what measures can be taken to lead people through the process of adopting urban fruit-picking?

By examining these questions, it will allow me to get an idea of the current state of fruit-picking in Copenhagen. Furthermore it will allow me to see what motivates those who do pick fruits and what

might motivate those who do not, and thereby what kind of direction would need to be taken in order to make this activity a normal and valued practice.

I acknowledge that there are many other wild-growing edible plant products in cities, but focus on fruit trees due to the intersectionality between the existing green initiatives of planting trees and urban agriculture. Furthermore, I make the assumption that fruits such as apples and pears are more easily identifiable for the average citizen and more commonly consumed than most herbs and berries, and are therefore more accessible and desirable.

1.3 Outline

With the aim of this thesis defined, I will now present the city of Copenhagen in more detail in order to better situate the case. Following this, I will present the multi-level perspective of transition studies, a descriptive framework which will allow me to characterise relevant actors in the Copenhagen system from which to collect data. Having defined the relevant actors, I will go on to outline my data collection strategy. Two behavioural theories will then be introduced which will be used as tools to analyse and explain behaviours surrounding fruit-picking: social norms, and diffusion of innovations theory. The results and analysis of the data collection will then be presented, answering question 1 and laying the foundation for answering question 2, which will be answered following that. Finally I will discuss the implications of these findings, and conclude with next steps.

2 Case description: Copenhagen

As mentioned above, Copenhagen, the capital of Denmark (see figure 1), is an appropriate case in that it has all the necessary pre-conditions for fruit-picking to be a common activity, yet it is not. Copenhagen had 562 253 inhabitants in 2013, with 20 m² of green space on average per person (Juul, 2012). The city has set a goal to maintain this minimum of green space per person as the population grows, with every inhabitant currently living within 15 minutes' walk of a green or blue area (Pape, 2013). There is currently a plan to plant 100 000 trees by 2025, which began in 2010 (Københavns Kommune, 2013a). Among the species to be planted are a small percentage of fruit trees (Københavns Kommune, 2013b), but these are not distinguished from other species.

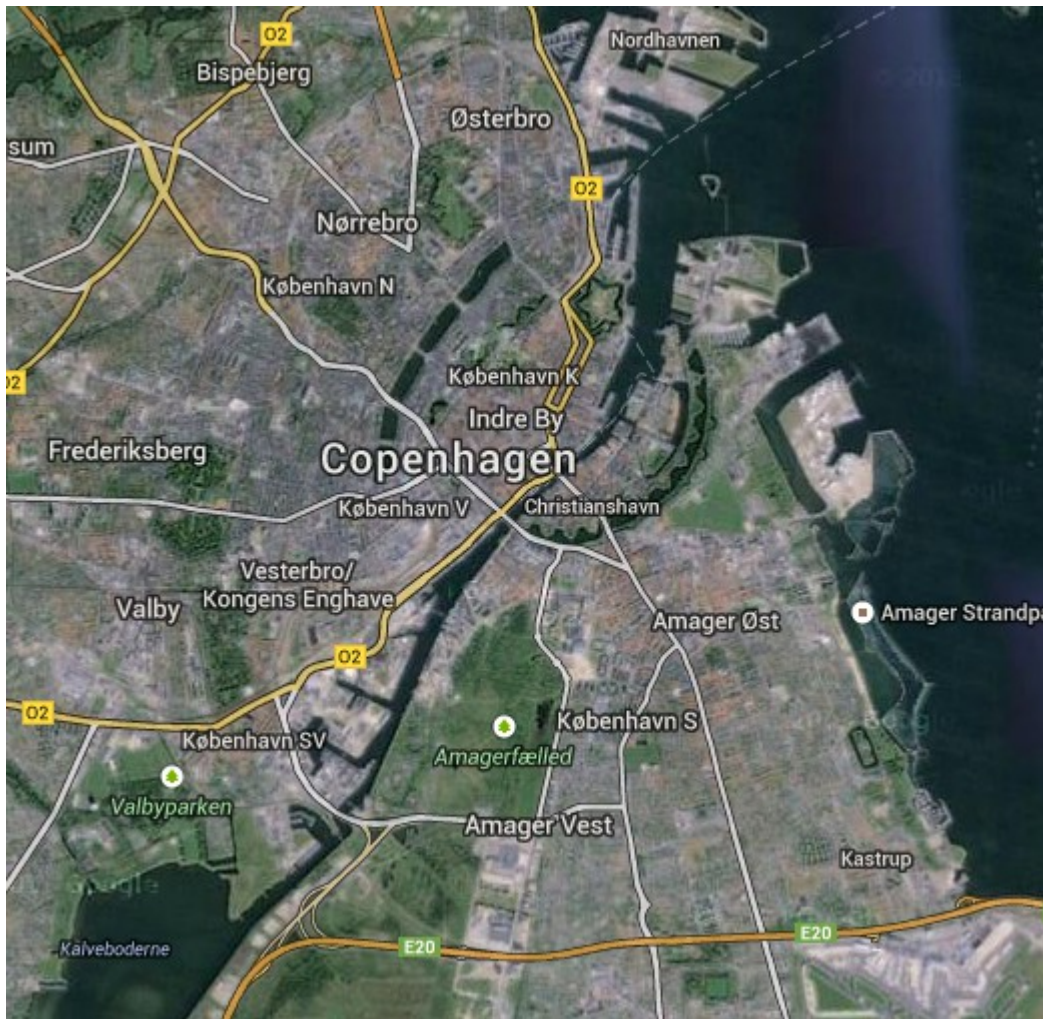


Fig. 1 A satellite image of Copenhagen (Google maps, 2014).

Fruits that grow naturally in Denmark are still imported for sale in grocery stores. Apples imported from Germany, Italy and Chile, for example, can often be seen for sale in grocery stores at a lower price than the domestic variety (seen in Copenhagen grocery stores).

The city takes pride in its international sustainable image, having won the European Green Capital award for 2014 (European Commission, 2014a). On the website created in honour of the award, Copenhagen claims to have been selected “because the city excels in combining sustainable solutions with growth and quality of life” (Sharing Copenhagen, 2014). Among the reasons for it being selected are ambitious plans to be carbon-neutral by 2025 and a goal to have 50% of people getting to school or work by bicycle by 2015 (European Commission, 2014). Denmark is a strong social welfare state which ensures “economic equality in society and the virtual non-existence of corruption” (Denmark.dk, 2014). Furthermore, as a society, there is a high level of social cohesion (Støvring, 2012). This sustainable, high quality of life image would be reinforced with residents picking fruits.

Now, having described the aspects of Copenhagen relevant to this thesis, I will introduce the multi-level perspective to provide a structure for my data collection.

3 The multi-level perspective of transition studies

Transition studies examines the “processes of structural change in societal systems,” focusing on the interactions between technology, ecology, economy, politics and society (Avelino & Rotmans, 2009, p. 543). The transition under examination in this case is that of Copenhagen from being a city where people do not normally pick fruits to one where people do. The multi-level perspective (MLP) of transition studies conceptualises the roles of the different actors in the societal system (Geels, 2011), and as such is appropriate in helping to identify and characterise the actors in the Copenhagen case.

Social actors are “reflexive and as such shape and influence the dynamics of the system they inhabit” (Avelino & Rotmans, 2009, p. 544). “As societal systems are complex (...), they have a functional dynamic of their own which no actor or group of actors can control” (Avelino & Rotmans, 2009, p. 544). There are many stabilizing mechanisms which create resistance for transition, with the behavioural options of decision-makers being predetermined by material structures and institutional processes (Avelino & Rotmans, 2009). Therefore, we must look at the dynamics of each actor and what power they have to influence the system as a whole by examining the 'multi-level' interaction between so-called landscapes, regimes and niches, “the most ‘power-laden’ conceptualization in transition studies” (Avelino & Rotmans, 2009, p. 545). For an illustration of the MLP framework, see figure 2. Through this analytical framework lens, I have identified the actors in the Copenhagen system which contribute to shaping perceptions on fruit-picking.

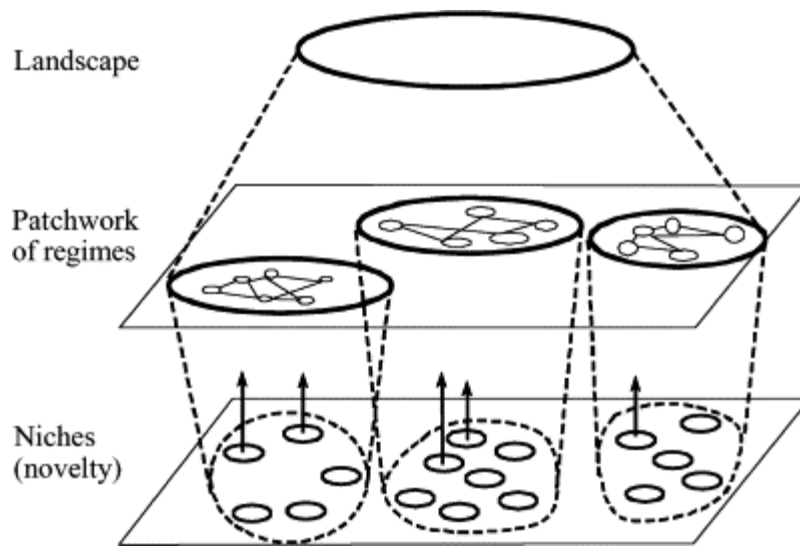


Fig. 2: the multi-level perspective framework (Geels, 2002).

The *landscape* refers to “the surroundings of a particular societal system” (Avelino & Rotmans, 2009, p. 545). It’s the slowly changing external factors, beyond the control of individual actors (Kern, 2012). Here, I take Western society to represent the landscape of values. Politically, the European Union as well as global organisations inform the generally accepted morals and the kinds of laws that are enforced.

The *regime* represents “the most ‘dominant’ configuration of actors, structures and practices; it dominates the functioning of the societal system and defends the status quo” (Avelino & Rotmans, 2009, p. 545). It is thought to be a relatively stable configuration (Kern, 2012). In this thesis, Copenhagen represents the regime, with the municipality being the dominant structure and the filter through which information is presented to residents and parks are planned. It directly controls the availability of fruit trees as well as the legal dialogue surrounding permissible activities in public parks and the kinds of sustainability initiatives to promote. Copenhageners are taken to be “members” of the regime, living mostly within the boundaries it provides.

