# HEC MONTRÉAL

## How do Alternative Food Networks initiatives in Montreal form a sustainable grassroots innovations niche?

par :
**Gorana Govedarica**

**Sciences de la gestion
en contexte d'innovation sociale**

*Mémoire présenté en vue de
l'obtention du grade de maîtrise ès sciences (M. Sc.)*

Décembre, 2016

# Abstract

Climate change is a formidable challenge in our time that calls for deep structural changes in human activities, especially in the food sector. Food systems are omnipresent complex systems that are at the center of sustainability debates. Sustainability socio-technical innovations are often presented as prominent solutions to this problem. I argue that bottom-up innovations (Grassroots Innovations - GIs) emerging from networks of activists and organisations within civil society are also valuable sources of sustainable development solutions and innovations (Seyfang and Smith, 2007). Thus, my research thesis studies '*How do Alternative Food Networks initiatives in Montreal form a sustainable grassroots innovations niche?* To answer this research question, I used qualitative research interviewing of twelve semi-structured interviews with employees from nine local civil society food organisations in Montreal. My results contributed to the answer of my research question of 'how,' and revealed new discoveries, enriching the theory and practice of GIs theory. Inspired by Strategic Niche Management framework structure, I discovered three new basic GIs elements: 1) communicating clear impacts; 2) exploring social networks in all sectorial levels: civil, public and private, considering the asset capital of volunteers; and 3) engaging in second-order learning via partnership and learning-by-doing together given the collaborative nature of the civil society sector. I found that GIs niche motives are hybrid – they are responding to the social need, and at the same time advocating for ideological changes in the current system. I discovered three diffusion options for GIs: 1) replications of the projects via partnerships, 2) being an exemplary project, and 3) becoming a Hub. Lastly, my results show that GIs are facing a new challenge of identity transition from urgency food organisations to development organisation. In conclusion, my research thesis calls for future research in GIs through the lenses of social innovation theory and policy engagement, and calls for a more critical tone in overall Sustainability Transition approach.

# Acknowledgements

This thesis concludes an important chapter in my life, one that I am proud of and grateful for. The pursuit of graduate study has been a refreshing intellectual, social, and spiritual experience that I will forever be thankful for.

I would like to express my appreciation to Marlei Pozzebon for her support, guidance and her genuine enthusiasm about social innovation. Thank you Marlei for your rigour and positive attitude that was helpful, motivating, and encouraging along this journey. It was a pleasure working with you.
I would like to thank René Audet for his guidance in the theory field and Montreal food initiatives scene.

I would like to thank my program director, Yves-Marie Abraham, and all my program peers for inspiring me, challenging me, and teaching me so much over the last two years. It has been a profound experience to be part of this social movement community in HEC Montréal with you all. I would like to thank Joey El-Khouri for introducing me to the Sustainability Transitions theory and for being a great colleague and friend, who I look forward to continue working with.

I would like to thank all the employees and professors who are part of Pôle IDEOS for giving me an opportunity to work closely with them and offering me the IDEOS grant. It has been enriching experience collaborating with all of you and working together to propagate social innovation in HEC Montréal.

I would like to thank my family and friends who have supported me with their love and understanding in this process. Mostly my parents and my sister, who I love so dearly.
I want to give a special thanks to my partner in life and love, Gerald, for being my best friend, my best editor-in-chef, and my support that I can always count on.

# List of Abbreviations

AFNs        Alternative Food Networks
CAP         Common Agricultural Policy
CER         Comité d'éthique de la recherche
CFCC        Community Food Centres Canada
CFNs        Civil Food Networks
CSA         Community Supported Agriculture
FSCs        Food Supply Chains
GIs         Grassroots Innovations
GMO         Genetically Modified Organism
LFS         Local Food Systems
SFSCs       Short Food Supply Chains
SNM         Strategic Niche Management
USDA        United States Department of Agriculture

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# 1. INTRODUCTION

## 1.1    Problem Statement

> "The food systems we have inherited from the 20th century have failed ... a new
> paradigm, focused on wellbeing, resilience and sustainability must be designed to replace
> the productivist paradigm ... it will not be enough to refine the logic of our food systems
> – it must instead be reversed"
>
> (Olivier De Schutter, UN Report on the right to food, 2014)

Our food system is socially and environmentally unsustainable, contributing to a wide range of environmental and social damage: climate change, natural resources depletion and degradation, pollution and toxicity, rural economy and development, and food safety and nutrition (Baldwin, 2015, 4). Namely, the food supply contributes considerably to climate change by being responsible for 10% to 30% of global greenhouse gases released from electricity and fuel used in production, processing and transportation; methane from the waste and livestock; nitrous oxide from the excessive use of fertilizers, and other kinds of emissions (Bellarby et al., 2012). Agriculture practices such as monoculture, overcultivation and over-irrigation are accountable for the significant loss of topsoil and land productivity, loss of biodiversity and loss of clean water and air (Horrigan et al., 2002). Furthermore, current unstainable food systems practices in agricultural production inputs (usage of fertilizers and pesticides, processing, and transportation) emit materials that are toxic for humans, animals and the environment, causing short-term and long-term threats (Horrigan et al., 2002). The current globalized and corporatized food system is destroying small farmer operations that can't compete with the economies of scale and machinery of large corporate actors, hindering the rural development of communities, especially in the poorest countries (Clapp, 2015). Lastly, the current food system is concerning for health given the use of chemical inputs and genetic engineering that decrease nutritional characteristics of the food (Horrigan et al., 2002). Globally, nearly a billion people are hungry, over a billion are overweight, and half a billion are obese (FAO, 2012).

The overall food system is characterized by industrialization (industrial agriculture practices and food processing), globalization (long distance food transportation and poor worker's conditions of production in 'other' parts of the world), corporatization (strong bargaining power of few big food corporations

compared to farmers or consumers), and financialization (transformation of the food into financial product) (Clapp, 2015). This trend in the food system has caused physical and mental "distances" between the local landscapes and the food produced, whereas negative externalities of the global food systems are hard to be associated with specific actors responsible for social and ecological costs on the local agricultural landscapes (Clapp, 2015). Thus, over the last century, food has been transformed into a commodity, rather than a human right.

Therefore, agriculture and food systems are at the center of the debate over sustainability (Allen and Prosperi, 2016). Given the complexity of the food systems, its interdependence on humans and environment, and its omnipresence in our daily lives, I chose to dedicate my research thesis to this subject of imperative importance.  I view it as one of the biggest puzzles and challenges of our times. Given the multi-layer and multi-actors characteristics of the food systems, I aim to study this subject through the various lenses of specific conceptual frameworks that will allow me to situate this issue in the large macro context, while at the same time allow me to focus on the specific problem more precisely. The next section presents the theoretical fields of Alternative Food Networks (AFNs) and Sustainability Transitions that enabled me to explore this subject.

## 1.2.    Research Object

Environmental problems, such as climate change, are formidable societal challenges whose solutions require deep-structural changes, referred to as 'socio-technical transitions', in the key areas of human activities, including transport, energy, agri-food, housing, manufacturing, and leisure (Geels, 2011). In this way, Sustainability Transitions are longstanding, multi-dimensional, and major transformation processes that require systems shift to more sustainable modes of production and consumption (Markard et al., 2012). Sustainability Transitions research aims to understand how environmental innovations emerge and how these can replace, transform or reconfigure existing (unsustainable) systems (Geels, 2011).
Sustainability Transitions research has developed over the last decade, mainly in the Netherlands and Western Europe, studying historical changes in sectors such as energy, water, food and transportation as future trajectories for addressing present sustainability challenges within those areas (Spaargaren et al., 2012, 5). Mainly focused on the technological innovations (so called 'niches', once they reach the critical mass), those niches challenge the current system in hope to transform it into more sustainable environment (Geels, 2002; Smith et al., 2010; Raven, 2006). To understand the multi-level dynamics of the systems, and the relationship between the niches creation and the systems they aim to influence, two

main research fields have developed respectively: Multi-level perspective (MLP) (Rip and Kemp, 1998; Geels, 2002, 2011; Schot and Geels, 2007, Smith et al., 2010) and Strategic Niche Management (SNM) (Geels and Raven, 2006; Schot and Geels, 2008).

MLP studies the overall dynamics patterns in socio-technical transitions by defining their relationship in three levels:

1. Socio-technical landscape: wide, exogenous context
2. Socio-technical regime: existing system of rules, regulations and practices
3. Niches: radical innovations

Geels (2011) summarizes the pattern of dynamics between each level as follows: as niche innovations build strong internal momentum and the socio-technical landscape exerts pressure on the dominant socio-technical regime, the dominant regime is weakened, thereby creating windows of opportunities for mature niche innovations to emerge and "contaminate" the regime.

Parallel to development of MLP theory, SNM field studies the elements that will allow for niche to become robust and strong to take over the current unsustainable regime when the window of opportunity appears. Three main internal processes have been determined to allow for such: clear vocalization of expectations and vision, bundling social networks and creation of shared learnings (Kemp, Schot and Hoogmna, 1998; Geels and Raven, 2006). Furthermore, the role of intermediary partners has been identified as a way to bridge the two level of niche development: local project and global niche level (Geels and Raven, 2006; Geels and Deuten, 2006). Therefore, SNM literature explores the niche development as a source of sustainable innovation and MLP allows for understanding the contextual picture of how niche innovations fit in the overall system dynamics.

However, over last few years, authors like Seyfang and Smith have been showcasing that sustainable innovations occur in civil society as well and that is worth importance and attention (Seyfang and Smith, 2007, Kirwan et al. 2013). Differing from technological innovations, those Grassroots Innovations (GIs) are often locally driven and less homogeneous than socio-technical innovations (Seyfang and Smith, 2007). Seyfang and Smith (2007, 585) define grassroots innovations as "innovative networks of activists and organisations generating novel bottom–up solutions for sustainable development. These solutions respond to the local situation and the interests and values of the communities involved". Therefore, I want to bring a contribution to this recent field of research by studying the GIs in the food sector, often referred as Alternative Food Networks (AFNs), in Montreal.

Alternative Food Networks (AFNs) has developed in response to the current alarming tendencies in food and in the hope of transforming the current food system into a more sustainable one. AFNs takes the form of diverse activities along the food system, which includes production, processing, distribution, consumption and waste in aspiration for economically, socially and environmentally justice (Allen et al., 2003). Mostly found within civil society, different organisations engage to bring consumers closer to the food via farmer's markets, growing their own food, and educating people, schools, institutions on sustainable food systems practices. These practices include growing your own food, to cooking classes and identifying waste options. AFNs practices also empower marginalized communities by using food as a mean to address social exclusion and poverty (Renting et al.,2012; Watts et al., 2005; Harris, 2010,). Therefore, I will be studying civil society AFNs initiatives in Montreal.

To represent the connection between the different research fields just mentioned, Figure 1 below summarizes the main themes that I will be mobilizing. Thus, my research objective is to assess the utility of SNM literature in studying GIs in the food sector (AFNs) in Montreal and to enrich elements of niche GIs characteristics. My research thesis aims to **contribute to the research gap on the formation of the GIs niche and its growth within civil society.**
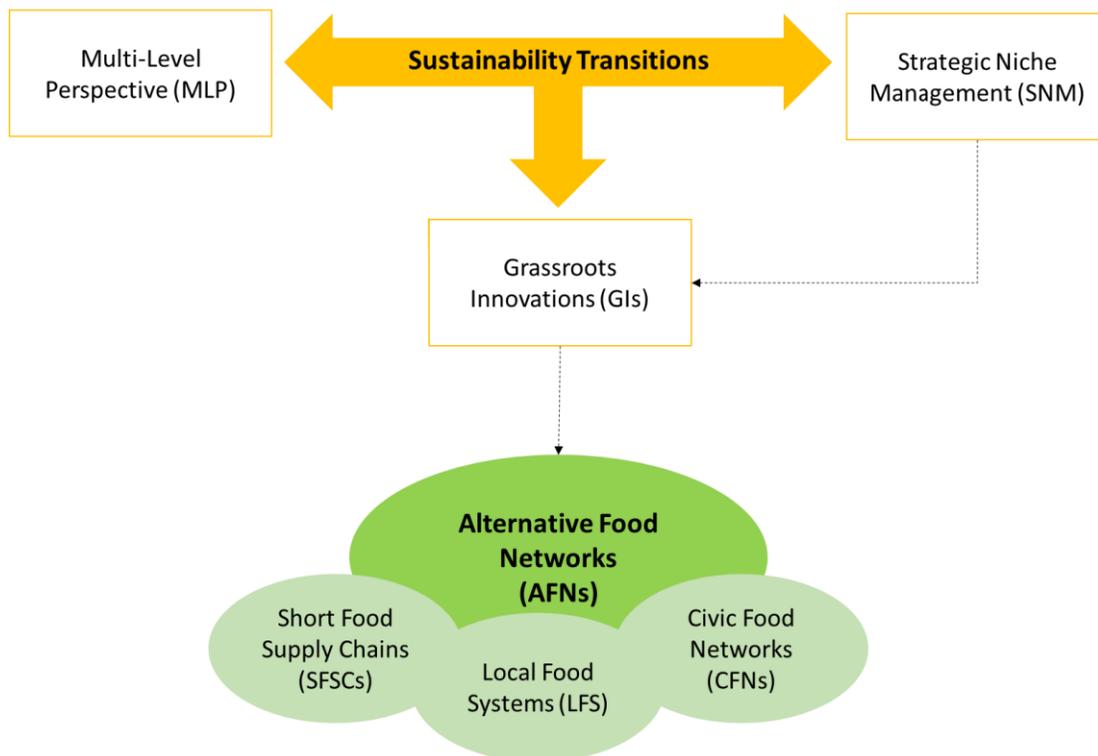


*Figure 1 - Presentation of the conceptual research field*

## 1.3    Research Question

This research thesis answers the following research question: *How do Alternative Food Networks initiatives form a sustainable grassroots innovations niche in Montreal?* A sample of local AFNs initiatives in Montreal will be studied to assess their compatibility of being a GIs niche.  To answer my research question, I have the following objectives:

(1) To assess the utility of SNM theory in studying GIs (points 1-4 on the Figure 16, Table 9)

(2) To enrich existing elements of GIs such as its motives, challenges and diffusion (points 5-7 on the Figure 16, Table 10)

## 1.4    Structure of the thesis

The paper is structured in eight chapter. Chapter 2 is covering literature review of two main branches of theories that I mobilize in this research. First is on the AFNs and second is Sustainability Transitions field. Within each of those two main theories, I will be exploring more detailed approaches of each. Chapter 3 will summarize the literature review and present my conceptual framework. Next, in Chapter 4, I will be elaborating on the methodological approach I used to gather and treat my data. In Chapter 5 I will introduce my sample organisations and provide brief information on each. Chapter 6 will be presentation and discussion of the results obtained. I will summarize these discussion findings and analysis in Chapter 7. Finally, Chapter 8 will be my conclusion on the research, including contribution to the practice and future research paths.

## 2. LITERATURE REVIEW

This section provides an overview of AFNs literature and explains different facets of this overall food movement.  This section explains how AFNs fit with the field of GIs. Then, an overview of Sustainability Transitions theory will also be provided.

AFNs literature has developed into a vibrant field of study in last two decades. Originally initiated by the fair-trade movement, AFNs have grown to include diverse initiatives. These initiatives range from various types of alternative food networks, to labelling, to public procurement, and so on (Maye & Kirwan, 2010). The literature has evolved from initially being focused on producers and their contribution to the

sustainable rural development, to much larger pictures of social movements that attempt to transform our current agri-food[1] system (Renting et al., 2012). The literature documents new types of producer-consumer collaboration that argues in parallel or in opposition to the dominant globalized food system and market (Holloway et al.,2007; Renting et al.,2012). In any form, and despite the varied approaches, AFNs movement aims at three main motives: (1) value redistribution through the network against the current centralized retail industrial food chain, (2) restoration of the trust in producer-consumer relationship against the current food industrial scandals and label misleading, (3) formation of new types of governance amongst politics, market and the civil society (Whatmore, Stassart et al., 2003).

A general overview of the AFNs literature is provided in the Table 1 below that summarizes the main perspectives within this field (Tregear, 2011).

| Key perspectives | Inspired by | AFNs defined | Contributions | Critiques | Authors |
|---|---|---|---|---|---|
| 1. Political Economy | Marxiam approach: neoliberal politics and global capitalism explain human behaviour and choice | - Explained as outcomes of political and economic realities<br>- Movements in constant struggle against threatening forces of global capitalism | - Providing contextual portrait that affect food systems, explaining the injustices that can emerge in such systems.<br>- 'Reflexive localism' | - Can't explain the revival of agri-food clusters despite the current system<br>- 'Reflexive localism': too idealistic | Allen et al. (2003)<br>Goodman (2004)<br>DuPuis and Goodman (2005)<br>DuPuis et al. (2006) |
| 2. Rural sociology or development | Sociological interpretations: Social constructions of the members of local communities themselves | - AFNs as an expression of beliefs, values and motivations<br>- Rural development via Endogenous growth[2] of the members of local community | - AFNs can bring positive benefits via operative leveraging of communities of resources and capital | - Reactionary rather than progressive<br>- Selective and positively biased | Sage (2003)<br>Kirwan (2004)<br>Kneafsey et al. (2008)<br>Renting et al. (2003)<br>Van der Ploeg and Renting (2004) |
| 3. Modes of governance and networking theory | Meso-level: food systems as networks of actors functioning at the regional or state level | -Development of AFNs are the result of the interactions and negotiations between different actor groups | - AFNs are a social construct best understood by knowing the actors, their goals and strategies involved | - Too straightforward narrative from heavy data | DuPuis and Block (2008)<br>Brunori and Rossi (2007) |

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[1] Agri-food is defined as commercial production of food by farming (Oxford dictionary)
[2] Endogenous growth: theory holds that investment in human capital, innovation, and knowledge are significant contributors to economic growth (Wikipedia)

| | | | - Local is where complex things happen and without any *a priori* possessed behaviours and impacts | | |
|---|---|---|---|---|---|

*Table 1- Overview of AFN literature*

The different points of view are communicated via different concepts mobilized in this literature such as: Alternative Food Systems (AFNs), Short Food Supply Chains (SFSCs)/Local Food Systems (LFS) and Civil Food Networks (CFNs) (Treager, 2011; Renting at al., 2012). Thus, I will elaborate on each of those topics separately to provide more clarity and to situate food GIs.

## 2.1    Alternative Food Networks (AFNs)

AFNs are defined as alternative ways of food production, distribution and retail activities when compared to the mainstream/conventional food systems (Harris, 2010; Renting et al.,2003). Scholars from disciplines of sociology, human geography, anthropology, and agri-food systems have been researching AFNs in comparison to conventional food networks in aim to explain what 'alternative' means. Authors have been using the following table to contrast the differences (Ilbery and Maye, 2005).

| Conventional | Alternative |
|---|---|
| Modern | Postmodern |
| Manufactured/processed | Natural/fresh |
| Mass (large-scale) production | Craft/artisanal (small-scale) production |
| Long food supply chains | Short food supply chains |
| Costs externalized | Costs internalized |
| Rationalized | Traditional |
| Standardized | Difference/diversity |
| Intensification | Extensification |
| Monoculture | Biodiversity |
| Homogenization of foods | Regional palates |
| Hypermarkets | Local markets |
| Agrochemicals | Organic/sustainable farming |
| Non-renewable energy | Reusable energy |
| Fast food | Slow food |
| Quantity | Quality |
| Disembedded | Embedded |

*Table 2 - Difference between conventional and alternative food networks (Ilbery and Maye, 2005, 824)*

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Allen et al. (2003) states that new agri-food initiatives share a common political agenda: to create food systems that are environmentally sustainable, economically viable, and socially just. Thus, the authors explain that most of the AFNs initiatives are related to opposing the global food system by reconstructing the local food system. Allen et al. (2003) states three possible ways to engage with AFNs. First, developing community-based food systems grounded in regional agriculture and local decision-making. Second, empowering marginalized communities by means of projects such as urban agriculture, food-based activities and job trainings. Third, providing education about food systems and ecological practices in schools and to general public.  These activities present both opposition to the existing global system and alternative possibilities of socio-ecological relations pertaining to food (Allen et al., 2003). The authors recognize the speculation on the meaning of 'local' and define it by two connotations – 'links' and 'sites'. 'Links' refer to the interaction between those involved in production and consumption. Namely, it assumes that relationships of support and trust are being created on the local level, removing the place of the intermediary actors who are unavoidably involved in the current industrial global food system. Also, 'local' is presumed to stimulate both consumers and producers to "internalize the externalities of conventional agriculture, paying for the full costs of food production directly, rather than indirectly through displaced environmental and social harm" (Allen et al., 2003, 64). The second characteristic of locality are 'sites' referring to product differentiation and availability based on its territory of origin.  These products are associated with environmental and social qualities specific to the site of production.

Similarly, Jarosz (2008) names two main characteristics of AFNs. First characteristic of AFNs is bringing consumers and producers closer via alternative venues such as farmer's market, community supported agriculture (CSA), box delivery schema, community gardens and food cooperatives. Second characteristic of AFNs is shared commitment to the sustainable food production and consumption from all the stakeholders involved.  Thus, Jarosz (2008) concludes on four main outcomes of the AFNs development in the Figure 2 below. The first outcome is shortening of distances between where the food is grown and where is it purchased and consumed. This proximity minimize/eliminate transportation costs, dependence and consumption of oil and bypass the middle-man allowing customers to build trust and cooperation. This direct transaction allows farmers to save on fees and capture more profit. The second outcome is resembling of the farms that practice different techniques from the current industrial, monoculture farming practices. The farms within AFNs are smaller in size, they practice organic techniques (even if not having the formal certification), holistic and environmentally conscious means of production. Those relatively small surfaces are widely diversified in their product offerings, growing different kinds of vegetables and fruits. The third outcome of AFNs is offering new venues of sale that are outside of the

chain supermarkets (farmer's market, CSA, schools etc.). The last outcome of AFNs mentioned by Jarozs (2008) is shared commitment to the social and environmental values of how and where the food is grown, distributed and eaten.
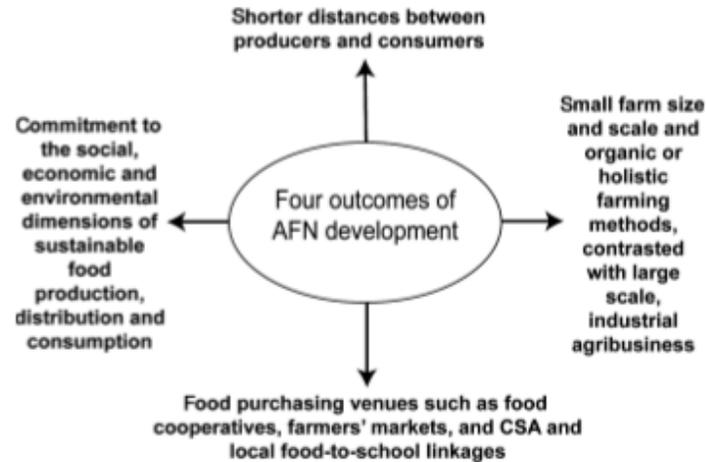


*Figure 2 - Four outcomes of AFN development (Harris, 2010, 356)*

Jarosz (2008) notes that AFNs also include the fair-trade movements, transnational small farmers and food social justice movements that I will not address further in my literature review. To summarise, Renting et al. (2003, 394) affirms that "AFNs, by their nature, employ different social constructions and equations with ecology, locality, region, quality convention, and consumer cultures".

Moreover, AFNs literature has been studied and developed on two continents simultaneously. The 'alternative' models have been defined in different notions by European and North American schools (Goodman, 2003). In Europe, AFNs have been initially associated with new ways of food provisioning and as a potential for stimulating economic development in the rural area (Halloway et al., 2007; Maye & Kirwan, 2010; Watts et al., 2005). Furthermore, Goodman (2003) notes that the AFNs research in Europe focuses more on gradual Common Agricultural Policy (CAP) changes that support activities beyond agricultural production, and towards a wider concept of rural development. Food relocalization has been used as a way to stimulate economic development in fable regions by encouraging them to put value in their own resources and cultural specificities, offering 'embedded' food of that region (Watts et al., 2005). This would be the 'first' generation of food initiatives, including organic agriculture and CSA/box schema (Goodman et al., 2012). The 'second' generation initiatives encompass community self-help projects and organisations that engage in alternative sourcing and distribution. Second generation activities include

individual actions such as 'grow your own food'. The most common movement in this second generation is the Transition Town Movement, originated in UK (Goodman et al., 2012).