“*Niches*, on the other hand, are defined as configurations in which non-conformism and innovation can develop. Niches are also part of the societal system, but able to deviate from the dominant structures, practices and actors within that system” (Avelino & Rotmans, 2009, p. 545). The niche level represents new innovations, which “evolve over time and possibly may start to compete with the dominant regime and eventually 'overturn' it” (Kern, 2012, p. 299). Groups and individuals advocating and practising fruit-picking in Copenhagen are considered here to be niche-level actors.

“As the regime dominates the societal system, a necessary condition for a transition to occur is that this regime is either transformed or replaced by a new regime” (Avelino & Rotmans, 2009, p. 545). Transitions are characterised by four phases:

During the so-called *pre-development* phase of a transition, changes occur in the ‘background’ at landscape and niche level, which are resisted by the regime. In the *take-off* phase structural change picks up momentum, in the sense that these changes pressure the regime in such a way that it starts breaking down. During the *acceleration* phase structural changes become visible as old regime structures are being replaced by new structures. In the *stabilization* phase a new dynamic state of equilibrium is achieved; a new regime has been formed that has replaced the old regime (Rotmans et al., 2001 in Avelino & Rotmans, 2009, p. 545).

The MLP framework is mostly descriptive and therefore benefits from auxiliary theories for explaining the “mechanisms through which various dimensions (technical, market, cultural, political, etc.) and various levels interact” (Geels, 2011, p. 30).

While the MLP will provide the structure for my investigation, the behavioural theories that will be presented in section 5 will fill in the blanks in terms of the mechanisms of change that would lead society through the process of transition. Having characterised the relevant actors to be examined, I will now outline the methodology and process of data collection for each of these actors.

4 Methods

I align myself with a critical realist meta-theoretical standpoint, which states that “the study of the social world should be concerned with the identification of the structures that generate the world” (Bryman, 2004, p. 538). In my data collection, I have taken an iterative approach, meaning that my data analysis began already after some of the data have been collected, which then shaped my further data collection (Bryman, 2004). I triangulate using several different collection methods (Bryman, 2004), outlined below.

4.1 Methodology

The following presents how I structured and carried out the aim of this thesis. I will answer RQ1 by examining perspectives from the different groups characterized in the MLP, detailing my methods of doing so in the following sections.

4.1.1 Literature Review – the landscape of fruit-picking

In order to gain some insight on the landscape perspective surrounding the use of fruit as a food source in urban areas, I looked primarily at literature from international organisations such as the FAO, the UN and the European Commission on the topics of food security, agriculture and sustainability in urban contexts. I also relied on the results of existing literature reviews conducted on municipal agendas regarding urban trees, as well as urban foraging. The way in which these topics were discussed was noted for compatibility with the idea of fruit-picking.

4.1.2 Text Analysis – a regime perspective

To get a window into the impression a regular citizen would get of the regime perspective on picking fruits, I reviewed the Copenhagen municipal website (www.kk.dk). I gathered my data from pages having to do with trees, biodiversity, sustainability initiatives, use of outdoor spaces, and urban agriculture, identifying such pages by page title. I also conducted keyword searches for “apple,” “picking,” and “harvest” to ensure that no mentions of fruit trees or fruit-picking that might be embedded in unlikely pages would be missed. Search results from committee meeting minutes and agendas were excluded from the results. The ways in which the natural environment is talked about (or not talked about) and the expected uses that are apparent from the descriptions were noted in order to gauge the way fruit-picking or using the city's biological resources is portrayed.

4.1.3 Interviews and personal communication with regime and niche actors

Municipal representatives

To clarify and nuance the information portrayed on the municipal website and the goals of the regime, I interviewed city workers in charge of street and park trees. A semi-structured interview was conducted with the person in charge of street trees in Copenhagen, henceforth referred to as Copenhagen Municipal Representative A (CMR A). This was followed by an informal interview and email communication with CMR B, who manages parks. CMR C, head of the department, provided information via email and telephone call. Communication methods were chosen based on the availabilities of the interviewees. For a list of interview questions used during the interviews, email and phone contact, see Appendix 1. Not all questions were answered by all employees, as they had specializations which allowed them to answer some questions and not others.

Byhøst and Byhaven 2200

For niche-level group perspectives, the co-founders of Byhøst, a Copenhagen foraging group; and a co-founder of Byhaven 2200, a Copenhagen urban agriculture group, were each interviewed in semi-structured interviews. While neither of these groups has the exclusive focus of fruit-picking, their

missions are conceptually linked to the idea of public fruit-picking in that they are breaching the museumification of public spaces, and are therefore deemed to have relevant insight on this topic. For a list of interview questions used, see Appendix 1.

All interviewees consented to having their interview audio recorded and to having their names and titles used in this thesis. All interviews were transcribed. Notes were taken for phone calls and informal interviews, and emails were analysed as-is. Relevant themes were then identified and analysed (see section 4.5 for more information).

4.1.4 Surveys

Copenhageners

In order to investigate what the typical Copenhagener thinks of fruit-picking and examine to what extent Copenhageners' views reflect those suggested by the regime, I conducted a survey. A survey was deemed the most appropriate means of gaining this insight due to the large population. The surveys were conducted in Amagerfælled, a semi-wild park containing numerous fruit trees (see figure 3). This location was chosen in order to rule out the possibility that a physical barrier (lack of access to fruit trees) may be the reason a respondent didn't pick fruit. The surveys were conducted on a Saturday afternoon near a main entrance of the park. Respondents were recruited by me and a research assistant and were asked if they would be willing to answer questions for a survey about Copenhageners' perspectives on fruit trees. They were informed that the results would be used in a masters thesis and that they were anonymous. The survey was conducted verbally, with the questions being posed to respondents, and the answers being filled in accordingly by the surveyor. While the questionnaire itself was structured mostly with multiple-choice questions, these answers were merely checked off when a response corresponded to a multiple-choice option, but otherwise responses were written down. No demographic information was taken, as respondents were intended to represent a random sampling of park users in Copenhagen. A total of 26 people responded to the survey. For a copy of the survey used, see Appendix 2.



Fig. 3. Amagerfælled. The red dot indicates location of surveying (Google maps, 2014, modified by the author).

Fruit-pickers

In order to get an idea of the perspectives and motivations of individual niche-level actors, self-identified urban fruit-pickers were surveyed. With a variety of dispersed individuals who may identify themselves as fruit-pickers, Byhøst was used as a platform to communicate with these individuals. Respondents were recruited via Byhøst's facebook page, and were therefore limited to those who actively follow Byhøst via social media, and excluded individuals who exclusively collect fruits independently or who had not heard of or do not wish to follow Byhøst. A posting was put on the Byhøst page on a Friday, calling interested fruit-picking parties to participate in the anonymous online survey through a link provided. The posting indicated that results would be used for a masters thesis about urban fruit-picking. The survey contained 8 questions, some of which were multiple choice and some of which were open-ended. The Byhøst page, at the time of posting, had 1741 "likes" (people who receive Byhøst's postings on their facebook "news feed"). The survey link remained active for one week and was responded to by 18 people, all within the first 2 days. See Appendix 2 for a copy of the survey questions.

All survey results were compiled into tables and commonly emerging themes were identified. The surveys were not intended to give a statistically significant representation of the populations of either Copenhagen or of fruit-pickers, but rather to give an idea of the discourses surrounding and general sentiment towards fruit-picking.

4.1.5 Analysis

The critical realist perspective means that I accept that the answers given by my respondents express their constructed reality, and further that my analysis is an interpretation of this reality. I analysed the collected data through discourse analysis, interpreting “the ways in which versions of reality are accomplished through language” (Bryman, 2004, p. 539) where reality is discursively constructed (Cameron, 2001). Discourse analysis was used to identify the relevant and recurring themes arising from the data collection. The theories used to interpret this data will be presented in section 5, below.

4.2 Scope & Limitations

I acknowledge that my background and personal values as a researcher influence the way my research is conducted (Bryman, 2004). As a sustainability scientist I have a normative perspective that sustainability is good, and that it is something that should be strived for. More specifically, I take the standpoint that the specific initiative dealt with in this thesis of planting fruit trees in urban areas for public use is a good thing. Having lived in Copenhagen for three years, I have some degree of understanding of the culture, but as an outsider I also see nuances which may be taken for granted by those who grew up in this cultural context, and might miss others that would be obvious to a Copenhageners. These factors influence the way I interpret the data but also the kinds of responses that those I interviewed and surveyed gave.

As all interviews and surveys except for the interview with Byhaven 2200 took place in Danish, I have translated the data to English. The translations are therefore my interpretation of what was said.

My interview and survey subjects were told that I was researching fruit trees and people's perspectives on them, and by being told this could also infer my agenda to promote fruit trees. This information likely resulted in their perspectives on fruit trees being conveyed very differently and more positively than if I had given no background information and simply asked a much more open-ended “what kinds of things do you think there should be in public spaces?”, where the likelihood that someone would specifically name fruit trees would be much lower.

The literature review for the landscape perspective is not comprehensive, as identifying all relevant information in Western culture is beyond the scope of this thesis. I have therefore selected what I take to be representative data of the landscape discourse.

It was not possible to get the perspectives of all regime and niche actors. The municipal representatives I spoke to were internally identified by the municipality as those who were most closely associated with the nature of this thesis. While there are other niche actors in Copenhagen who deal with urban agriculture, those interviewed were chosen because their activities most closely relate to the focus of this thesis.

As I have now presented the methods and limitations of data collection for question 1, I continue by presenting the theories that will be used to arrive at an answer for question 2.

5 Theories of normative behaviour and behavioural change

Here, I will introduce theories of social norms and behavioural changes. These theories are used as an explanation of observed regularities (Bryman, 2004). First we will see types of norms that guide people's behaviour, and then we will look at how behaviour can change through the adoption of an innovation, which describes mechanisms through which this change can happen on a societal level. These theories will be used to offer insight on the reasons why people do or do not pick fruits and what may make them later choose to pick fruits.

5.1 Behaviour: influence of norms

There are many factors that influence human behaviour and contribute to the choices an individual makes about the behaviours they perform (Ajzen, 1991; Cialdini, Reno, & Kallgren, 1990), such as the decision to pick fruits from a tree growing in a city park. Here I will focus on the influence of norms, namely descriptive and injunctive norms (Cialdini, 2003). Norms refer to established behaviour patterns for the members of a social system, establishing a range of tolerable behaviour and serving as a guide or standard (Rogers, 1995).