In North America, AFNs are positioned as a politicised discourse of oppositional activism (Watts et al., 2015; Goodman, 2004, Allen et al., 2003, Halloway et al., 2007). Food movement progress started from the 1970s idealism/back-to-the land visionaries, to the mainstream industrialization of organic business dominated by corporate actors. This industrialization of organic food is not in line with the original values of sustainable, locally scaled and equitable food provisioning (Goodman et al., 2012). Thus, AFNs are more like a social movement and in disagreement to the current existent system. In North America like in Western Europe, AFNs are local food movements that promote the creation of networks of civil agriculture based on direct marketing and transparent governance process (Goodman et al., 2012). More precisely, actions are aimed at a larger vision of local food systems that are supportive of food politics. Actions also aim to increase the distance from possible corporate assimilation and beyond standard United States Department of Agriculture (USDA) regulation (Goodman et al., 2012).

Watts et al. (2005, 34) argue that AFNs "can be classified as weaker or stronger on the basis of their engagement with, and potential for subordination by conventional food supply chains operating in a global, neoliberal polity". Thus, 'weak' AFNs are those that emphasise on the food concerned and not on the networks through which they circulate. Those alternatives are considered 'weak' as they are vulnerable and easily subservient to conventional products as they remain focused on the product itself, not the whole system. Short Food Supply Chains (SFSCs) and Local Food Systems (LFSs) literature was developed as an example of 'strong' AFNs that I elaborate on in the next section.

### 2.1.1. Short Food Supply Chains (SFSCs)/ Local Food Systems (LFS)

SFSCs are characterized by new supply chains that enable small and medium enterprises to connect directly with the final consumers. SFSCs concept explores the interrelations between actors involved in production, processing, distribution and consumption of the products (Renting et al.,2003). Transmitted within the supply chain is 'embedded,' value-laden information regarding the food's origin, mode of production, and its quality (Marsden et al., 2000; Murdoch et al., 2000, Maye and Kirwan, 2010). The literature similarly refers to this as LFS so I will treat the terms synonymously given that the concepts bear the same intentions.

The emergence and continuous growth of AFNs outside peripheral regions is due to changes on the side of consumption and production (Renting and al., 2003; Goodman et al., 2012). On the consumption side of the agri-food system, consumers have become more concerned about ecology, health and animal welfare in large portion due to the 'food scandals' such as salmonella and dioxine residue in milk, to name just the few (Renting et al., 2003). Often presented by governments in the form of health hazards that don't have scientific basis, consumers are losing trust in modern food production (Goodman, 1999). Such is the case with genetically modified organisms (GMOs) which in return confirm the consumer's negative pre-established perception of modern food. The delinking of food production, processing and consumption due to industrial food supply have called for the necessity of institutionalized food quality guarantee. Therefore, as Renting and al. (2003) describe, those governmental agencies for 'food quality' control have emerged, institutionalizing the food quality in standardized, objectified and measurable technical parameters. Over time and due to the growing anonymity of production globalized activities, customers lost trust in those regulatory bodies and are looking for new credible ways of guaranteeing quality. Therefore, the consumers are looking for 'beyond basics', different and diverse food. Food quality is being defined by concepts such as healthy food, regional quality food, organic food, slow food, etc. (Renting et al., 2003)

On the producer side, alternatives are offering new pathways out of the current squeeze when it comes to income creation. On one side, revenues are declining due to the saturation of the market and competition. On the other side, costs are rising due to the pressing investments in new technologies (to stay in the race of the lowest prices) and environmental regulations (Renting et al., 2003). Hence, SFSCs provide producers an opportunity to bring back the value to the supply chain that will hopefully fix the conventional issue of the price squeeze.

Renting et al. (2003) and Marsden et al. (2000) focus on the relationship of building value and meaning between producers and consumers within SFSCs rather than focusing only on the type of the product itself. The authors distinguish two dimensions in the consumer-producer relationship: first is the organisation structure & the mechanisms of extending the relationship in space and time, and second is the definition of quality and conventions.

In the first dimension of organisation structure and the mechanisms of extending the relationship in space and time, there are namely three possible ways of participating in SFSCs: (1) face-to-face SFSCs, (2) proximate SFSCs and (3) extended SFSCs, presented on the table below (Renting et al., 2003). All three ways have the same mission to provide products that are embedded with value-laden information about

the product. Successfully communicating this information to the consumers aspires to engage them into connecting with the place/space of the production and possibly with the values of those who produced the products and the methods used.

| Face-to-face SFSCs | Proximate SFSCs | Extended SFSCs |
|---|---|---|
| • farm shops<br>• farmer's markets<br>• home deliveries<br>• pick your own<br>• e-commerce | • consumer cooperatives<br>• special event fairs<br>• local shops<br>• catering to institutions | • certified labels<br>• reputation effects |

*Table 3 - First dimension of SFSCs (inspired from Renting et al., 2003, 399)*

Second dimension explores the definition of quality and conventions by identifying two main categories, shown on the table below. First category is regional or artisanal characteristics with regards to the origin of production or producer. Second category is ecological or natural characteristics with regards to the ecology and environmentally sound methods used. Those two dimensions are not always clearly distinctive from one another and there can be a third category of 'hybrids' in between.  Also, the quality dimensions depend on the perceived image of involved actors.

| Regional or artisanal characteristics | | Ecological or natural characteristics |
|---|---|---|
| • on-farm processed<br>• traditional<br>• fair trade | 'Hybrids'<br>←--------------------→ | • organic<br>• natural<br>• free range<br>• GMO free |

*Table 4 - Second dimension of SFSCs (inspired from Renting et al., 2003, 401)*

Moreover, Watts et al. (2005) argue that revalorizing SFSCs is the key to building stronger AFNs to globalized food supply chains (FSCs) and define four main dimensions of alternativeness. First dimension is that SFSCs offer *spatial alternative* to conventional FCSs. Like shown in the Figure 2, SFSCs reduce the distance that food travels between the production site and sale site. SFSCs can also be serving the populations that are left out from conventional FCSs, such as 'food deserts.' These are areas that are often inhabited with low income population where conventional stores don't find profitability to expand. Also, local food initiatives offer possibilities of employment for local people. As seen in the examples of 'proximate' and 'extended' SFSCs, spatial benefits remain despite the reliance on some multinational companies, for example for the transportation and conventional communication networks. Secondly,

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SFSCs offer *social alternative* to conventional FSCs where connecting consumers and producers allows for improved flow of information, establishing trust between the two and promote a sense of community integration (Morris and Buller, 2003). Thirdly, SFSCs offer also an *economic alternative* for the producers. Despite the evidence that some have more economic incentive (ability to charge higher price) and some are doing this beyond 'making a living', the SFSCs offer an alternative of being 'within the market but outside the norms of capitalist evaluation'. And lastly, despite the evidence being thin, SFSCs provide *alternative ways* to conventional FSCs by including a wider range of produce, especially ones that have gone through little or no processing (Watts et al., 2005).

However, industrialization of organic agriculture has been debated and criticized within the food movement (Hassanein, 2003; Fonte, 2008). Therefore, localization of the food systems has always been at the center of AFNs literature (Harris, 2010). However, Hinrichs (2000; 2003) questions that localisation is an antidote to globalisation, its heterogeneity of the regional flavours and that localisation is an overall 'solution' to the 'problem' of globalization. The figure below shows the binary poles of local vs. global that literature in AFNs usually projects (Hinrichs, 2003). The author evokes caution with this, as the case with any binary approaches and evokes that this simplification can be misleading. Furthermore, the author questions the localness being related to more moral and associative economy and raises caution to intolerances and unequal power relation.

| Global | Local |
|---|---|
| Market economy | Moral economy |
| An economics of price | An economic of sociology of quality |
| Transnational corporations dominating | Independent artisan producers prevailing |
| Corporate profits | Community well-being |
| Intensfication | Extensification |
| Large-scale production | Small-scale production |
| Industrial models | "Natural" models |
| Monoculture | Bio-diversity |
| Resource consumption and degradation | Resource protection and regeneration |
| Relations across distance | Relations of proximity |
| Commodities across space | Communities in place |
| Big structures | Voluntary actors |
| Technocratic rules | Democratic participation |
| Homogenization of foods | Regional palates |

*Figure 3 - Attributes associated with "Global" and "Local" (Hinrichs, 2013, 36)*

Furthermore, Du Puis and Goodman (2005) bring attention on treating 'localism' as a fixed set of norms, pre-set 'standards', all part of the perfectionist utopian vision of the food system. This concept raises the

issue that localism is within the interests of the narrow, usually elite group and create 'unreflexive politics' where a small group decides on what's best for everyone and tries to change the world by convincing the majority to turn to their utopian way. In contrast, the authors argue the approach to LFS must be more democratic and open. We must accept that it is a process of conflicting groups and different points of view rather than a set standard that defines the politics of localism. The authors raise the concept of 'reflexive localism' where people from different representations of society discuss ways of changing their social order. The authors do not de-legitimize localism but on the contrary, bring about further reflection on the complexity and necessity of including the full spectrum to further social change and shift.

Similarly, Hinrichs (2000) brings attention to the subjects of (1) marketness and (2) instrumentalism as 'conceptual shadows' to social embeddedness. Namely, inspired by the concept introduced by Block (1990), Hinrichs (2000) explains that marketness relates to the relevance of price in transactions and that instrumentalism refers to the type of individual motivation goals. Those two variables move in tandem so when the marktetness is high (price is an important factor for both the buyer and seller) the instrumentalism is also high (actors prioritize economic goals when engaging in this activity). Therefore, Hinrichs (2000) puts forward that those two variables are what constitutes the social embeddedness and that their role needs to be taken into consideration. The current assumption is that all face-to-face alternatives automatically include all the purity of social embeddedness, such as social equality. However, the author notes that often CSA initiatives and farmer's markets cater to a specific target group of customers that are often a middle class, educated population. Thus, the importance of considering marketness and instrumentalism as not necessarily morally bad but rather necessary in understanding the viability and development of local food systems. Furthermore, Hinrichs (2003) describes problems with 'defensive localism', stressing homogeneity and coherence of the local and the opposition to anything that is 'other' causes localism to be elitist and reactionary. Thus, Hinrichs (2003) introduced 'diversity-receptive food system localisation' recognizing variation and differences within and outside of the spatial local. This is an important step in recognizing external diversity and understanding that local is relational and open to change.

Lastly, after reviewing different types and topics within AFNs, its shortcomings in its lack of normative content is evident as it is mainly defined as an opposition to the mainstream food system. This is problematic because food systems can't be studied as being static. Rather, they are best viewed as a 'hybrid' concept, including parts of alternative and mainstream food systems that are a part of an ongoing transition process (Holloway et al., 2007; Renting at al. 2012). Moreover, the question that I pose, like

Hassanein (2003, 84) asks, is "can pragmatic, incremental steps truly transform the dominant agri-food system so that it will be more sustainable in the long term?" Answering this question is challenging, but the author remains affirmative. Namely because, Hassanein (2003) defines sustainability as a conflict over values and something with no assigned authority that can resolve this conflict. Rather, it is something to be defined socially and politically and considering changes in our collective understanding over time as conditions evolve (Hassanein, 2003). And so, Civil Food Networks (CFNs) address this through citizens' attempts in the spread of 'food democracy.' This concept promotes that every citizen can and should be actively involved in determining the food system instead of being a passive actor on the side (Hassanein, 2003).

### 2.1.2 Civic Food Networks (CFNs)

Renting et al. (2012) refers to CFNs as a complementary analytical concept that speaks more precisely about the redefined dynamics between citizens, consumers, producers and civil society and specifics of social and economic aspects in the new food system transformation. Thus, CFNs are a new way of collaboration between producers, consumers and all other actors, wider than food production, distribution, and consumption practices. Rather, CFNs create new forms of food citizenship such that the roles of citizen-producers and citizen-consumers reshape the food system and meaning of food beyond economic transaction. Furthermore, CFNs correspond to the innovation coming from urban settings, changing the discourse of the country being a production site and the city as consumption, including (peri)urban[3] forms of agriculture. Also, it encompasses new learnings and knowledge that are shared amongst the actors involved, such a permaculture. CFNs are often related to other social movements such as de-growth, Transitions Towns, etc. Thus, CFNs include the diversity of civil society as an important part of the AFNs literature.

As per Renting at al. (2012), CFNs have been also been associated with concepts such 'food sovereignty' and 'food citizenship'. These concepts advocate the role of citizens in the management and control of food systems. Food sovereignty is a concept defined by the producers bottom up movement called 'Via Campesina'. As per their website, they define food sovereignty as "the right of peoples to healthy and culturally appropriate food produced through sustainable methods and their right to define their own food and agriculture systems" (https://viacampesina.org/en/index.php/organisation-mainmenu-44). Renting et al. (2012) describes 'food citizenship', as 'the practice of engaging in food related behaviours

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[3] Peri-urban agriculture is agriculture undertaken in places on the borders of urban areas or in the suburban areas

that support, rather than threaten, the development of democratic, socially and economically just, and environmentally sustainable food system'.

Hassanein (2003) notes that agri-food movement is part of the "new" social movement that remain complex, multidisciplinary and diversified. Thus, the agri-movement brings the changes in civil society by altering values, lifestyles and symbols. The author proposes coalition building amongst different groups working in the agri-food movement as a step forward in this battle. Food democracy calls for engagement of regular citizens in recognizing the social need, setting the agenda and standing in the debate. "Food democracy facilitates and encourages making choices that creatively and constructively involve all the voices of the food system" (Hassanein, 2003, 84).

Hence CFNs promote that involvement of civil society in food systems that can change the current dynamic in the 'governance triangle'. So, that in ideal state, we would go from below shown Figure 4 to Figure 5 (Renting et al., 2012),
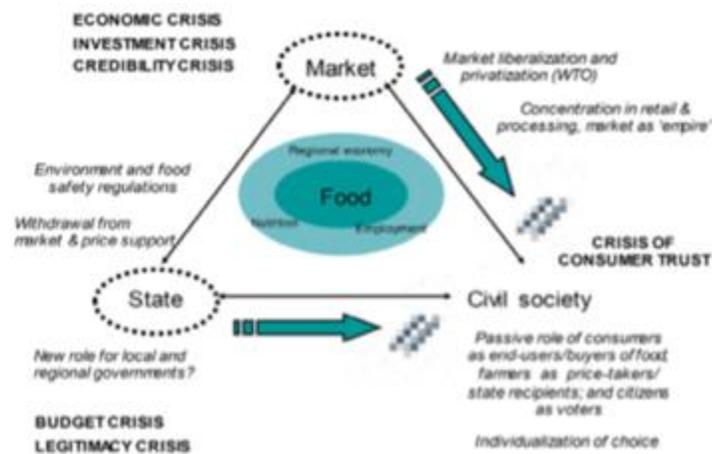


*Figure 4 - Dominated agri-food governance mechanisms and the current multiple crises (Renting et al., 2012, 296)*

The Figure 4 shows the economic and social tensions in the current agri-food governance. On one side, there is the market that is more and more dominated by few big players mainly acting in their own private, corporate interest. On the other side, there is public regulation that interacts via ongoing changes and shifts in intervention that continues to diminish their effectiveness. This separation leaves civil society in lack of trust in the quality or safety of the food. Also, global political, economic and financial crisis also worsens this role separation and aggravates tensions (Renting et al., 2012).

*Figure 5 - Civil society-based governance mechanisms as source of dynamism and innovation*

Figure 5 shows civil society playing an active role in restabilising the balance between different types of governance. This does not only generate changes towards active roles of consumers and citizens but also shapes and redirects the whole agri-food system. CFNs can take diverse forms but they share common characteristics such as: promoting ecological production methods, supporting season and local foods, offering fair price to all involved in the food system, and providing access to all despite their income. Innovation that emerge from CFNs turn to be main drivers for new types of partnerships, alliances and institutional relations with market parties and public bodies (Renting et al., 2012).

Finally, Renting et al. (2012) propose classification of CFNs and citizenship involvement in two areas of action: (1) Reconstructing alternative systems of food provisioning, resulting from close relationship between producer and consumers; (2) Shaping public opinion, culture and policies by activism. Those two attributes are a fit with the definition of GIS niches that I will elaborate and explain in the next section.

## 2.2 Sustainability Transitions

To situate the AFNs movement as one of the forms of GIs, I will first provide an overview of the overall Sustainability Transitions theory of which GIs is one of the most recent fields of study.

Sustainable Transitions was developed over the last decade out of the need to make sense of historical changes and future trajectories in sectors such as energy, water, food and transportation in the face of major sustainability challenges (Spaargaren et al., 2012, 5). These sectors are conceptualized as 'socio-

technical systems' – systems consisting of a network of actors (individuals, firms), institutions (norms and regulations), material artifacts and knowledge (Geels, 2011). Socio-technical transitions are therefore complex and involve multidimensional changes involving technological, material, organisational, institutional, political, economic and socio-cultural aspects (Smith et al., 2010; Geels, 2011). Those transitions are originally referred as long-term (50 years and more) structural changes initiated by new products, services, models, resulting in changes in technological, institutional and at the customer perception level (Markard et al., 2012). The shift from carriages to automobiles by Geels (2005) is a prime example.

Geels (2011) identifies three characteristics of Sustainability Transitions in comparison to historical transitions. First, Sustainability Transitions are goal-oriented addressing a specific ongoing environmental problem. In contrast, many historical socio-technical system shifts happened due to the exploration of new technologies and opportunities in an emerging manner, without a pressing goal. Sustainability Transitions goals be they in energy, food, or transportation changes provoke limited interest within the private sector out of their basis to ameliorate the public good. Thus, the public and civil sector became the main actors in addressing Sustainability Transitions goals that are often contested, debated, and disagreed upon. The second characteristic of Sustainability Transitions is their lower price/performance dimension when compared to 'mainstream' goods because the collective good measure is not factored into the quantitative calculation. This equation further supports that Sustainability Transitions require changes in economic conditions guided by changes in regulatory frameworks and policies. These types of changes will certainly spur conflicts amongst actors with disagreements over who holds the power to affect the necessary changes. The third characteristic refers to the domains in which issues are present. Those domains are known for being dominated by large firms: electric utilities, oil companies, food processing/selling companies, that have developed 'complementary assets' in their way of functioning. These complementary assets form specialized manufacturing capabilities, technologies, and large scale distribution etc. They represent strong scale advantage compared to pioneer innovations. The firms with complementary assets will probably not be the initiators of sustainable innovations, but their involvement could fast-track the process. Geels (2011) notes that a strategic reorientation of those firms will be needed given that they seek to defend the current socio-technical system.

Thus, Sustainability Transitions are "long term, multi-dimensional, and fundamental transformation processes through which established socio-technical systems shift to more sustainable modes of production and consumption" (Markard et al., 2012, 956). Sustainability Transitions theory is rooted in

Science and Technology Studies and the main reason why the focus of the theory is on technological changes referred to as 'socio-technical innovations' or 'niches' (Kemp et al., 1998). 'Social' refers to the rules, institutions and social relationships involved along with the 'technical' innovation focus of the theory. The theory asserts that socio-technical innovations have the potential of becoming 'niches' once they reach critical mass and prove a positive record as an alternative option (Geels, 2002; Smith et al., 2010). These niches challenge the current systems that are highly dependent on the technologies and infrastructure in place. Large investments from the public and private sector to build, maintain and further develop technologies and infrastructure have enabled the development of global corporations and customer needs expectations. The incumbency of these corporations and the needs expectations that have been generated have 'embedded' them in our cognitive, regulative and normative rules making them the 'lock-in' mechanisms (Geels, 2004; Schot and Geels, 2007). These 'lock in' mechanisms are major blockers of changes within socio-technical systems, despite that they have negative side effects on the society as a whole such as pollution, biodiversity loss, climate change, just to name the few. As per Smith et al. (2010), Sustainability Transitions research is an important factor to drive political consideration and governance activities that will help accelerate the emergence and adoption of 'socio-technical innovations' that could transform our mainstream production and consumption system.

The urgency to transition towards sustainability in production and consumption has been expressed in policy arena amongst the UN and OECD, as well as in the growing field of social science research (Markard et al., 2012). The European-based Sustainability Transitions Research Network (STRN)[4] was founded in 2009.  The STRN has the ambition to "support the development of a Sustainability Transitions research community internationally, and provide an independent, authoritative and credible source of analysis and insights into the dynamics and governance of Sustainability Transitions" (STRN, 2010, 4). In the document on the mission statement and research agenda of STRN (2010), the authors emphasize analysis on learning, radical innovation, and experimentation processes, searches for new paths and participatory approaches, multi-actor interactions, selections processes, reactions and network evolution. They emphasize this broad mission since transition research perceives sustainable development to be an open-ended journey.

To advance the study of such methods, Geels (2002) has developed a broad, Multi-level perspective (MLP) on socio-technical transitions that claims to analyze the overall framing problem of innovation in the entire system of production and consumption. MLP will be elaborated in the following section, 2.2.1. As

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[4] http://www.transitionsnetwork.org/

per Schot and Geels (2008), the MLP framework was developed in parallel to Strategic Niche Management (SNM) as way to conceptualize the dynamics amongst different system layers and situate socio-technical innovations (niches) in a larger picture. This will be further discussed in section 2.2.2. The examination of MLP will set the stage to introduce a recent field of study within Sustainability Transitions, Grassroots Innovations (GIs) (Sayfang and Smith, 2007) where the aim of my research aims to contribute, and will be further explained in the section 2.2.3.

## 2.2.1. Multi-level perspective (MLP)

MLP is a theory that allows for the conceptualisation of overall dynamic patterns in socio-technical transitions (Rip and Kemp, 1998; Geels, 2002, 2011; Schot and Geels, 2007; Smith et al., 2010). MLP is a non-linear process that is dependant on the relationship between three different levels:

- Socio-technical landscape (exogenous context)
- Socio-technical regime (rules, regulations and established practices that stabilize current system)
- Niches (radical innovations)

(Rip and Kemp, 1998; Geels, 2002, 2011; Schot and Geels, 2007; Smith et al., 2010)

The regime level has the most focus as transitions are defined by a shift in one regime towards another. We see that the niches and landscape are 'derived subjects' as they are defined in relation to regime. The below figure by Geels (2011) is a representation of the three-level approach and their dynamics.
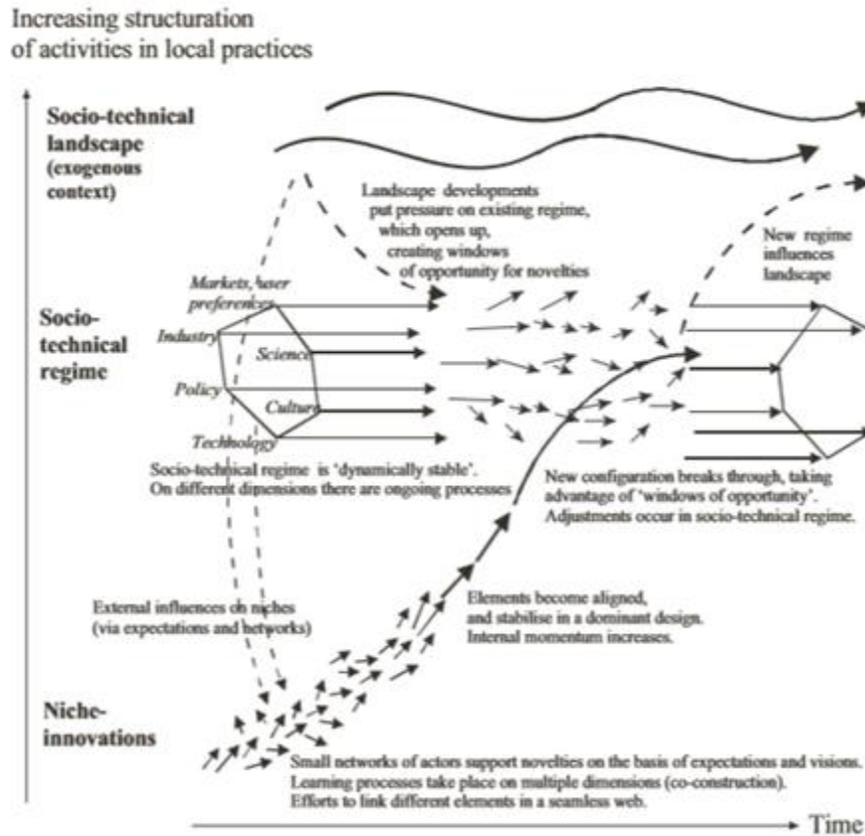
Figure 6 - Multi-level perspective on transitions (Schot and Geels, 2008, 546)

The *socio-technical landscape* is viewed in a wide context and is manifest through demographic trends, political ideologies, societal values, and macro-economic patterns (Geels 2002, 2011; Schot and Geels, 2007; Smith et al., 2010; Spaargaen et al., 182). Namely, Spaargaen et al. (2012, 182) expand the concept of landscape factors into three: natural factors that change slowly like climate change; social changes like industrialization that occur over a longer time period, and lastly, sudden shocks such as wars or crisis.