Descriptive norms demonstrate what is normal or typical, what most people do (Cialdini et al. 1990). The descriptive norm “motivates by providing evidence as to what will likely be effective and adaptive action,” offering an “information-processing advantage and a decisional shortcut when one is choosing

how to behave in a given situation” (Cialdini et al. 1990, p. 1015). Put plainly, if everybody else is doing it, we perceive it to be a sensible thing to do (Cialdini et al. 1990). Simply seeing what others are doing and imitating them influences us to choose efficiently and well, even when the behaviour is morally neutral, such as looking up at the sky (Cialdini et al. 1990).

Injunctive norms are “rules or beliefs as to what constitutes morally approved and disapproved conduct. In contrast to descriptive norms, which specify what is done, injunctive norms specify what ought to be done” (Cialdini et al., 1990 p. 1015). Injunctive norms influence behaviour in that people tend to do what is socially approved (Cialdini, 2003).

People are more likely to do a particular thing if both the descriptive and injunctive norms are reinforced in the carrying out of the behaviour (Cialdini, 2003). While these norms are strong predictors of human behaviour, people are typically unaware of this normative social influence (Nolan, Schultz, Cialdini, Goldstein, & Griskevicius, 2008). This gives us some insight into the factors that subconsciously influence people's decision to act a certain way. Denmark being a country where there is a high degree of social cohesion, people are likely to adhere to these social norms (Støvring, 2012).

5.2 Behavioural change: Diffusion of innovations

On a broader societal level, we can examine the behavioural change that takes place through the diffusion of innovations theory (DOI). Diffusion refers to the “process by which an innovation is communicated through certain channels over time among the members of a social system,” where the message concerns a new idea (Rogers, 1995, p. 5). This theory is used to describe the processes by which an innovation comes to be adopted by the masses (Rogers, 1995). In this case, the innovation in question is picking fruits on public land in the city.

An innovation can be “an idea, practice, or object that is perceived as new by an individual or other unit of adoption” (Rogers, 1995, p. 11). Five characteristics of innovations have been identified as influencing their rate of adoption: relative advantage; compatibility; complexity; trialability; and observability (Rogers, 1995). Relative advantage is “the degree to which an innovation is perceived as better than the idea it supersedes” (Rogers, 1995, p. 15), which is more important than the objective advantage, with things like social prestige, convenience, economics and satisfaction being some of the ways in which one may perceive a relative advantage. Compatibility refers to “the degree to which an innovation is perceived as being consistent with the existing values, past experiences, and needs of

potential adopters” (Rogers, 1995, p. 15). Compatible innovations will be adopted most quickly (Rogers, 1995). “The adoption of an incompatible innovation often requires the prior adoption of a new value system which is a relatively slow process” (Rogers, 1995, p. 16). Complexity is “the degree to which an innovation is perceived as difficult to understand and use” (Rogers, 1995, p. 16). The simpler the new idea is to understand and develop skills for, the more rapidly the innovation will be adopted (Rogers, 1995). Trialability refers to “the degree to which an innovation may be experimented with on a limited basis” (Rogers, 1995, p. 16). A new idea that can be tried out is more likely to be adopted than one that must be fully committed to because it represents less uncertainty (Rogers, 1995). Finally, observability is “the degree to which the results of an innovation are visible to others” (Rogers, 1995, p. 16). The more observable an innovation, the more likely people are to adopt it, as this visibility stimulates peer discussion of the new idea (Rogers, 1995).

Communication channels refer to “the means by which messages get from one individual to another” (Rogers, 1995, p. 18). Mass media is a common communication channel that is effective in reaching many people at the same time, though interpersonal channels, particularly those that are between two people who are similar or linked in some way, are more effective in persuading an individual to accept new ideas (Rogers, 1995). People are typically more strongly influenced by the subjective evaluation of an innovation they hear about from others who have tried it than they are by scientific studies about the innovation (Rogers, 1995). This suggests that diffusion is a very social process, and that the diffusion process relies heavily on people imitating their peers (Rogers, 1995). The transfer of ideas happens most often between two people who are homophilous (Rogers, 1995). Homophily is “the degree to which two or more individuals who interact are similar in certain attributes, such as beliefs, education, social status, and the like” (Rogers, 1995, p. 19). Communication between homophilous individuals also tends to have a “greater effect in terms of knowledge gain, attitude formation and change, and overt behaviour change,” though there must be a degree of heterophily in that one individual knows about the innovation and the other does not (Rogers, 1995, p. 19).

Time is relevant in DOI in that it will take different individuals varying amounts of time to adopt an innovation, depending on how “innovative” they are (Rogers, 1995). The “innovation-decision process” is process through which a person chooses to adopt an innovation, from the time s/he first hears about it to the time when s/he adopts it (Rogers, 1995). There are five stages in this process: knowledge, persuasion, decision, implementation, confirmation. Knowledge occurs when someone “learns of the innovation's existence and gains some understanding of how it functions” (Rogers, 1995, p. 20).

Persuasion occurs when an attitude is formed toward the innovation (Rogers, 1995). Decision occurs when someone “engages in activities that lead to a choice to adopt or reject the innovation” (Rogers, 1995, p. 20). Someone putting an innovation to use leads them to the implementation stage, and confirmation occurs when reinforcement is sought for the innovation-decision (Rogers, 1995). Figure 4 below, illustrates this process.

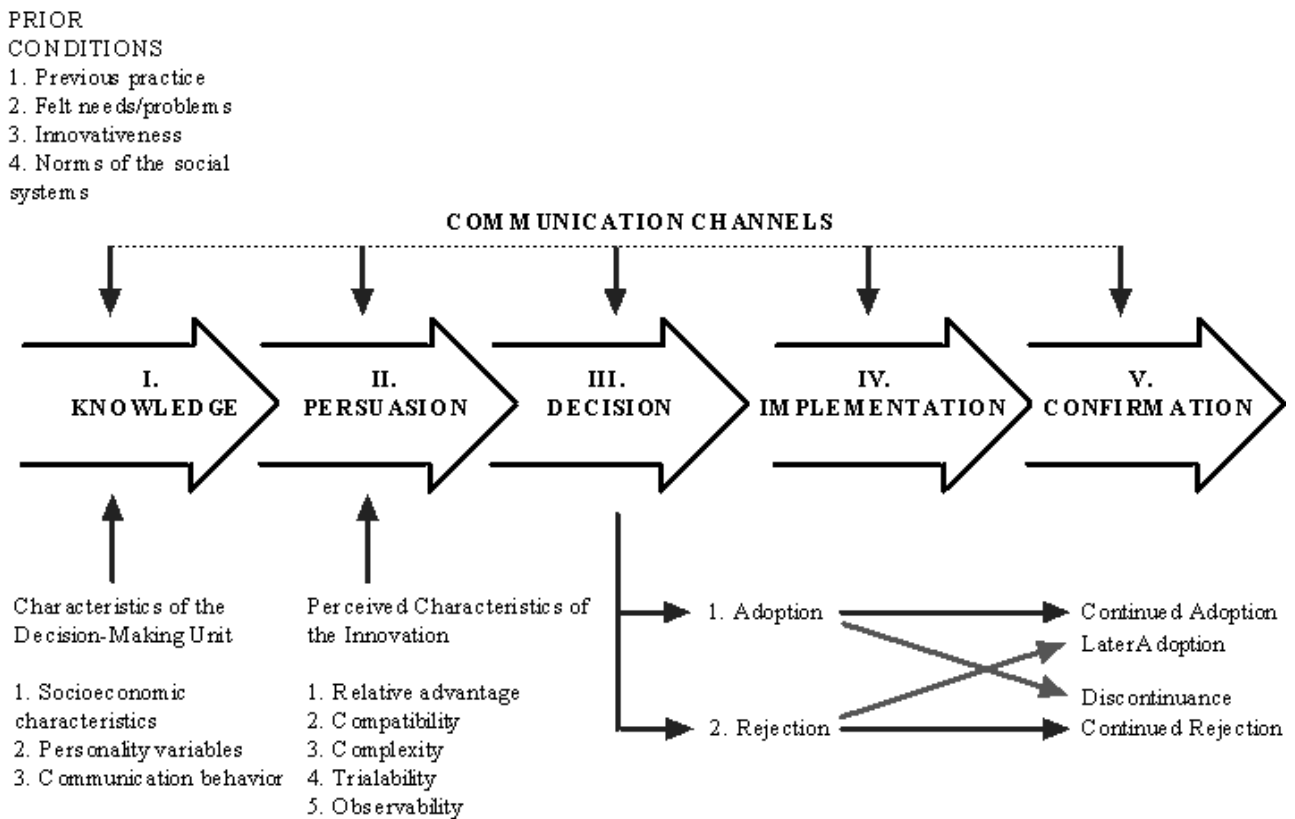


Fig. 4. The innovation-decision process (Rogers, 1995).

The structure of a social system in DOI affects the way in which the message about the innovation spreads (Rogers, 1995). Different members of a society have different kinds of influence: the most innovative member is often perceived as deviant and therefore not very credible; while others function as opinion leaders, having influence on the attitudes and behaviours of others (Rogers, 1995).

A social change in the form of the diffusion of the fruit-picking innovation needs to take place in order for fruit-picking to become a common, socially accepted practice. I will now present the data collection that will allow me to examine how this can happen.

6 Results & Analysis of discourse through the multi-level perspective

Here I will go through the results of the data collection by analysing the data from each level of the Copenhagen system according to structure of the MLP. I take a thematic approach to analysing the results in each level, focusing on discursive themes that emerge at different levels. These results reveal the kinds of discourses surrounding fruit-picking, as well in what way social norms and the diffusion of innovations play a role in people's activities surrounding fruit-picking.

6.1 The landscape perspective

Through the literature review of sources representing the landscape level, the discourses surrounding fruit-picking are revealed. Relevant themes were identified: food security, sustainability, urban agriculture and urban foraging. Here I present the portrayal of fruit-picking within these discourses.

The Food and Agricultural Organisation (FAO) of the United Nations estimated in 1996 that 800 million people worldwide are engaged in urban and peri-urban agriculture, producing 15-20% of the world's food (FAO/WB, 2008). Despite this fact, the FAO's focus on improving food security revolves around rural initiatives (FAO, 2014). Though there is agreement that food security is a serious issue and that cities have the potential to produce large quantities of food, I found no mention of the use of fruit trees in urban areas as a solution to this problem. It does not seem to be part of the dominant discourse.

Sustainability is a more and more important issue globally. The rising importance given to this issue manifests itself in initiatives such as the European Green Capital award, which started in 2010 (European Commission, 2014b). However, the overwhelming majority of highlighted initiatives from winning cities so far are technological solutions such as initiatives to reduce carbon emissions or improve public transit. There is little mention of green spaces as contributors to urban sustainability.

A study conducted by Clark and Nicholas (2013) revealed 30 urban forestry master plans in North America. However, only four of these actually mentioned food in the context of human food security (Clark & Nicholas, 2013). 23 had no mention of food or fruit but did mention wildlife (Clark & Nicholas, 2013), implying wildlife habitat preservation or construction is a driver of these plans. This seems to further reinforce the idea that eating urban-grown fruits is not part of the dominant discourse.

While urban agriculture is becoming more common and the benefits of this practice increasingly recognised in European and North American cities (Thibert, 2012), the trend often takes the form of balcony potted plants, or small patches of cultivated land that are tended to, but the implementation of fruit trees in this context remains relatively separate (Clark & Nicholas, 2013).

McLain et al. (2012a) compiled an annotated bibliography of literature on urban foraging, focusing on wild-growing products, with fruits making up only a small part of the products foraged. Foraging being a fringe practice, academic literature on the practice is sparse.

Summing up, we can see that while there are global priorities into which fruit-picking would fit, it seems absent in both global political initiatives and in academic literature. This supports the idea that fruit-picking is not part of the dominant discourse. Now we shall examine how this relates to the regime perspective.

6.2 The regime level

Copenhagen as the regime level is bounded by policies and a municipal structure with a high degree of division between departments. It is driven to have a positive sustainability image internationally, but is limited by what it sees as feasible, implementable, and valuable to do. Now we will explore the results of the municipal website, municipal representatives and Copenhageners as members of the regime.

6.2.1 Copenhagen website as representation of the regime

Here I will present the discourses on topics related to fruit-picking found on the Copenhagen website. The relevant themes that emerged touched upon planting trees, using green spaces, urban agriculture and sustainability initiatives. There was similarity between the way these ideas were presented here and the representation they had on the landscape level.

Part of Copenhagen's focus is creating a greener city, which it is doing with the help of planting 100 000 trees, as mentioned in the case city information, but fruit trees are not differentiated from other trees in this plan. Among the factors that are taken into account when planting is whether or not a tree is allergy-inducing. Apple, plum and pear trees are listed among those that are not allergy-inducing and therefore favourable to plant. The fact that fruit trees could also provide residents with food seems to play no role.

Parks are introduced on the website with the headline “Take a picnic basket under your arm, let your child use their bike, and watch the seasons and wildlife change,” depicting a strictly observational experience devoid of a tactile component, in line with the concept of museumification.

Each of the many dozens of parks in Copenhagen has its own web page, but only one park page, that of Amagerfælled, mentioned that there are fruits one can pick. A point of ambiguity is that it says on the website that most city parks are protected, but gives little information as to what this means. One might think that this means that fruit-picking is not allowed, but a municipal representative clarified to me that it is indeed permitted. Apple trees are mentioned on a page about biodiversity as food for squirrels, not humans. Other than the single park page that mentions fruit-picking in Amagerfælled, there is a page called “Taking nature home with you” that outlines the different plant and animal products that are permitted to be harvested and taken home, which includes herbs, flowers, fruit, snails, mussels and shrimps, for personal consumption. The majority of residents I interviewed, however, were not aware of this. I will elaborate on this in the survey results.

Urban agriculture is mentioned in the context of green roofing as a climate-friendly initiative, as well as peripherally in the context of community gardens. Figure 5 below shows a map of community gardens in Copenhagen. Despite increased recognition as a legitimate urban activity, it seems to still be a fringe practice, operating on a niche level. Furthermore, there is no mention of using fruit trees.

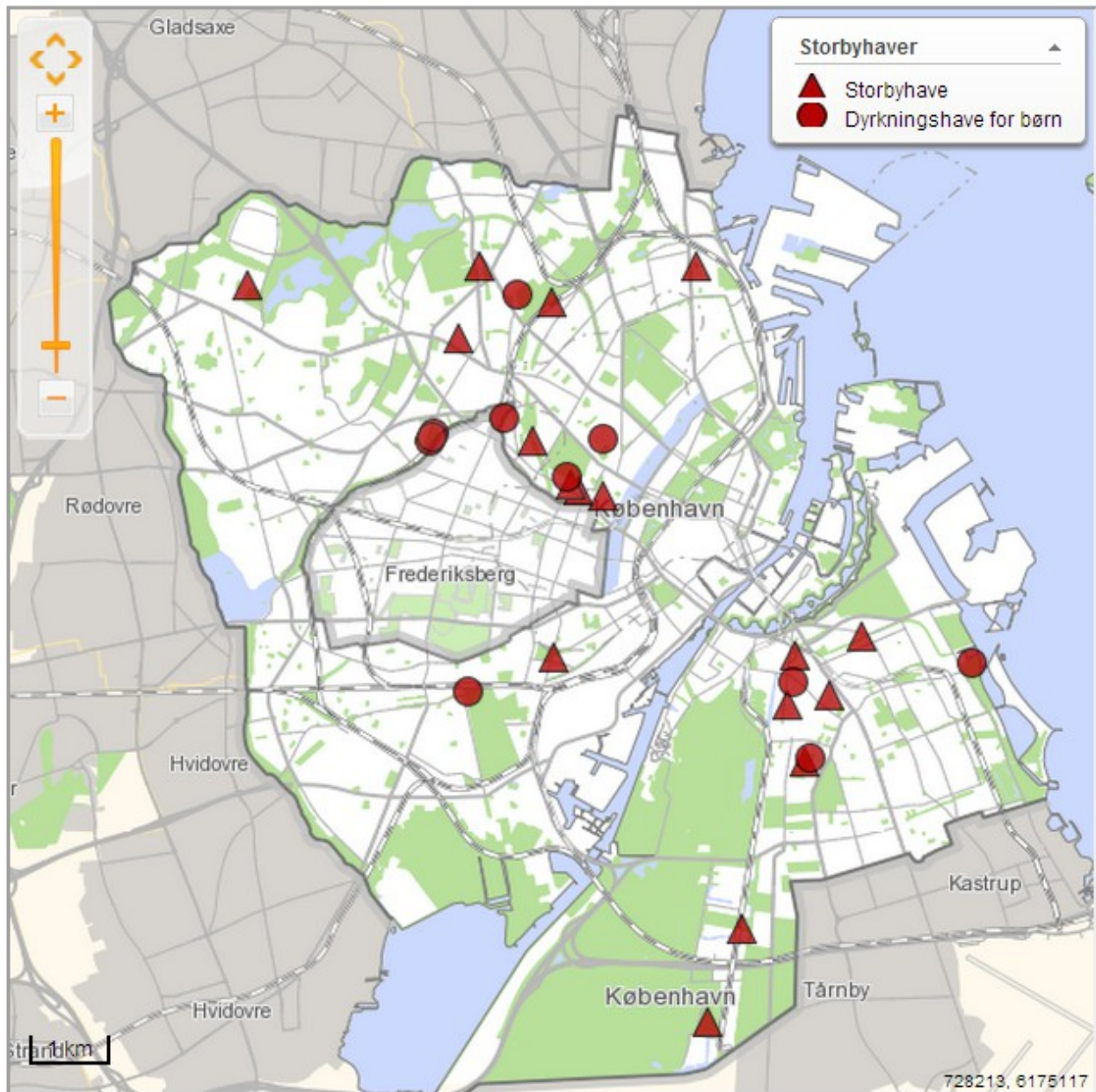


Fig. 5. Urban gardens in Copenhagen. The triangles indicate urban gardens while the circles indicate gardens specifically for children, usually in combination with a playground (Københavns Kommune, 2014).

In terms of sustainability initiatives, much like the European Commission, the city of Copenhagen highlights a largely technical approach. Recommendations for what residents can do to live more sustainably include recommendations for transportation, home renovations, water use and waste reduction, but no recommendations having to do with green areas.

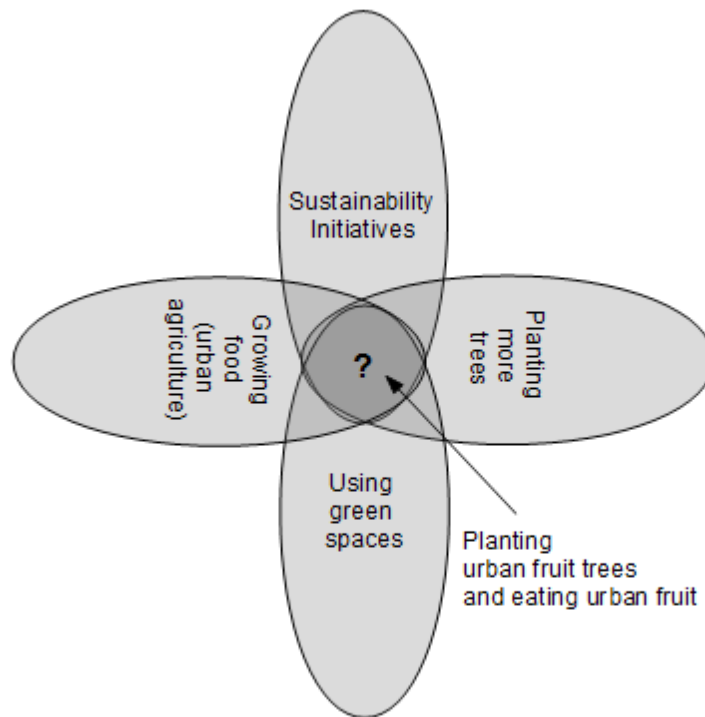


Fig. 6. Representation of the discourses on the Copenhagen municipal website as activities or initiatives that are encouraged, all of which are related to the planting and consumption of urban fruit, but which largely neglect to mention it (created by the author).

Figure 6 illustrates how planting urban fruit trees and eating their fruits is harmonious with four identified themes that are priorities for the city. The fact that fruit picking is not part of these initiatives highlights what seems to be a blind spot in the regime. Being “in the dark” is precisely what situates fruit-picking in the niche-level.

It seems unlikely that there is a deliberate attempt on the part of the municipality to under-represent information about picking fruits. Rather, this omission is more likely an indication of the current discourse, where fruit-picking in public areas simply isn't a common daily activity. The way in which green spaces are talked about mostly as infrastructural spaces to be used for regular daily activities like eating or sports rather than being used for the resources they provide is likely a result of systematic naturalization: it is not a conscious effort to bias the message, but simply the way in which talking about these spaces seems most natural (Cameron, 2001). In general the city of Copenhagen website seems to uphold the museumified portrayal of green spaces.