*The socio-technical regime* refers to existing, established, dominant and institutionalized level of rule-sets that order the coordination amongst different social groups and their activities (Geels 2002, 2011; Schot and Geels, 2007; Smith et al., 2010; Spaargaen et al., 2012, 182). Defined rules are used to provide autonomy to the actors as they draw upon the rules in concrete action and on the other hand, actions can depend on the rules to define themselves. Examples of regime level constructs are shared beliefs, favourable institutional arrangements, regulations, legally-binding contracts, lifestyles, and user practices. Given those characteristics, Geels (2011) notes that regimes are full of 'lock-in' mechanisms that can be influenced with the incremental increase of innovations that lead to stable trajectories. Regimes can be

challenged by niche innovations, pressures from the landscape situation or renewal from within the regime itself.

*Niche innovations* are defined as radical innovations that deviate from the current regime and that live in 'protective spaces' such as R&D labs, subsidies projects where niche actors work on them (Geels 2002, 2011; Schot and Geels, 2008; Smith et al., 2010; Spaargaen et al., 2012, 181). Radical innovations must be protected from the mainstream market for a certain period of time in order to develop. SNM theory goes in further detail on niches that I will further elaborate in the following section. For now, it is important to remember that the niches are the seeds for systematic change and crucial factors for transition. However, given the many 'lock-ins' within the regime, niches alone have a limited power of influence (Geels, 2011).

Geels (2011) summarizes the pattern of dynamics between each level as such: first, niche innovations build strong internal momentum; second, changes in the landscape create pressure on the regime level and lastly, this pressure produces a weakening of the regime level creating a window of opportunity for the niche-innovations to emerge.  The author uses historical transitions examples to apply the theory that include developments of sewers and sanitations, highway systems, and industrial production. In my opinion these are limited examples when compared to sustainability given that sustainability is a common good without evident measurements of their severity. MLP has been used in Sustainability Transitions, to explain the emergence of 'green' cars, organic food, and sustainable housing and demonstrate the network dynamics and struggle across multiple dimensions against the existing regime.

Schot and Geels (2007) and Geels (2011) openly elaborate on the criticism of MLP expressed by different academics and propose solutions and further explanations. The main criticisms focus on the lack of agency (actors, power, politics), specification of regimes, bias towards bottom-up models, the heuristic style, lack of methodology, and flat ontologies. The debate and criticism continues with regards to the MLP approach where different academics have differing opinions on historical transitions. I will not explore in great detail these critiques as MLP is not the main framework that I examine. Schot and Geels (2007) defined four transformation pathways in response to the critique on the bias towards bottom-up solutions. The authors identify two criteria for bottom up solutions: the timing of multi-level interactions (precisely on 'readiness' of niches) and the nature of multi-level interactions (competitive or symbiotic relationship). Most importantly, the authors describe *that radical innovations will have a low chance of breaking through if the regime is stable and without any external pressures.*

Below are the four sample pathways identified by Schot and Geels (2007):

1. *The Transformation Pathway: Regime adopts some parts of niche-innovations without changing their basic structure*
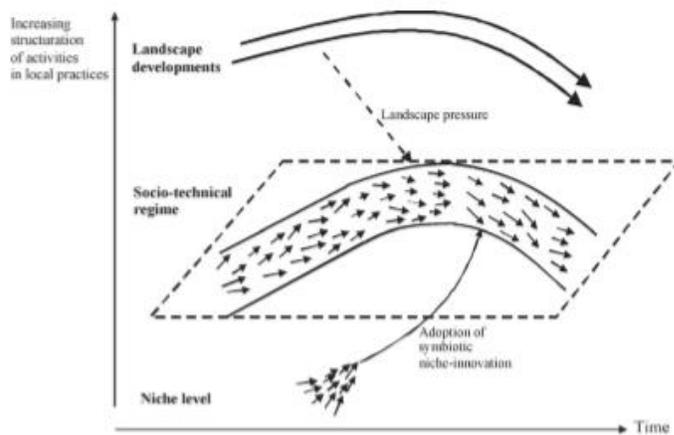


Figure 7 - Transformation pathway (Schot and Geels, 2007, 407)

In this pathway, the regime is landscape pressure, leading to moderate changes. The niches have not yet been developed sufficiently to take over the new reorientation. The regime sees niches as 'valuable front runners' and uses some their lessons in their current regime. The regime adopts limited niche practices, developed within the new regime structure without changing its overall basic structure. An example for this pathway is the Dutch hygienic transition from the use of cesspools to sewer systems.

2. *The De-Alignment and Re-Alignment Pathway: Large landscape changes are leading to erosion of the regime*



Figure 8 - De-alignement and re-alignement pathway (Schot and Geels, 2007, 409)

This pathway is initiated with the sudden shock to the landscape and rapid destabilization of the regime. In this chaotic situation where actors have lost faith in the regime, niches compete for attention and resources. Multiple niches are under development, exploring across multiple directions. At a certain point, re-alignment occurs when one niche achieves dominance to become the core leader to drive the re-alignment. An example for this pathway is the American transition from horse-drawn carriages to automobiles.

*3. The Technical Substitution Pathway: existing regime is being renewed in their technical dimension*
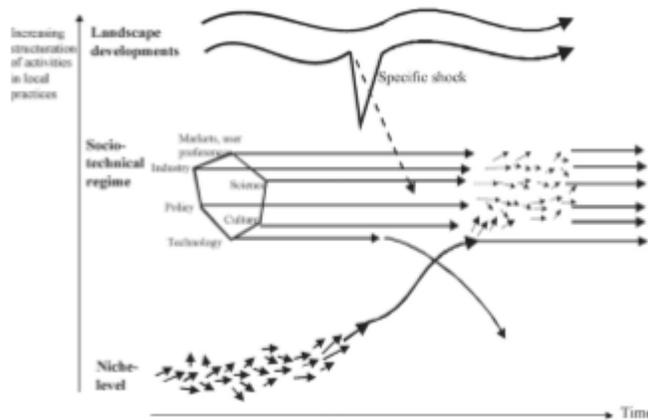


Figure 9 - Technological substitution pathway (Schot and Geels, 2007, 410)

The regime is pressured from the shock that occurred in the landscape. Niches have fully developed and can take over the window of opportunity to replace the existing regime. The transformation of the regime is initiated by technological innovation and followed by substitution to the new regime. An example for this pathway is the British transition from sailing ships to steamships.

*4. The Reconfiguration Pathway: What starts as innovating elements of the regime ends up with an alternation of its overall configuration*
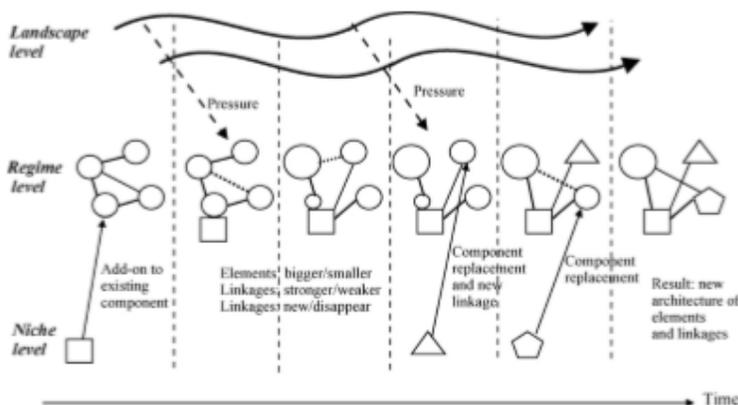


Figure 10 - Reconfiguration pathway (Schot and Geels, 2007, 412)

This pathway resembles the transformation pathway but goes further in triggering changes that transform the overall architecture. The new technology adopted consequently brings about changes in social networks and relationships involved in the current regime. This gradually changes overall functioning and outlooks. The mainstream actors must go through the process of transformation themselves. An example for this pathway is the American transition from traditional factories to mass production.

In summary, MLP theory explains overall system dynamics placing importance on niches as the sources of innovative sustainable solutions that drive change. Schot and Geels (2008) outline a linear interaction process: niche innovations become robust, landscape changes cause pressure on the regime, destabilizing of the regime creates an opportunity for niche innovations (Figure 7).

To explain and assess the 'readiness' of niche development, Strategic Niche Management (SNM) theory has developed in parallel to MLP.

## 2.2.2. Strategic Niche Management (SNM)

SNM field found its beginnings in constructivist science, technology studies, and evolutionary economics and the notion of 'niche' was already used in innovation literature (Schot and Geels, 2008). Technological niches are thus perceived as protected spaces where new socio-technical innovations are established (usually in opposition to the current regime). Niches are developed, experimented and tested, away from the normal market competition and pressure (Schot and Geels, 2008; Seyfang et al., 2014). Schot and Geels (2008) precise that sustainable innovation journey in SNM is facilitated by modifying the technological niches to co-evolve with interrelated social change. SNM differentiates itself by studying the management of two specific types of innovation. First, innovations included are socially desirable and long-term goal oriented such a sustainable development. Second, innovations are radical novelties that differ from the existing infrastructure, user practices, regulations etc. (Schot and Geels, 2008). Over more than 10 years of research within SNM, the field has evolved from 'early' SNM research focusing primarily on internal processes of niches to 'later' SNM research that consider the importance of interaction between niches and their wider environment (Geels and Raven, 2006).

Early SNM research believed that development of new sustainable technological innovations via process of niche development can create market niches and eventually take over the current unsustainable regime, as shown on the figure below (Schot and Geels, 2008).
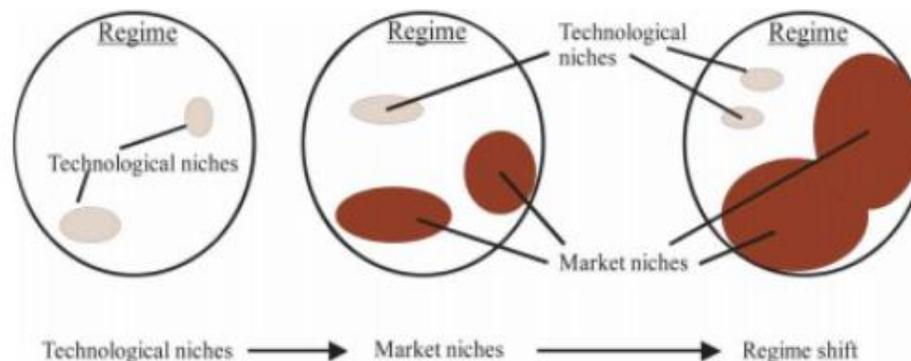


*Figure 11 - From niche dynamics to regime shift (Schot and Geels, 2008, 540)*

The focus was on developing the robustness of technological niches that would hopefully branch out, develop new market niches, and attract attention from the mainstream market and eventually take over. Within this work, **three internal processes** were developed to be niche success factors (Kemp, Schot, and Hoogma, 1998; Geels and Raven, 2006). First, **clear vocalisation of expectations and visions** of the niche

is necessary. To be more successful, expectations need to be of high quality, precise and shared by many actors within the niche. Expectations are important factors, they attract resources/attention from others and give direction to learning development. Second, **building social networks** is essential to ensure constituency, to facilitate interactions amongst different stakeholders, and to provide the necessary resources. Those networks need to be broad (composed of diverse stakeholders) and deep (able to mobilise resources from its social network). Third, **creation of shared learning** processes needs to be present in different dimensions (technical, market, user preferences, cultural, industry, regulations etc.). There are two differentiating levels of learning being 'first-order learning' and 'second-order learning'. First-order learning refers to the knowledge capital created internally such as accumulations of facts and data, processes and procedures within an organisation. Second-order learning is related to reframing the problem addressed to change assumptions and cognitive frames related to the issue in question. Both types of learning are necessary for niche development. SNM is focused on two main processes: the quality of learning and the quality of institutional embedding (Smith, 2007). The quality of learning is assessed by the development of second-order learning (in addition to first-level learning) that allows for a deeper reflection on the new socio-technical practice. The quality of institutional embeddedness is measured by the large diversity of the network, complementarity technology and infrastructure proposed, and clear expectations of the future of the niche development. Consequently, a successful niche is the one that has developed second-order learning and a broad network of users and supporters. The growth of such a niche has the chance of forming a new regime (Smith, 2007).