6.2.2 Copenhagen municipal representatives as actors within the regime

The communication I had with CMR A, B and C clarified but also reinforced some of the findings from the website. Four themes emerged over the course of my communication with the municipality, namely: prioritisation of fruit trees; openness to uses of green spaces; sustainability and food safety. A red thread which was seen throughout was the challenge caused by having a highly subdivided organisation: the city of Copenhagen has approximately 45 000 employees (Københavns Kommune, 2014a). This seemed to create a disconnect between the different components of projects, resulting in any one person having little influence over the process as a whole.

Prioritisation of fruit trees

My initial contact with CMR A revealed a lot in terms of the relative importance of fruit trees: “There aren't really any in Copenhagen, only maybe 10,” he said, and suggested I do my research in Malmö instead. In fact, the Copenhagen website shows that among the street trees in Copenhagen there are 161 *Malus* (apple genus), 448 *Prunus* (cherry and plum genus) and 130 pear trees (Københavns Kommune, 2013a). I explained that I was looking at the possibilities for residents to use these resources, and he responded that that wasn't important in Copenhagen. This first contact supported the idea that fruit-picking is not widely accepted as a valuable or common practice at the regime level. However, the sentiment from city workers, once I got to talking with them, was overall quite open to the idea of residents picking fruit, though planning to favour this simply is not prioritised at the moment.

Openness

All three city workers I spoke to were more welcoming of user interaction with green spaces and the idea of residents picking fruit from fruit trees than one might guess based on the municipal website. For example, CMR A and B both talked about the importance of having climbing-trees around the city. CMR C mentioned a recently re-landscaped park where they decided to plant fruit trees in favour of local residents, though he did not know if residents were informed that they could use the trees. These anecdotes suggest a permissible level of interaction with green spaces which does not get conveyed to residents through the website.

Historically, according to CMR A, there used to be rules against planting fruit trees on public land because the city did not pick up the fallen fruit, which would rot and attract bees. Over time this changed, but CMR A says there is still debate within the municipality as to whether or not it's a good idea to plant them. He added that there simply hasn't been any research within the municipality on

this topic.

In short, planting fruit trees simply does not seem to be a priority at the moment. “We have just planted them to plant something,” said CMR A. CMR C cited that Copenhagen has been planting small numbers of fruit trees fairly consistently for the last 30 years. He claimed that certain trends such as bike paths fluctuate over time, but that they have not seen this kind of trend around fruit trees. “It's not like residents are banging down the doors wanting fruit trees,” he said. CMR A, however, said that if residents voiced a desire, they might be influenced to plant more. Considering the high subdivision of departments and relative lack of information on the website, it seems unlikely that residents know they can do this, and if they do, who to contact.

Sustainability

Though there are many departments within the municipality, there is no “sustainability department”. Rather, according to CMR B, sustainability is something that is horizontally integrated throughout municipal operations as a guiding principle. The publicized initiatives that get taken are decided by politicians, according to CMR C. While the 100 000 trees initiative was developed by his department, he said politicians like to claim it as their own. CMR B voiced that in managing parks, they made a decision not to use pesticides due to their harmful effects on the environment. A search for “pesticide” on the Copenhagen website reveals no information. Residents are therefore likely unaware that the city has taken this precaution, which could influence their perspectives on eating fruit from the city.

Food safety

Uncertainty about the safety of consuming urban-grown food was a concern brought up by CMR A. This precariousness seemed more based on a precautionary principle rather than any definitive evidence that it could be harmful, as condoning fruit-picking could lead to liability in the event that it is harmful. He said that if the city were to officially support fruit-picking there would probably have to be soil tests, in case an area is too polluted to grow on. These concerns, as it turns out, are unfounded. A study on fruits grown in contaminated soil showed that the contaminants present were below harmful levels, with most contaminants stored in the leaves of the plants (Samsøe-Petersen, Larsen, Larsen, & Bruun, 2002).

The municipal structure is reflective of typical regime dynamics, where the intricate, externally imposed system constrains the kinds of initiatives that can be taken, despite the openness of individual actors to other ways of doing things.

6.2.3 Copenhageners as members of the regime-level

The perspectives of Copenhageners are very much in line with the information (or the lack thereof) disseminated from the municipality. As we will see, their perspectives reflect the museumification portrayed by the municipal website, though most were warmly receptive to the idea of fruit-picking. The biggest obstacle to fruit-picking was a general lack of information, but misconceptions about legality and food safety also coloured perspectives. Several suggestions were made on how to make fruit-picking accessible.

Museumified parks

It had never occurred to most respondents that they could pick fruit in the city, despite the fact that nearly half were aware of the presence of fruit trees in Amagerfælled. This shows that this kind of interaction with the urban environment is foreign to most people. The museumification of parks seems to be deeply engrained in the social order. Along these lines, only 2 respondents said they sometimes pick fruits from public land. However, several, in support of the idea of picking fruits, talked about the value of this practice in bonding with children and teaching them where their food comes from and that “blackberries don't come from a jar.”

Information

A lack of knowledge was the most obvious barrier to picking fruit. Many were unaware of the presence of fruit trees, but even those who did know that there were fruit trees typically did not know where to find them.

Legality

Discourses manifested themselves as perceived barriers. The primary concern cited by two thirds of respondents was a worry that picking fruits was not allowed on public land. Given the fact that nearly all had never even thought of picking fruit, it is not surprising that none went out of their way to inform themselves. Several respondents reported having seen people pick fruit and thinking to themselves “is that allowed?” perceiving an injunctive norm to be broken with this act.

Food Safety

The discourse surrounding the safety of eating urban-grown fruits was also present in this group, albeit often only implicitly, suggesting it's an assumption for many and is therefore not even worth mentioning. This emerged in comments like “sure, I might pick apples if they were growing in the city – but you know, not on Åboulevard (a main traffic artery of Copenhagen) or some place like that, with all

the pollution.” To any respondents who made such comments, I reassured them that food safety was not a concern with urban fruits. All were surprised by this news.

Suggestions and concerns

Almost all were supportive of the idea of fruit-picking becoming a widespread practice, saying it would be “lovely,” with many suggesting signs at park entrances or guided tours by the municipality in order to educate people. There was enthusiasm about the way that this would connect people to nature, with many adding that it's a shame if the fruits go to waste. “Fruits deserve to be eaten. They're a gift!” voiced one respondent. Another commented that he would not pick any himself, but that “it would make the city more exciting” if it was a widespread activity. Commercialization was a concern for another respondent, saying “it's one thing to go and pick fruits with the grand-kids and make some jam, but it's another when it becomes commercial, if someone were to pick the fruits and then sell them.” This scepticism towards the innovation seems to lie in a concern about people breaking the social cohesion. Another respondent stressed the need for fruit-picking to be convenient. This would indeed boost the relative advantage, compatibility and trialability of the innovation.

After getting an idea of what prevents people from picking fruits, we can now examine the kinds of initiatives that could inspire people to pick fruit.

6.3 Niche-level actors – drivers of change

The niche-level in this case consists of innovators who are picking fruits and other edible plant products growing on public land either as individuals or groups. While their motivations aren't necessarily environmental, the outcome still contributes positively to sustainability and offers insight as to the way in which this innovation can be adopted on a larger scale. In this section we will get the perspectives of Byhaven 2200, Byhøst and independent fruit-pickers.

6.3.1 Byhaven 2200

Byhaven 2200 is a non-profit organisation which runs a community garden, growing produce using permaculture principles. Unlike most urban agriculture organisations, Byhaven 2200 is open to anyone. It has no physical barriers such as fences, and garden plots are not individually “owned” by anyone. As such, use of the garden is conceptually similar to the use of fruit trees, which are also owned collectively. The organisers ask that those who take some produce help out in some way, but accept that this might not always be the case. The current area they grow on is owned by the municipality, but maintained exclusively by the organisation. I interviewed co-founder SV, who had a lot of insight to

share regarding social barriers keeping people from participating in garden activities, the complicated municipal structure, and the positive direction she envisions urban-grown food taking.

Social barriers

According to SV, many residents are not used to the idea of growing food or tending a garden. Many, when they first get involved with garden activities, can't identify the majority of what grows in the garden, and try to plant by "taking 100 seeds and just dumping them in the ground." She sees a value in enabling people to learn and reconnect with nature through the garden, giving them a sense of stewardship and ownership for maintaining the space. Those willing to participate represent "innovative" residents, who see the benefits of this innovation and go through the innovation-decision process rapidly.

SV views the primary reason for more people not interacting with urban gardens to be that "they just don't think about it". There is no direct pressure to break out of this paradigm, either: "we've lost the hunter instinct. We don't have to seek or search. We just go to the supermarket and we know that's where we can get the stuff we need," she explains.

Municipal intricacy

Having been through the process of acquiring the right to use municipal land, SV has direct experience with the intricate municipal system. It took six months of building up trust with the municipality before they agreed to allow Byhaven 2200 to use the space. She said the sentiment appears to be "if we let you do this project, it's going to mean more work for us!" Byhaven 2200 invested time in building personal connections with municipal employees, getting them interested in the project, and are now awaiting confirmation on getting fruit trees planted. According to SV, requesting fruit trees from the city is not as easy as CMR A claims. Without previous ties with the municipality, it is hard, even for an organised group, to know who to contact and difficult to get a proposal accepted.

Promising circumstances

SV stresses that the city of Copenhagen is in a unique position that could help make an innovation like fruit-picking successful. "There's a very open dialogue between people and the municipality, and a high level of trust." From her perspective, in a lot of other cities people would be likely to abuse the system and pick all the fruits to either sell them, or hoard them because they needed food. The strong Danish social welfare state makes this critical need for food or financial resources less relevant. In her opinion, Copenhagen's culture influences people to be mindful of making sure there's enough for everyone. A principle that, in her mind, is respected at Byhaven 2200: the key, according to SV, is stewardship,

which gives a sense of ownership.

6.3.2 Byhøst

Byhøst is a non-profit organization founded in 2012 with the aim of making edible plant products more accessible to urban residents. The idea began with the founders recognizing that there were valuable resources available, and there was a demand for wild-grown foods, some of which are not available in supermarkets, and they wanted to join the people with the resource. Their motivations are sustainability, connecting people with nature, democratizing resources, and high quality food. They were largely inspired by the Nynordiske køkken (New Nordic kitchen) movement, which has been led largely by the Michelin-famed restaurant NOMA. This food movement casts local resources, many of which are weedy plants, in a new light as gourmet ingredients. They developed a map of Denmark and an app indicating the locations of edible plants. They focus on public land as opposed to private, ensuring that the resources are accessible to all. They also host a variety of events taking residents on tours of green areas and teaching them which plants are edible.

In my interview with the co-founders M and K, they shared their insights about the kinds of people who have shown interest in the group; the barriers that keep the average citizen from taking up urban foraging, such as scepticism about the legality and safety of urban-grown foods; they also talked about the ways in which they are trying to break these barriers. Furthermore, they shared their experiences about the rigidity of the municipal structure and how this can impede progress, though there are signs of changes happening.

Target group

The focus of their organisation is on cities because “those that need help finding and using nature are those who have lost contact with it,” M explains. The aim was therefore to present this knowledge in a “fresh,” hip way that appealed to urbanites by framing it around ideas of sustainability, gourmet foods, and having a new way of exploring the city. Their public events have attracted a very broad demographic, suggesting the population is open to the idea of this niche innovation.

Barriers

According to Byhøst, a barrier for foraging is that people perceive it as something inaccessible that takes a lot of effort and knowledge. Furthermore, people generally lack knowledge about what can be picked, but the greatest barrier is in people's perceptions: “people simply don't see the city as something edible; edible things come from the supermarket,” K explains. This explanation is reflective

of municipal museumification of spaces. Being led through the process of experiencing the city in a new way, they say, helps break down this barrier.

Discourses

Byhøst has also experienced the effects of the barriers created by the discourses surrounding legality and food safety in urban foraging. They've had people call them out for collecting in public areas, and also frequently get asked if urban-grown foods are contaminated. They respond to both of these concerns by reassuring people that it is not a concern. Regarding food safety, they say it is best to “let your good sense guide you.”

Protectionism

Another barrier they see preventing people from taking up fruit-picking is a protectionist perspective, with people having concerns that there will not be anything left for animals if people take foods from nature. They also experience a degree of resistance from some foragers who worry that their “spot” will become depleted if foraging becomes too widespread. The constructive ways that they deal with these issues are to ensure that they teach people to pick with care, so that they don't break branches, or don't pull up the roots when they're picking herbs. Furthermore, they like to emphasize eating abundant species as opposed to rare ones. With the help of the map, there are more “spots” identified, so people can more easily go to a diversity of locations, rather than depleting a single source. Furthermore, by mapping where edible plants are and by being able to demonstrate to the municipality that there is a demand for wild foods, the hope is that areas with wild foods growing will be preserved. They say that this would also hopefully give more leverage if for example the city were to plan a highway through Amagerfælled.

Value

Byhøst considers themselves part of a larger “resources and food awareness” movement, which makes people relate to foods, sustainability and the city in a different way. If you picked something yourself, “it's allowed to be a little brown on the edges and you'll make sure it all gets used, and you have another kind of relationship to it” says K. M relates that he finds he now has a sense of recognition for nature's production of resources that he didn't used to, that he has more respect for the produce he buys. So they recognise the potential for their event participants gaining a value beyond simply bringing home free food, that hopefully the experience will also instil in the participants a greater respect for natural resources.

Heavy municipal system

Byhøst's founders had insight to share on the rigid frame of the municipality. Prioritizing urban food sources is not on the agenda, they claimed. M's impression was that whatever the municipality decides to prioritize takes precedence over all other initiatives. But "this thing with having an edible city, it's not even in the hierarchy. It hasn't been factored in at all." There needs to be a change on a political level for this to happen, says M. "Generally it's very easy for them to just lean on all the rules and laws and say that (your project) is not allowed." K continues. He would like to see a municipality that is more willing to experiment, with the potential of learning from the experiments which could ultimately pave the way to new ways of doing things, though he does think that this kind of change is on the cusp of happening. M reflects on the precautionary principle the municipality bases its decisions on, with the logic that "If we just say no, nobody will get hurt."

They do see evidence of potential change within the "heavy system" of the municipality with all its rules and different officials to convince. They have noticed that there are more and more initiatives, such as "miljøpunkt" ("environmental spots," around the city receiving funding from the municipality) who encourage the use of urban-grown foods. The municipality has even contacted Byhøst for hosting events. All of these factors demonstrate to Byhøst that change is beginning to happen. "Those that are in the organisation want to (change), but there's like a political lid on it that keeps them from being able to. That's something I'd like to work with," says M.

6.3.3 Fruit-pickers as niche-level actors

The results from the online survey conducted through Byhøst's facebook page revealed that fruit-pickers are a heterogeneous group with many different perspectives on and motivations for foraging. They recognised the barriers non-fruit-pickers face in potentially adopting the practice and were aware of the discourses surrounding legality and safety.

Motivations

Fruit-pickers had a wide range of reasons for foraging. I categorized their responses into economic, environmental, leisure and "foodie" reasons. The overwhelming majority collects for "foodie" reasons, "because I can find things in nature that you can't get at the supermarket", with less than half foraging "because it's better for the environment than buying at the store". Just over half forage "so that it doesn't go to waste", with only three collecting fruits "because it isn't sprayed with pesticide". The majority also forage "because it's fun/relaxing," "because it's free" and "because it's a common resource." Several others favoured foraging wild products over those that are planted by the city, saying it was more fun to have to "explore" to find it.

Discourses

The injunctive norm that holds that you must not take from museumified city property seems deeply engrained even for those who break it. One respondent doubted the legality of foraging for things that were planted by the city, and kept strictly to what grew wild. Another said “I've often had to convince myself that it's ok to pick even though I don't own the plants.” such participants likely value the innovation so much that they choose to pursue it even if it breaks social norms.

The discourse around food safety was also brought up by a few respondents. Several mentioned the need for people to know that the food isn't contaminated in order for foraging to become more widespread, while a few others highlighted the need for the city to reduce pollution.

Main-streaming

Overall there was a consensus that it would be a good thing if foraging became more widespread, if more edible plants were available. Respondents often cited that the increased availability of edible plants would make the practice more visible and get more people thinking about it. This demonstrates an awareness of the influence of the descriptive norm, as well as the positive effects of trialability and observability of an innovation. On a similar note, some responded that the trend will grow naturally as more people do it.

There was strong agreement on that more information is the main thing that could get people to pick more fruits, many citing that most people have just never thought of it. More information would indeed help diffusion by increasing knowledge and giving people information that would lead them through the innovation-decision process. One respondent, however, said “I find that lots of people these days think that it's the most normal thing” suggesting that this respondent is part of a very homophilous group. This group homophily supports the need for information to be available from outside sources.

6.4 Discursive influence on behaviour

Having examined the overarching themes arising in each of the MLP levels, question 1, “What are the current discourses surrounding fruit trees in Copenhagen and how do these influence people's behaviour?” has been answered. The dominant discourse has it that only a limited set of activities is permitted in green spaces and that urban-grown food is likely unsafe. This discourse has led to the construction of norms, thus influencing people not to pick fruit. For some non-fruit-pickers, the

thought of picking fruit never enters their minds because this kind of interaction with an urban green space is foreign to them. Those who are aware of the possibility of picking fruits are still under the normative influence of the social environment and this innovation could therefore seem unattractive, preventing them from embarking on the decision-innovation process.

With the help of the behavioural theories, question 2, “How can theories of social norms and behavioural change inform what measures can be taken to lead people through the process of adopting urban fruit-picking?” will now be discussed.

7 Discussion of the application of behavioural theories in informing initiatives

My research shows that the biggest obstacle for fruit from urban fruit trees to be consumed is in how fruit-picking fits into the social norms constructed from the dominant discourse. In this section I will discuss the various changes that would need to happen in order for fruit-picking to become a common and valued practice, using theories of behavioural norms and DOI as a guide, and referring to the ideas introduced in the results analysis. I will also comment on the feasibility of this transition happening in the municipality as regime; the population as regime members; and finally the role of the niche in this process of change. This begins with identifying the barriers in the dominant regime.

7.1 Barriers in the municipality and recommendations for change

The dominant discourse on the landscape and regime levels has it that cities are not places where food grows, and in the rare instance that food does grow there (as in urban agriculture) it is deliberate and human-controlled. The idea that city plants, when left to their own devices, can produce food is simply not on the radar.

There seems to be a general openness to the innovation of fruit-picking from individuals representing the regime through the municipality, but they are constrained in their abilities to affect change within such a decentralised system. DOI offers a guideline for measuring the innovativeness of an organisation. Figure 7, below offers a graphical representation of the different factors that contribute to an organisation's innovativeness, with Copenhagen's ratings measured based on the impression given from the website, employees and niche-level groups' account of their interaction with the municipality.

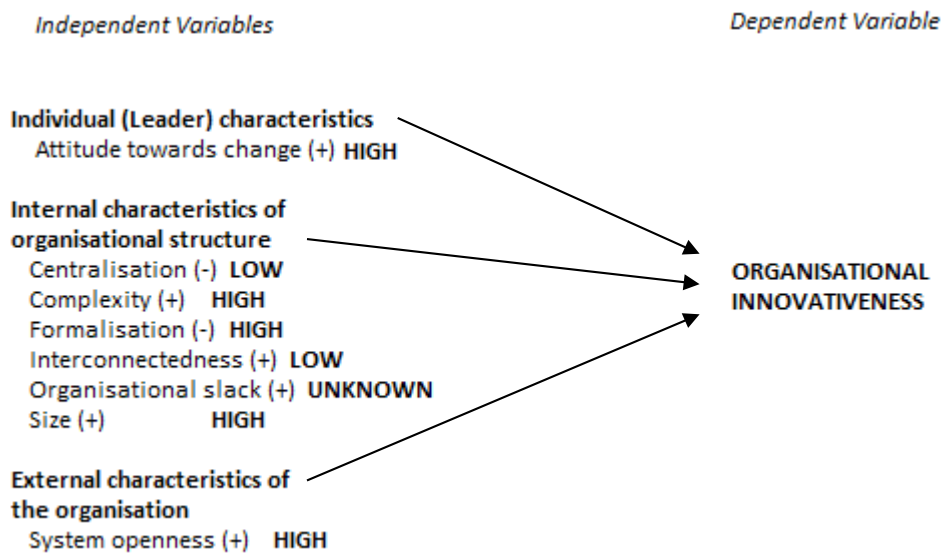


Fig. 7. Independent variables related to organisational innovativeness, rated for Copenhagen. (Adapted from Rogers, 1995). The identified characteristics either contribute positively or negatively to how innovative an organisation is. (+) indicates this characteristic contributes positively, while (-) indicates that it contributes negatively. Among the internal characteristics, centralisation refers to the degree to which power is concentrated in the hands of few; complexity is the degree to which an organisation's members possess a high level of knowledge and expertise; formalisation is the degree to which an organisation emphasises following rules and procedures; interconnectedness is the degree to which the units are linked by interpersonal networks; organisational slack is the degree to which uncommitted resources are available to an organisation; size refers to the number of people working in the organisation. System openness refers to the degree to which information is exchanged across the system boundaries (Rogers, 1995, modified by the author).