After years of testing those factors by academic research and a Phd theses conducted by Hoogma (2000), Raven (2005), later SNM research evolved by distinguishing local projects from the global niche level and taking into account the external environment that conditions niche development (Raven, 2006; Geels and Raven, 2006).
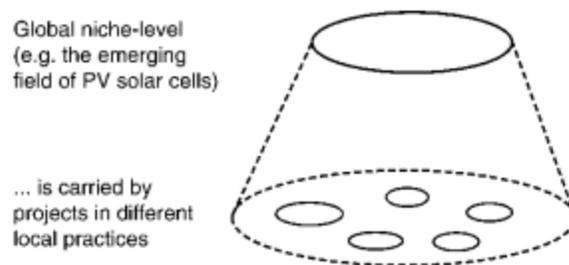


*Figure 12 - Local projects and global niche-level (Geels and Raven, 2006, 378)*

Shown in the Figure 12, Geels and Raven (2006) note that niche development is progressing at two levels. The first level is innovation that is born out of idealist or local reasons. At this level, the projects are furthered by many local actors. As the visions and expectations, shared learning, and network become more robust, stable and articulated, they form the second level, the global niche level. Thus, Geels and Raven (2006) distinguish that the local network is composed of the actors directly involved in the projects and the global networks are the carriers of best practices that develop standards, consolidate and institutionalise learning, and mobilize resources. The lessons and hands-on learnings from the local level are translated into cognitive rules (knowledge products, guiding frames, best practices) at the global niche level.

Moreover, Geels and Deuten (2006) put forward **the role of intermediary actors** as means for aggregation of knowledge between the local and global level of niches based on four phases of the development of sharing technological knowledge. Namely, Hargreaves et al. (2013) identifies three main roles of intermediary actors. First, their role is to transform the broad range of local projects into 'context-free' knowledge (aggregation of knowledge, as I will explain more below) so that it can be no longer be dependent on certain context. Second, their role is to create an 'institutional infrastructure' to enable sharing of the aggregated global knowledge via forms of forums and repository. Third, their role is characterized with the 'reversal' of relationship between the local and global niche where global level aggregated knowledge become guiding principles for local level activities. Often not mentioned enough in the literary discourse, intermediary actors play an important role in the niche development. The figure below summarizes those three roles (aggregation of knowledge, creation of institutional infrastructure, and guiding local-level activities) and shows that intermediary partners play a crucial role in development of robust niches (Geels and Deuten, 2006).
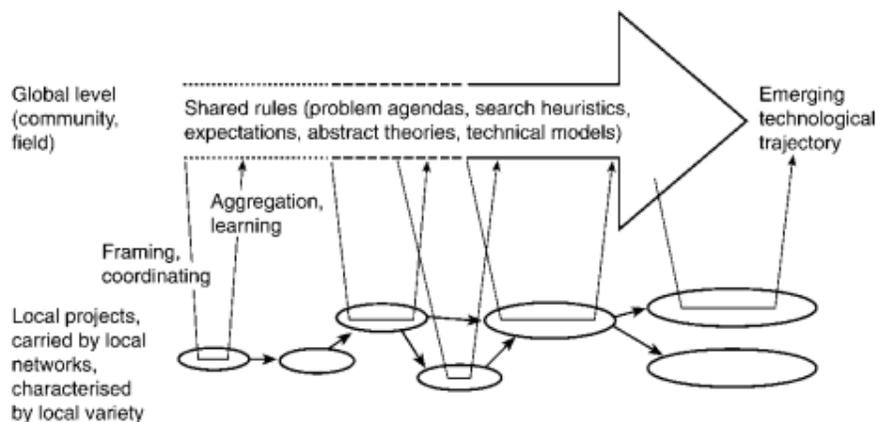


*Figure 13 - Emerging technical trajectory carried out by the local projects (Geels and Raven, 2006, 379)*

Intermediary partners are defined as actors that can connect projects with one another and with the broader world (Howard, 2006). Hence, the local actors are involved in practical work in local practices and intermediary actors work on transforming local know-how into global knowledge, and preform the aggregation of knowledge (Geels and Deuten, 2006). Aggregation of knowledge means that local knowledge is transformed into knowledge which is sufficiently general and no longer tied to specific local contexts. Geels and Deuten (2006) identify four main phases of the creation of the global technological knowledge, shown on below figure.
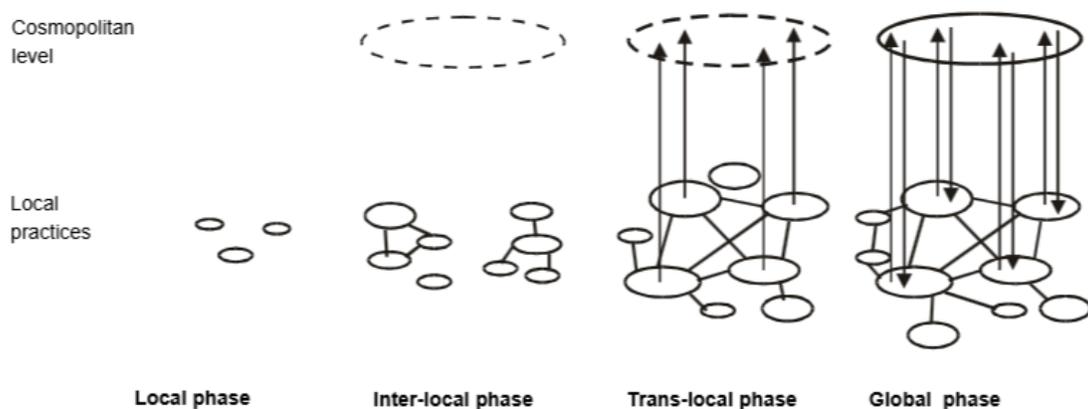


*Figure 14 - Phases in development of shared technological knowledge (Geels and Deuten, 2006, 269)*

In the first local phase, the knowledge emerges within local practices and is usually not shared with others due to limited interactions amongst different actors and no sharing infrastructure available. In the second inter-local phase, the knowledge circulates within networks and alliances. At this stage, the knowledge remains within the network of the similar actors and is not disclosed to outsiders. Seyfang et al. (2014) note that this is the phase where the niche level begins to emerge. My interpretation of those two first phases is that strong local actors can start playing the role of intermediary partners within this network (like the example of The Stop Community Food Centre in Toronto). The traditional emergence of intermediary partners begins in the third phase. The third trans-local phase is characterized by the sharing of knowledge beyond the practice, but rather at the level of the field as a whole. Often, in this stage, industry/field associations are born and adequate infrastructure for knowledge circulation is set in place, such as specialized journals or conferences. Intermediary actors play a role of defining the best working practices, developing guiding principles and managing scientific research. Finally, the last global phase

occurs when institutionalisation and standardisation translate into the establishment of dominant cognitive rules (Geels and Deuten, 2006). At this level, local practices have become part of the stabilized regime.

However, even if the formulation of the global level niche level was an important factor for its ability to create new trajectories for innovative sustainable journey Raven (2006), Schot and Geels (2008), state that external factors still play a crucial role. **Niche innovations can't bring about regime transformation without help of broader environmental circumstances**. That is how the MLP analysis was developed and integrated with niche development. Therefore, niches have the best chances of transformation when they have developed to the global niche level while the current regime is unstable. These conditions open the window of opportunity for niches to diffuse. Raven (2006) conceptualises those dynamics into four possible relationship scenarios between niche and regime. The following figure shows that when the regime stability is low, the niches can develop. However, to fully take advantage of that window of opportunity, niches must be developed and stable.
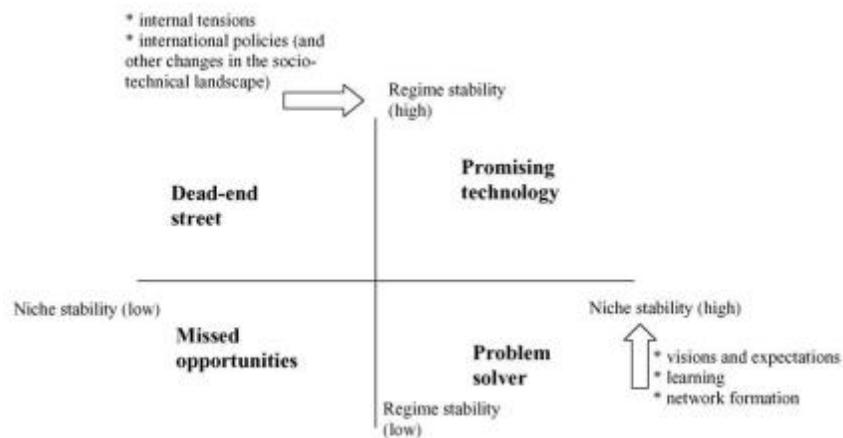


*Figure 15 - Relation between regime and niche stability (Raven, 2006, 585)*

In summary, niche success is predicted by development of its internal three factors: shared visions and expectations, networking and shared learning (first and second order) that will lead to creation of the global level niche. Furthermore, existence of intermediary partners proves the distinction between local and global niche level, and thus legitimize niche robustness and readiness. However, given their radically opposed nature to the current regime system, the niche's success of diffusion depends on the regime 'weakness' that creates window of opportunities for the new to replace the old.

Seyfang and Longhurst (2015) define three potential diffusion routes for niche innovations. First is scaling up which occurs by increasing the number of participants in individual projects that grow in size, activity, and impact. Second is replication of the project in different locations which contributes to the scaling of the overall innovative activity. Third is partial adoption by a regime that addresses the current problem in question but once reached within the mainstream systems, the radical ideas are loosened when diffused.

SNM theory focuses mainly on the market based innovations and little has been mentioned on the role of civil society and radical innovations and if the SNM framework can be applicable within that field (Seyfang and Longurst, 2016). To respond to this gap, the GIs field of research has developed in recent years with the goal to showcase that civil society initiatives are important actors in innovation for sustainability (Seyfang and Smith, 2007), that I will elaborate next.

### 2.2.3. Grassroots Innovations (GIs)

It has been explained thus far that Sustainability Transitions focus mainly on technological innovations, including SNM framework that explains how those innovations develop and progress. Seyfang and Smith (2007) argue that not enough attention nor credit has been given to social economy as a source of sustainable innovations, namely emerging from grassroots initiatives. The authors, both located in the UK, have noticed the issue in UK policy on sustainable development being divided in two policy components: the ecological modernization & technological innovation, and community action & social economy. Hence, they set to explain that such division hinders the understanding of the innovation potential of grassroots initiatives and instead develop a theoretical approach of Grassroots Innovations (GIs).

Gill Seyfang and Adrian Smith founded 'Grassroots Innovations'[5], a web platform resembling all the research publications and projects in the subject of grassroots innovations. Their research "aims to better understand how these innovations develop and grow, and how they can be harnessed to meet sustainability policy objectives" (https://grassrootsinnovations.org/). The two authors are main contributors to this academic field.

Seyfang and Smith (2007, 585) define GIs as "networks of activists and organisations generating novel bottom-up solutions for sustainable development; solutions that respond to the local situation and the interests and values of the communities involved." GIs take place in social economy, and often in the form

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[5] https://grassrootsinnovations.org/

of small, low-profile, voluntarily, citizen-led and community driven groups. Examples of some grassroots initiatives includes organic vegetable baskets from farm cooperatives, community composting organisations, and social enterprises that sells recyclable products etc. Furthermore, Seyfang and Smith (2013) define characteristics of grassroots innovations by openness and inclusion in the process and not only the output of this kind of innovation.

Grassroots innovations operate in the field that differs, and is often oppositional to the mainstream which makes them interesting and a challenging field in the application of niche innovation studies (Hargreaves et al., 2013). In order identify these differences, Seyfang and Smith (2007) created a comparison in the Table 5 between marked-based innovation and grassroots innovations.

|  | Market-based innovations | Grassroots innovations |
| --- | --- | --- |
| Context | Market economy | Social economy |
| Driving force | Profit: Schumpeterian rent | Social need; ideological |
| Niche | Market rules are different: tax and subsidies temporarily shelter novelty from full forces of the market | Values are different: alternative social and cultural expressions enabled within niche |
| Organisational form | Firms | Diverse range of organisational types: voluntary associations, co-ops, informal community groups |
| Resource base | Income from commercial activity | Grant funding, voluntary input, mutual exchanges, limited commercial activity |

*Table 5 - Comparing the characteristics of market-based and grassroots innovations (Seyfang and Smith, 2007, 592)*

Two motives inspire GIs: **social need and ideology** (Seyfang and Smith, 2007). Social need refers to a need that is not satisfied by the market – either due to people who are socially and economically marginalized by the current system, or people who aspire for different kind of offering than what the market proposes. Those kinds of GIs are called **simple niches**. The ideological reason for grassroots existence refers to belief in alternative ways of doing things – in opposition to the current mainstream regimes. Those ideologies are based on a different set of values than those found in our current system that promotes economic growth. Those kinds of GIs are called **strategic niches** (Seyfang and Smith, 2007).