Using this model, we can characterise how innovative Copenhagen municipality is likely to be. All the positively contributing factors were high except for interconnectedness, and all the negative factors were low except for formalisation.

Copenhagen municipality therefore appears to be a relatively innovative system, with the two main hindrances of low interconnectedness and high formalisation. This suggests that the municipality has the potential of adopting the innovation, especially considering that there appears to be a willingness as well as the skill necessary among employees.

Recommendations

The municipality could play a role in implementing this innovation by earmarking a higher percentage of the trees planted as fruit trees. The advantage of having high formalisation is that once an initiative

is planned, it is strongly adhered to (Rogers, 1995). The low interconnectedness would have to be overcome in order to successfully implement this innovation, as there would need to be collaboration between those who plan which trees will be planted where, and those who communicate with residents, either via the website, newsletters or media. This collaboration would increase the likelihood that the message actually gets out to residents that fruit picking is allowed, fruit trees have been planted, the fruits are safe to eat, and information on how to properly pick them. The municipality sometimes uses signs for campaigns, so signs around these new fruit trees could also help inform residents. Existing signs with park information could be updated to include information about fruit trees or other edible plants present in the parks. This initiative, as a campaign, could be given a more prominent place on the website park pages, for instance, and on pages about 'living sustainably'. Furthermore, initiatives to plant more fruit trees could be announced in press releases, similar to those sent out in other urban renewal projects.

7.2 Barriers and potential measures for regular residents – members of the regime

The discourses currently maintained by the regime led to the construction of a museumified perspective of green spaces among many residents and subsequent construction of norms which would be broken by picking fruits. In this sense, these norms are a “gate-keeper” for adoption of the innovation. As long as people believe they would be breaking norms by picking fruits, they are unlikely to adopt the innovation even if otherwise inspired to.

Rogers (1995) reinforces the idea that the adoption of an innovation depends partly on its compatibility with the norms of a social system. The results show that the current social system largely perceives fruit-picking to go against norms. In order for this innovation to be successfully adopted, the new value system which values fruit-picking must therefore first be adopted, but in this case the difference in values lies in peoples' perceptions, which otherwise adhere closely to the typical Copenhageners' values. As has been established, people's erroneous beliefs on fruit-picking leads most to believe that it is illegal and unsafe and they therefore avoid doing it. The lack of information residents have also means that they lack information about the environmental and social benefits and even health benefits of urban fruit-picking, which are in line with Copenhagen's current sustainability agenda and emphasis on wellness and quality of life. Were people aware of these links and the falsehood of their prior beliefs, there would be a much higher perceived compatibility to existing values and therefore a higher incentive to adopt the innovation.

In order for people to enter the “knowledge” stage of adoption of innovations, they must have basic

information on fruit trees. Information on the benefits of fruit-picking could contribute to people progressing to the “persuasion” stage. In this stage residents take in the available explicit and implicit information on convenience, benefits, new manifestations of norms, and skills on how to pick fruits. The presence of fruit trees ensures trialability and observability. With all the stages of the “persuasion” phase accounted for, there is therefore a high likelihood that people would move on to the “decision” phase and try out fruit-picking, and with the high observability and normative support, it is likely that the innovation will be confirmed once tried.

Each time a resident, as a member of the regime, adopts the innovation, they turn into a niche actor, thereby directly weakening the regime.

7.3 Niche influence

Niche-level groups such as Byhøst and Byhaven 2200 that are advocating foraging in cities have managed to make this practice something accessible to people with a variety of motivations to give it a try. Their use of social media and events gives them a vital role in communicating ideas about foraging to a large audience. Many individual niche-level actors seem to have homophilous social networks, and therefore have limited reach in diffusion. Niche-level groups therefore seem very important in the growth of the niche innovation of fruit-picking.

By reaching individuals beyond their immediate social networks, niche-level groups are steadily growing. The more they successfully reach a heterophilous audience, the more the innovation gets diffused to a variety of potential adopters with different motivations. An anecdote from Byhøst reflects nearly precisely the stages individuals go through according to the diffusion of innovations theory. M talked about the transformation people slowly go through, biking past the same area every day, and “one day finding out that this area contains edible plants. Then you might look at it in a different way, but you still just bike by every day. Then finally you might one day stop your bike and have a look at it. And then awhile later again, you might finally get off your bike and pick something just to smell it and examine it. Finally after that you might actually collect some to eat it.” Something that might contribute to going from the “persuasion” phase to the “decision” phase in these situations could be the descriptive norm of seeing other people performing the behaviour, such that it slowly becomes normalised in the subject's mind.

7.4 Paths to implementation

Going back to the MLP perspective of transitions, the fruit-picking niche appears to be at the take-off phase. Two major changes must occur in order for it to enter the acceleration phase: on the regime level, the municipality must prioritise planting fruit trees as a higher percentage of overall trees planted, along with appropriate communication to residents as outlined above; and residents must accept the practice of picking fruit in order for new norms to be constructed. Which change must come first is debatable, but I believe that the two are intertwined and mutually strengthening, and both influenced by the niche. “Innovations with radically new features, especially related to environmental and/or social sustainability, do not rub well with extant socio-technical regime characteristics. Their successful development, market introduction and diffusion require simultaneous adaptations in all major parameters of the regime” (Caniëls & Romijn, 2008). Simultaneous change between regime-members (Copenhagensers) and regime structures (the municipality) is therefore most promising.

7.5 Collaborative effort towards transition

Question 2 has now been addressed: with strategic initiatives, fruit-picking has the potential of becoming a widespread activity in Copenhagen. A key factor is that a policy change must occur that will favour the planting of fruit trees as a higher percentage of total trees planted; but residents must also come to accept the practice, a process which will likely be helped by greater access to information on the topic, which can come from the regime or the niche. Niche group efforts may contribute to this policy change taking place by gradually making fruit-picking more visible and more popular and therefore bringing it into the dominant discourse, shifting fruit-picking from being a niche-level practice to a valued regime activity for residents of Copenhagen.

We will now examine the broader implications of fruit-picking being widely adopted, as well as draw similarities with other similar cases.

8 Broader implications of fruit-picking

8.1 societal and market implications

Fruit-picking is a meaningful next step beyond urban agriculture, and likely a stepping stone to other green urban initiatives. If fruit-picking is adopted by a large portion of the urban population, over time it could result in reduced demand for various imported seasonal fruits at grocery stores and markets, which would reduce the strain on agricultural land and the impacts of the resource-intensive

production process. The gradual market shift may help slow the land-use change of converting wild land into agricultural land. The decentralisation of fruit production from industrial hubs would also make fruit production less vulnerable to drought, pests, or other stresses that can be disastrous when fruit production of a particular species is concentrated exclusively in one or a few regions.

Foraging and the local food movement in general may inspire a shift in food choices towards appreciating and using more locally grown species that do not currently get so much attention. This change in diet preferences would reduce the demand for foods imported from far away and out of season, and thereby reduce the impact of production of these goods. Byhøst, for instance, hosted a “gourmet apple collecting and tasting” as a way of recasting a common fruit in a new light. Such initiatives could help inspire this kind of reflective change in food choices.

Most Danes do not eat enough fruit to fulfil the recommended daily intake, which is associated with a higher risk of non-communicable diseases such as cancer and cardio-vascular disease (6 a Day, 2008). The spotlight on fruit trees may inspire a shift in food choices to favour these products.

In terms of the impact of food waste, agriculturally produced domestic food waste wastes not only the fruit itself but also all the resources that go into making it – the fertilisers, water, transport, labour, and so on. When an urban-grown fruit is left uneaten, there is no loss of additional resources, just the fruit itself, which, if left on the ground under the fruit tree, will simply help re-fertilise the soil. Since collecting one's own fruit seems to lead to a greater respect for produce in general, it is likely that this would lead to an overall reduction in food waste not only in foraged foods, but in store bought foods as well, as people learn to appreciate all that goes into food production. This would have positive consequences on reducing household waste as well as relieving the strain on agricultural land to produce food that simply gets thrown away.

The increase in food production in cities allows them to be much more self-sufficient. In the event of a disaster or other strain on the agricultural food system, the impacts would be less dire if people had the knowledge and normative confirmation to be able to utilize the foods available to them in the city. For people who are food insecure, access to these resources is even more important and could help raise their level of food security. According to a widely used indicator of food security, the criteria for being food secure involve not only the quantity and quality of food, but the social aspect that norms are not transgressed in food acquisition (Coates, Webb, & Houser, 2003). The social acceptance of fruit-

picking as a legitimate way of acquiring food is therefore important in its contribution to food security.

Planting fruit trees as opposed to other kinds of trees has additional benefits for people and the environment beyond services associated with food provision. Fruit trees have low allergenic properties. 16.8% of Danes suffer from a pollen allergy, so planting low-allergen trees would help improve the plight of allergy-sufferers (Statens Institut for Folkesundhed, 2007). Furthermore, having this higher diversity of trees provides wildlife and pollinator habitats, helping to support the resources necessary for threatened bee populations to thrive (Miljøministeriet Naturstyrelsen, n.d.).

8.2 Successes and potential problems

The case of Copenhagen is particular in that it had all the necessary components for the niche to exist in advance. Most cities likely have at least some fruit trees or edible plants, but not necessarily the legislation that permits people to use them. With sustainability becoming a more and more widely recognized issue in need of attention, other cities with green agendas could consider legislation to favour the use of urban food sources.

Successful legislation

Seattle is going through a transition, with the niche is in the acceleration phase. Foragers have long been collecting foods in Seattle as a niche, but until recently, legislation made this activity illegal, particularly in public parks (McLain et al., 2012b). Niche pressure forced the municipality to change the legislation to specifically allow for foraging, which has led to a legitimizing of the activity and increase in foragers (McLain et al., 2012b). Local community groups now collect fruits in order to supplement food banks (McLain et al., 2012b), positively contributing to social and environmental sustainability through improving food security. This is an example of a case where simply removing the law that made foraging illegal may not have resulted in it being as broadly accepted as it is; making specific legislation to allow for foraging has now legitimised this activity and allowed it to grow (McLain et al., 2012b).

Success of using normative messages

The use of normative messages to inspire change has been used in other fields. A recent example is associated with a campaign to reduce domestic energy consumption. While previous campaigns regarding environmental impacts had resulted in negligible change, a message involving the descriptive norm of peer energy use comparison resulted in reduced energy usage (Gillingham & Palmer, 2014). Similar descriptive normative messages could be constructed by Copenhagen in their dissemination of

information regarding fruit picking, if they choose to adopt the innovation.