To showcase their potential for creating alternatives for sustainable development, the authors (2007) specify two kinds of benefits of GIs niches – intrinsic benefits and diffusion benefits. Intrinsic benefits relate to simple niches of GIs whose role is to fulfil unmet social needs. These niches do not attempt to change the current regime. Diffusion benefits are related to strategic niches, these GIs exist as 'a means

to an end' and their goal is to reach wider transformation. These benefits are not mutually exclusive and usually overlap. The authors however also elaborate on the intrinsic and diffusion challenges. Intrinsic challenges refer to the internal challenges of organisation and management, skills and resources. Diffusion challenges are related to the issues that impede wider diffusion and influence of the GIs. To best represent the benefits and challenges of those two kinds of grassroots innovations, I summarize the key notions expressed by Seyfang and Smith (2007).

|  | Simple Niche (Social Need) | Strategic Niche (Ideology) |
|---|---|---|
| Benefits | Intrinsic benefits:<br><br>• Job creation, training and skills, personal growth, a sense of community, social capital, improved access to services and facilities, health improvement and greater civil engagement<br>• Improving quality of life in local communities<br>• Delivering sustainability benefits where top-down struggle due to the local knowledge & reinforce behaviours change<br>• Building alternative infrastructure to the existing regime | Diffusion benefits:<br><br>• Generation of alternative systems of provision, vertical commodity chains matching values of production and consumption – transforming entire market<br>• Holding comparative power – provide basis for critical reflection upon mainstream reform<br>• Manifesting first and second-order learning<br>• Engaging people in sustainability issues in their daily lives |
| Challenges | Intrinsic challenges:<br><br>• Challenges with skills and people to start up and scarcity of resources to continue to survive<br>• Dilemma between commercialization or association with government programs<br>• Grant funding constraints<br>• Failure in developing robustness to shocks<br>• No formally documented learning<br>• Struggle to identify appropriate technology | Diffusion challenges:<br><br>• Scaling up difficulty due to the rootedness<br>• 'World within a world' undermines diffusion<br>• Drastic divergence from the mainstream calls for some congruence<br>• Conflicts arising between the 'purist' and 'system-builders'<br>• Competition from large commercial proxy niche interest company<br>• Policy maker's risk aversion when failure happens<br>• Institutional challenges – inability to influence and take advantage of new funding programs |

*Table 6 - Benefits and challenges of simple and strategic niche (inspired by Seyfang and Smith, 2007)*

Therefore, GIs provide good alternative options for sustainable development. Their challenges give reasons that require further research exploration on how can grassroots innovation diffuse more and have an impact on the regime.

Furthermore, Smith et al. (2014) summarized the three main GIs challenges that are also knowledge opportunities that can be leveraged off by policy makers and mainstream innovation debate. The first challenge refers to the tension between local appropriateness and diffusion. GIs are rooted in the local specifics of an area that they want to have an impact on, and their offerings are proudly representative of the local area that they serve. Hence, the diffusion can't be done in a simple 'copy/paste' method.  The richness and innovation is in the suitability to the localities and in finding the most fitting ways to address local issues, that differ from place to place. For example, not every neighborhood is dealing with the same social issues and has the same demographics. However, this allows for the investigation of the ethnographical knowledge of a certain neighborhood or region in regards to their main issues and needs, and can help identify the priorities for action (Smith et al., 2014).

The second general challenge refers to the tension between local innovation at the GIs level and the current system of injustice and economic imbalance which can cause support for the marginalization itself. For example, if the organisation wants to sell fresh organic produce in the poor neighborhood, some clients will not be able to afford due to the level of poverty or economic inequality that is present. This challenge shed light on instrumental knowledge about the potential workable solutions.  Current imbalances in the system identify opportunities for new areas of intervention and development (Smith et al., 2014).

Lastly, the third and the largest challenge is the tension between addressing immediate problems at the local (micro) level with principles of justice, and addressing the root cause of the current justice in the first place (macro level). For example, organising community kitchens to give people access to fresh food, cooking skills, and community support, because current social support for elderly and single parents doesn't provide enough social program support.  This informs critical knowledge about the urgency for change in political and economic structures (Smith et al., 2014).

To showcase that GIs are a credible source of innovation and provide solutions for sustainable development, authors in the field have been using SNM framework to assess its appropriateness to study existing GIs niches. Namely, Seyfang and Haxeltine (2012), Hargreaves et al. (2013), Seyfang et al. (2014), Smith (2006), Seyfang and Longhurst (2016) studied GIs such as the Transition Town movement,

community energy, organic food, and community currencies, by testing the applicability of SNM framework within this field. The authors used key niche-building elements of expectations, learning and networking, and the role of intermediary partners and socio-technical dynamics to test the utility of these SNM elements within the GIs field. The following table summarizes those researches and presents **key findings in:** novel specifies of GIs; new GIs characteristics and dynamics with the regime; new GIs needs and challenges; suggested enhancements to the SNM elements when used to study GIs; cautions and opportunities for future investigations. I provide summary of the results after the table.

| GI niche | *Transition Towns* | *Community energy* | *Community Energy* | *Organic Food* | *Community currencies* |
|---|---|---|---|---|---|
| **Objective of the research** | Utility of niche theory in civil society | Utility of niche theory in civil society | Role of intermediary partners in niche development | Chances for niche success are improved if niche has compatibility with regime | Utility of niche theory to test GIs diffusion |
| **Key findings** | - **GIs need to include external-facing networking**, engaging with regime actors. Thus, evaluate the balance between internal and external priorities.<br>- **Identity, belonging, purpose and community underlie GIs niche growth** and the evolution of goals and priorities over time.<br>- **GIs are social innovations**. There is a need for theory to better describe the emergence and growth of social innovation. | - **GIs need to be nurtured and supported** and not 'managed' or 'harnessed' given that the secret ingredient that it makes it work is its core values.<br>- Protection space is a challenge - Rather than forcing to become an enterprise, **propagate the larger values of such initiatives** (recognizing diversity, value-plurality, and non-monetary outcomes) to policy frameworks<br>- Specific configuration of different types of capital can make a project successful and **this will differ from project to project**<br>- **Support needs to be distinctive and with adapted resources** offered by intermediary partners – no one solution fit all<br>- Due to its context-specific nature, **tactic knowledge spreads by 'learning by doing' and proactive learning interactions between groups**<br>- Single niche development is unclear but **sub-niche developments are a possibility** | - **Learning must be a constant and ongoing process between projects and intermediary**<br>- Building institutional infrastructure is very difficult when the **niche is diversified with diverse interest**<br>- Coordinating local project is **very resource expensive and requires lots of confidence and capacity building**<br>- Intermediary partners play a **4th role of managing partnership outside the sector in question including lobbying for greater social good** | - **Unsustainable regime change over time** and what was once dismissed can become an international prospect<br>- Niche benefits are appropriated by actors of different values and interest which lead to **niche fragmentation**, incremental rather than radical social innovation<br>- Essential for GIs niches is to be **both radical and reforming**<br>- **Niche and mainstream have a dialectic relationship** – development in each will be carried out regarding other | - Internal **project-to-project networking** is the niche activity most linked to diffusion success. Shared learning and management of expectations seem relatively unimportant for niche diffusion.<br>- **Replication is the most common diffusion** route – local project transferred to other location<br>- **Activist-led projects with hands off central** control spread most effectively<br>- **Internal resources constraints and external socio-political factors** are the strongest influence of potential for growth<br>- Diffusion to new context was driven by the **scope of regime that niche was responding to**<br>- **Wider regime and socio-political** factors significantly determine diffusion success |
| **Authors / Year** | Seyfang and Hexeltine (2012) | Seyfang et al. (2014) | Hargreaves et al. (2013) | Smith (2006) | Seyfang and Longhurst (2016) |

*Table 7 - SNM application in Grassroots Innovations research*

To summarize the results from the Table 7, using SNM theory can be a useful methodology to assess how niches develop, exist, and diffuse. However, the theory needs to be more adapted to the richness and diversity of social innovations. The authors call for greater support from regulatory and socio-political regimes (Seyfang and Longhurst, 2016). Namely, it requires the recognition of its distinctive innovation potential, rather than trying to fit it into a commercial innovation mold. It may need a more flexible institutional approach and infrastructure to develop this pluralistic and diverse sector enabling diverse groups to find their common voice without the pressure for single-issue performance targets (Seyfang et al., 2014).

Specifically, the authors (Seyfang et al., 2014) state that the SNM model has two main problems when used to study GIs. First, it asks for over simplification of different and complex socio-technical configurations (in this case, community led initiatives) into unrealistic homogenous niches working against problematically simplified homogeneous regime (Genus and Coles, 2008). Second, the relationship between local projects and niche level identity and how do local community projects reinvent and reinforce the niche level lessons and norms is abstract (Smith, 2007).

Another important finding is that given the diversity of projects within GIs and their innovation due to the local contexts, the authors call for the possibility of extending single niche level into sub-niche development (Seyfang et al., 2014). Nevertheless, GIs niches need to be both radical and reforming (Smith, 2006).

After a review of the literature, I decided to contribute to the emerging field of GIs, bringing attention to the area of the AFNs in Montreal by showcasing the source of innovation that is present in our locality. I use SNM literature as a tool to assess its appropriateness, and discover new factors that will enable social innovation recognition. I summarize the conceptual approach in the next section and detail the elements that I have studied to answer my research question.

## 3. CONCEPTUAL FRAMEWORK

My conceptual framework is based on the literature review of two main fields: AFNs and Sustainability Transitions Theory, as described in the Chapter 2. More precisely, my conceptual framework includes:

1. Civic Food Networks (CFNs)
2. Strategic Niche Management (SNM)

3. Grassroots Innovations (GIs)

I aim to study different types of CFNs in Montreal. Renting et al. (2012) refers to CFNs as a complementary analytical concept that redefined dynamics between citizens, consumers, producers and civil society and specifics of social and economic aspects in the new food system transformation. Also, Hassanein (2003) notes that the agri-food movement (which CFNs contribute to) is part of the "new" social movement that remain complex, multidisciplinary and diversified, bringing changes in civil society by altering values, lifestyles and symbols. Renting et al. (2012) proposes classification of CFNs and citizenship involvement in two areas of action:

1. Reconstructing alternative systems of food provisioning, resulting from close relationship between producer and consumers
2. Shaping public opinion, culture and policies by activism

To identify CFNs in Montreal, I focused on AFNs within civil society that engage in at least in one of the three actions criteria of AFNs (Allen et al., 2003). I study CFNs initiatives in Montreal that engage in at least one of those AFNs criteria. The table below summarizes three key criteria and examples of activities involved in each.

| AFN activities *(Allen et al., 2003)* | Activities included |
|---|---|
| 1. CSA/farmer's markets | - Collective and community gardens<br>- Delivery center for good baskets (ex: Second Life baskets)<br>- Subsidized farmer's markets |
| 2. Empower and organize marginal communities around urban garden initiatives, food-based enterprises and job training. | - Food bank<br>- Collective kitchens<br>- Meals on wheels' program<br>- Solidarity grocery<br>- Social entreprise (café-boutique)<br>- Group purchase |
| 3. Education about the food system and ecological practices with school children, gardeners or the public. | - Sharing recipes in group purchase group<br>- 'Popular education'<br>- Collective kitchens<br>- Educational workshops in kid's summer camp<br>- Workshops on cooking and preserving seasonal food |

*Table 8 - AFNs activities (inspired by Allen et al., 2003)*

Next, I assess the utility of SNM theory in studying GIs. Namely, SNM theory is studying technological niches that are perceived to be protected spaces where new socio-technical innovations are established

(usually in opposition to the current regime), developed, experimented with, tested, away from the normal market competition and pressure (Schot and Geels, 2008; Seyfang et al., 2014). Thus, I test the utility of using SNM elements to study the GIs, by validating and enriching elements evoked by SNM. I explore **three internal processes** that were developed as success factors of niche in SNM theory (Kemp, Schot, and Hoogma; 1998, Geels and Raven, 2006; Schot and Geels, 2008). First, I assess if the **clear vocalisation of expectations and visions** of the GIs is of high quality, precise and shared by many actors. Second, I assess if their **social networks** are broad (diverse stakeholders) and deep (able to mobilise resources). Thirdly, assess the **creation of shared learning** processes, both the 'first-order learning' (internal knowledge capital) and 'second-order learning' (reframing of the problems addressed to change cognitive frames). Furthermore, I examine **the role of intermediary actors**, if any, and the aggregation of knowledge between local and global level of GIs niches based on the four phases of the development of sharing technological knowledge (Geels and Deuten, 2006).