Potential problems

With a publicly accessible good, some are concerned about depletion due to the tragedy of the commons. Copenhagen's socioeconomic level and cultural conditions influence the way food from trees would be used. The fruits, for the most part, would not be food that would otherwise have been missing, but instead replace or supplement grocery store consumption. Furthermore, as a strong welfare state with high wealth redistribution, there is a strong sense of trusting the system and that everyone should be able to benefit from resources (Støvring, 2012), making it unlikely that this would be particularly problematic. Having biological resources publicly available promotes stewardship and a sense of ownership, which makes people more likely to respect the resource, and police it if they see others not respecting it (McLain et al., 2012a). Furthermore, if fruit-picking becomes a regime activity, presumably there would be many more fruit trees and therefore much more fruit to go around. In cities with lower socio-economic status or less equality than Copenhagen, it is likely that some would rely on fruit trees as a food source that they would have otherwise gone without. There is therefore the potential that some people would take more than others, or take very much and try to sell it, but I would argue that it's good to have such an equalising force available to those who need it. Copenhageners' adoption of fruit-picking as a normal and valued practice would also contribute to food security in a more global sense by making the local food system more resilient and less resource-intensive.

Falling fruits could cause problems related to pedestrian and traffic safety as a result of falling fruit or decomposing, slippery fruit on the ground. If fruit picking were a common activity, particularly if there were organised groups that collected fruits for food banks, such as they do in Seattle, fallen fruit would be less of a problem. Strategically located trees would also minimise the problems fallen fruit might cause. In many cities where community orchards have emerged, volunteers maintain the trees (Urban Food Forestry, 2014). If such a system were established in Copenhagen, these volunteers could rake up and compost any rotten fallen fruits.

Education is crucial in assuring that fruit and other wild-growing resources are used correctly. This is important for making sure that people do not break branches or damage the plants in such a way that the resource is depleted. Furthermore, it is essential that people know how to differentiate between edible and non-edible or poisonous plants. If foraging is adopted very casually, residents may come to view all plants as edible or take the perspective of "it couldn't hurt to try," which could have

devastating effects.

If there were to be a genuine market shift towards a greater interest in local, foraged goods and away from imported goods, this shift would likely happen slowly, considering the wide range of time that the innovation-decision process can take. This would therefore be unlikely to adversely affect farmers, who would have time to adapt to the new market demand. While food preferences might change, there will surely always be people who simply do not find this innovation compatible with their lifestyle and do not have time to or do not want to forage for their food. This could create a new market for farmers to produce these goods or forage for and sell them.

Further research

The scope of this thesis kept the focus on normative influences of behaviour and how these could be changed with the help of the DOI theory. The study of what makes people choose to pick fruits or not pick fruits would benefit from being examined through the perspective of other behavioural theories, for instance social practice theory or habit theory in order to examine other dimensions of the decision-making process associated with this practice.

9 Conclusion

This thesis has shown that even with a relatively simple to implement sustainability solution, many actors must cooperate in order for it to have the desired effects. Even a well-planned and executed community sustainability initiative will only work if people get engaged and can see how it will fit into their lives in a beneficial way. Citizens are agents of change: if they are not on board, the change will not happen. The investigation of this case through the lens of the DOI and behavioural norms has revealed factors beyond convenience and knowledge that must be taken into account: for a sustainability solution to work, it must appear meaningful to the actors concerned, upholding the values and norms of the group. Structural initiatives alone, such as planting more fruit trees, are insufficient to create change; communication and normative confirmation are crucial to get citizens to start picking fruit.

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Appendix 1: Interview templates

Copenhagen municipal representatives

- What is your role/the role of your department within Copenhagen municipality?
- What is your goal in planting trees in Copenhagen?
- What factors do you take into account when you decide where and what species of trees to plant?
- How do you choose which tree species to plant?
- Are there any challenges associated with planting fruit trees that you do not have with other trees?
- Are there any factors that could contribute to the city planting a higher proportion of fruit trees?
 - What process do residents have to go through in order to make a request for planting fruit trees in their area?
- Do you think it's a good idea if people pick the fruits?
- What do you think of groups like for example Byhøst, who organise fruit-picking activities in Copenhagen?
- Can you foresee any problems occurring if it became a perfectly normal thing for people to hop off their bikes on the way home from work and pick some apples from a park tree?
- Most of the parks in Copenhagen are protected. Can you pick fruits from a protected park?
- I conducted a survey in Amagerfælled to see what people thought of fruit trees. Many suggested signs being placed at the park entrance or by the trees themselves with information about what you can pick, etc. What do you think of this suggestion?
- On the municipal website there are suggestions about how residents can live more sustainably. There are suggestions about transportation, renovation, and water use, for example. Has your department considered adding something about using green spaces as part of living sustainably? What department/who decides what the sustainability focus will be?

Interview with Byhøst

- How did you get the idea of finding edible plants in the city?
- What inspired you to turn it into a group, instead of just having it as a hobby?
- How has membership increased since you first started? Is there a particular demographic in your members?
- Why do you pick fruit?
- Why do you think that it is not yet so common for people to pick fruits in the city?
- What do you think could make more people pick fruit?
- What kinds of obstacles have you experienced in collecting edible plant products?
- Do you think the municipality should do anything to make fruit-picking more accessible?
- Do you know of any other groups doing similar things as Byhøst or trying to get more fruit trees to be planted in the city?

Interview with Byhaven 2200

- What is your position?
- What does the organisation do?
- What are the goals of the organisation?
- **What made you (the organisation) decide to plant fruit trees?**
- **What is the process like for getting approval to plant them?**
- If they get planted, who will be permitted to pick the fruits? Any plans for information on them? (signs, workshops/tours)...
- Do you see this movement growing?
 - What do you think limits its spread?
 - Why do you think it's still limited to a small part of the population? Any barriers?

Appendix 2: Surveys

Fruit trees in Copenhagen: This is a survey on Copenhageners' perspectives on urban fruit trees

1. Did you know that there are fruit trees in Amagerfælled?

No / Yes

2. Have you ever picked fruit on public land in Copenhagen?

No / Yes, but no more than once a year / Yes, several times per year

If you answered NO to question 2:	If you answered YES to question 2:
<p>3. Why not? (select all that apply)</p> <p><input type="checkbox"/> I never thought about it</p> <p><input type="checkbox"/> I don't feel like it</p> <p><input type="checkbox"/> It's a waste of time/too much effort</p> <p><input type="checkbox"/> I didn't know there were any fruit trees</p> <p><input type="checkbox"/> I didn't know it was allowed</p> <p><input type="checkbox"/> I don't like fruit</p> <p><input type="checkbox"/> I have my own fruit trees</p> <p><input type="checkbox"/> Other</p> <p>reasons: _____</p> <p>4. What could make you consider picking fruit in Copenhagen? (select all that apply)</p> <p><input type="checkbox"/> Nothing</p> <p><input type="checkbox"/> If I knew where I could find fruit trees</p> <p><input type="checkbox"/> If I knew which fruits were edible</p> <p><input type="checkbox"/> If I knew it was allowed</p> <p><input type="checkbox"/> If I knew there were no food safety concerns</p> <p><input type="checkbox"/> If I saw other people picking fruit</p> <p><input type="checkbox"/> If I knew more about the environmental advantages</p> <p><input type="checkbox"/> If there were activities like fruit picking or tours organised by the municipality</p> <p><input type="checkbox"/> Other</p> <p>reasons: _____</p>	<p>3. What have you picked? (select all that apply)</p> <p><input type="checkbox"/> Apples</p> <p><input type="checkbox"/> Pears</p> <p><input type="checkbox"/> Plums</p> <p><input type="checkbox"/> Cherries</p> <p><input type="checkbox"/> Slåen</p> <p><input type="checkbox"/> Elderberries</p> <p><input type="checkbox"/> Hazelnuts</p> <p><input type="checkbox"/> Sea buckthorn</p> <p><input type="checkbox"/> Rosehips</p> <p>or only berries:</p> <p><input type="checkbox"/> Blackberries</p> <p><input type="checkbox"/> Blueberries</p> <p><input type="checkbox"/> Strawberries</p> <p><input type="checkbox"/> Raspberries</p> <p><input type="checkbox"/> Currants</p> <p><input type="checkbox"/> Black currants</p> <p><input type="checkbox"/> Gooseberries</p> <p>Other: _____</p> <p>4. Why do you pick fruit? (select all that apply)</p> <p><input type="checkbox"/> Because it's free</p> <p><input type="checkbox"/> Because it's relaxing</p> <p><input type="checkbox"/> Because I am a member of an organisation that picks fruit in the city</p> <p><input type="checkbox"/> Because I saw some and wanted to eat it</p> <p><input type="checkbox"/> Because it's not sprayed with pesticides</p> <p><input type="checkbox"/> Because it's better for the environment than buying them at the store</p> <p><input type="checkbox"/> Because it's a common resource resource</p> <p><input type="checkbox"/> Other</p> <p>reasons: _____</p>

5. Do you think that there's a difference between picking fruit from trees planted by the municipality (like apple trees) or things that grow wild (like blackberries)?

No / Yes – What do you think the difference is?

7. Have you ever seen anybody pick fruit in Copenhagen?

No / Yes / I don't know

8. What do you think of the idea of people picking fruit in Copenhagen's parks?

—

Comments:

Fruit-pickers survey

1. Had you ever thought of collecting edible plant products in the city before you started following Byhøst?

Yes/No

2. Did you collect edible plants before joining Byhøst?

Yes/No

3. How often do you collect edible plant products on public land?

Less than once per year / once per year / 2-3 times per year / more than 3 times per year / as often as possible

4. Why do you pick fruit? (select all that apply)

Because it's free

Because it's relaxing

Because I am a member of an organisation that picks fruit in the city

Because I saw some and wanted to eat it

Because it's not sprayed with pesticides

Because it's better for the environment than buying them at the store

Because it's a common resource

Other reasons: _____

5. Do you think that there's a difference between picking fruit from trees planted by the municipality (like apple trees) or things that grow wild (like blackberries)?

Yes / No – What do you think the difference is? _____

6. Have you ever experienced any challenges or barriers when foraging in the city? (For example, feeling like people looked down on you or the plant you wanted to collect from was damaged)

Yes / No – If yes, what challenges?

7. How do you think one could get more people to forage in the city?

8. What do you think could make foraging edible plant products in the city be considered something more normal among residents?

Other comments?