As mentioned in previous chapter, SNM theory and niche dynamics sit within a broader concept and MLP theory allows for the conceptualisation of overall dynamic patterns in socio-technical transitions (Rip and Kemp, 1998; Geels, 2002, 2011; Schot and Geels, 2007; Smith et al., 2010). MLP is a non-linear process that is dependent on the relationship between three different levels: niches (radical innovations), socio-technical regime (rules, regulations and established practices that stabilize current system) and socio-technical landscape (exogenous context) (Rip and Kemp, 1998; Geels, 2002, 2011; Schot and Geels, 2007; Smith et al., 2010). **It is not in the scope of this thesis to assess regime nor landscape status** but it is important to note that external factors still play a crucial role for regime transformation (Raven, 2006; Schot and Geels, 2008).

Lastly, I address the gap in Sustainability Transitions theory of not giving enough attention nor credit to social economy as a source of sustainable innovations specifically originating from civil, grassroots initiatives (generating grassroots innovations, GIs) (Seyfang and Smith, 2007). Seyfang and Smith (2007, 585) define GIs as "networks of activists and organisations generating novel bottom-up solutions for sustainable development; solutions that respond to the local situation and the interests and values of the communities involved." Furthermore, the authors state two motives that inspire GIs: **social need (simple niche) and ideology (strategic niche)** (Seyfang and Smith, 2007). Simple niches are GIs that are resolving the need that is not satisfied by the market – either due to people who are socially and economically marginalized by the current system or people who aspire for different kind of offering than what the market is proposing. Strategic niches are GIs whose existence refers to belief in alternative ways of doing

things, in opposition to the current mainstream regimes and whose ideologies are based on the different set of values than our current system, other than economic growth (Seyfang and Smith, 2007). That distinction of simple vs. strategic GIs niches agrees with the distinction of Renting et al. (2012) where CFNs are classified as:

1.  Reconstructing alternative systems of food provisioning, resulting from a close relationship between producer and consumers
2.  Shaping public opinion, culture and policies by activism

Thus, I study GIs within CFNs in Montreal by validating and enriching elements of GIs such as their motives (Seyfang and Smith, 2007), challenges (Smith et al., 2014) and diffusion options (Seyfang and Longhurst, 2016).

**In conclusion, I seek to answer my research question of '*How do Alternative Food Networks initiatives in Montreal form a sustainable grassroots innovations niche?*' by:**

1.  **Assessing the utility of SNM theory in studying GIs** (points 1-4 on below Figure 16, Table 9)
2.  **Enriching existing elements of GIs** such as its motives, challenges and diffusion (points 5-7 on below Figure 16, Table 10)

The following Figure 18 presents the elements that I investigate to respond to my research question. Furthermore, the two tables that follows (Table 8 and 9) explains more in details each of those seven elements explored:

1.  Clear expectations and vision (Technological niches)
2.  Social networks (Technological niches)
3.  Shared learning (Technological niches)
4.  Intermediary partners (Technological niches)
5.  Motives (GIs)
6.  Diffusion (GIs)
7.  Challenges (GIs)
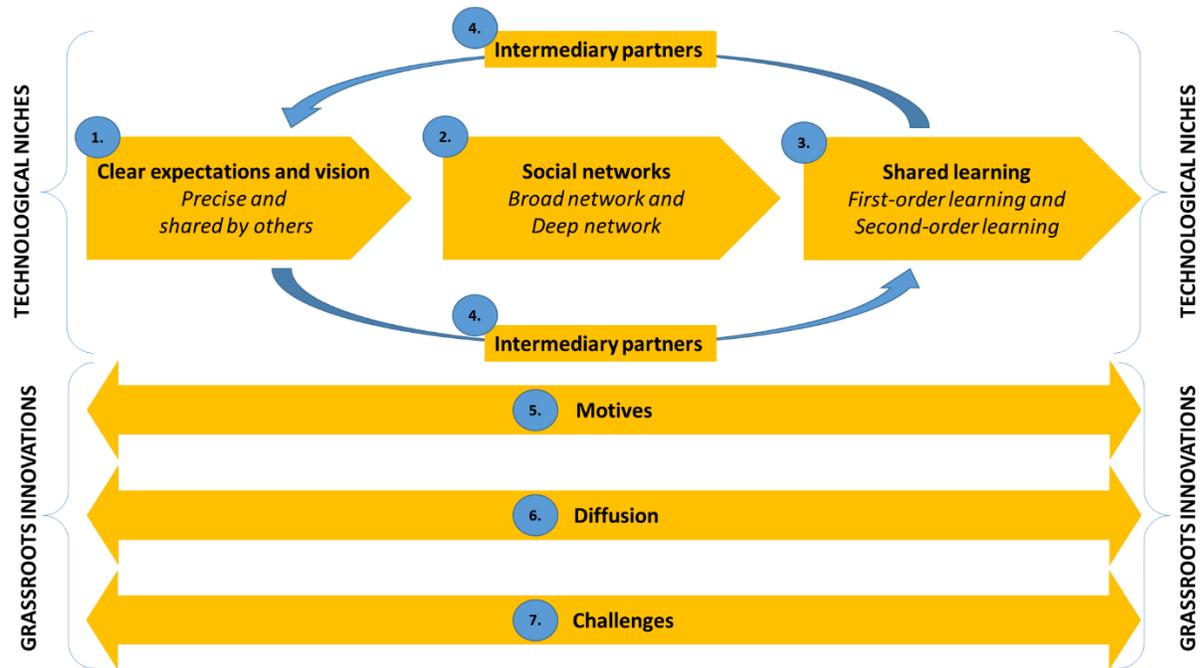
*Figure 16 - Summary of research elements*

| TECHNOLOGICAL NICHES CHARACTERISTICS | | | |
|---|---|---|---|
| **1. CLEAR EXPECTATIONS & VISION** | | | |
| *(Kemp, Schot, and Hoogma, 1998; Geels and Raven, 2006; Schot and Geels, 2008)* | | | |
| **Clearly articulated and shared**<br><br>Their mission, vision and objectives are clearly articulated and shared by others. | | | |
| **2. NETWORKING** | | | |
| *(Kemp, Schot, and Hoogma, 1998; Geels and Raven, 2006; Schot and Geels, 2008)* | | | |
| **Broad Networking**<br><br>A social network is composed of multiple diverse stakeholders. | | **Deep Networking**<br><br>A Niche is mobilising commitment and resources from its social network. | |
| **3. LEARNING** | | | |
| *(Kemp, Schot, and Hoogma, 1998; Geels and Raven, 2006; Schot and Geels, 2008)* | | | |
| **First-Order Learning**<br><br>Documentation of internal processes, procedures and projects. Refers to the amount of knowledge capital that is being accumulated internally. | | **Second-Order Learning**<br><br>Radically reframing the problem or innovation that is addressing to change the assumptions and cognitive frames related to the issue in question. At this level, the learning is shared with others who also start adopting and using the reframed notions. | |
| **4. CREATING INTERMEDIARY PARTNERS** | | | |
| *(Geels and Deuten, 2006)* | | | |
| **Local Phase:**<br><br>At this level, there are no infrastructure that makes available for people to interact and exchange knowledge. No intermediary partners are born nor do the GIs take that role yet. | **Inter-Local Phase:**<br><br>Circulation of knowledge is present within a network and alliances are being built around supporting projects and shared visions of the projects. GI usually acts as intermediary partners when they have strong programs and history record of learning. | **Trans-Local Phase:**<br><br>In this phase, the emergence of the intermediary partners happens as the circulation of knowledge has moved from specific projects to more the field as a whole. | **Global Phase:**<br><br>Knowledge has become institutionalised and standardised and part of the dominant cognitive rules. Intermediary partners are part of the regime. |

*Table 9 - Technological niche characteristics*

| GRASSROOTS INNOVATION | | |
|---|---|---|
| **5. GRASSROOTS MOTIVES** *(Seyfang and Smith, 2007)* | | |
| **Social Need – Simple Niche** Grassroots Innovations exist as a response to a social need (social need – simple niche). | | **Ideological Need – Strategic Niche** Grassroots Innovations exists as an alternative way to what is currently done (ideology – strategic niche). |
| **6. DIFFUSION** *(Seyfang and Longurst, 2016)* | | |
| **Scaling Up** Refers to growing in size, activity and impact. | **Replication** Refers to reproduction of the same project in other locations. | **Partial Adoption by Regime** Refers to the partial adoption par regime. However, once accepted by the regime, the ideas are loosened and more adopted to adhering to the current system rather than challenging it. |
| **7. CHALLENGES** *(Smith et al., 2014)* (*I rephrased the titles below in form of tensions) | | |
| **1. Local-scale appropriateness vs. wide scale diffusion*** Tension between staying true to the area specifics and local suitability vs diffusing innovation across as far as possible. | **2. Local innovations vs. current social and economic imbalances*** Tension between innovation at the local level vs. conflicting realities of injustice and inequalities that impede the adoption of the local innovation. | **3. Project based solutions (micro) vs. changes of social and economic power (macro)*** Tension between acting on the pressing issues and problems vs. addressing the bigger systematic problem that caused the issues that are being addressed (addressing only the 'tip of the iceberg'). |

*Table 10 - Grassroots Innovations elements*

# 4. METHODOLOGY

The two previous chapters discussed the importance of studying civil society AFNs, and situated the theoretical field that I mobilized to answer my research question, and discussed the research opportunity gap that I aim to fill with this research. I sought to find out the 'how'; *'How do Alternative Food Networks initiatives in Montreal form a sustainable grassroots innovations niche?'*. Now that the research subject is situated, this chapter on methodology explains the research methods used to gather and analyse the data to answer my research question.

## 4.1 Justification of the methodology strategy

This research thesis is based on qualitative research design, using interviewing technique (Miles and Huberman, 1994). Qualitative research interviews try to understand the subject' point of view and the meaning of their world (Kvale, 1996). More precisely, I used face-to-face interviews in a semi-structured format. I engaged in standardized, open-ended interviews where I asked the same set of questions to one or more employees of each organisation I interviewed. This technique enabled me to compare the results between different organisations and define patterns and similarities.

Moreover, I choose a qualitative technique called purposive sampling because it allows the researcher to focus on characteristics of the selected population which will best be able to answer the research question (Patton, 2002). It is important to note that the sample group is not representative of the population (Patton, 1990). As per Miles and Huberman (1994), sampling involves two actions that might pull the researcher in opposite directions. The first action is to define boundaries in terms of what kinds of cases will be studied to answer the research question. I identify in the following section 4.1.1 the criteria I used in the selection of my sample. The second action is to have a frame that will guide the researcher to uncover, obtain, and confirm the information that was sought. I have provided this frame of analysis on the Figure 16 and Tables 9 & 10 at the end of the last chapter. Furthermore, Miles and Huberman (1994) note that the qualitative sampling is often theory-driven, up-front, or progressively. In my case, it has been theory-driven (deductive approach) as I chose my sample per criteria identified in my AFNs literature review and I validated elements found in SNM and GIs theory. However, I still expected to discover new findings, that would allow myself to have data-driven (inductive approach). Hence, my method is a mix of theory and data driven approaches.

Specifically, I use the type of purposive sampling called maximum variations sampling. The researcher is looking for the most diverse types of perspective related to the subject studied (Patton, 2002). As per my research goal contribution, I aim to represent the diverse actors that take part of the GIs niche within the civil society of Montreal. Given the limited time, resources, and opportunities, my sample ended up being mostly composed of food security, non-profit organisations given their long-term presence and establishment in Montreal. Once my first few interviews started, I also adhered to the snowball method of sampling (Patton, 2002) where I took suggestions from the interviewing organisations for potential future interviews.

### 4.1.1 Criteria for selecting the sample

To choose the organisations that will take part of my potential sample, I used three main AFNs activities as per Allen et al. (2003) and selected the civil society organisations that engage in at least in one of the three AFNs activities.

| AFN activities *(Allen et al., 2013)* | Activities included |
|---|---|
| 1. CSA/farmer's markets | - Collective and community gardens<br>- Delivery center for good baskets (ex: Second Life baskets)<br>- Subsidized farmer's markets |
| 2. Empower and organize marginal communities around urban garden initiatives, food-based enterprises and job training. | - Food bank<br>- Collective kitchens<br>- Meals on wheels program<br>- Solidarity grocery<br>- Social entreprise (café-boutique)<br>- Group purchase |
| 3. Education about the food system and ecological practices with school children, gardeners or the public. | - Sharing recipes in group purchase group<br>- 'Popular education'<br>- Collective kitchens<br>- Educational workshops in kid's summer camp<br>- Workshops on cooking and preserving seasonal food |

*Table 11 - AFN activities (inspired by Allen et al., 2003)*

Furthermore, I used the definition of GIs as "innovative networks of activists and organisations generating novel bottom–up solutions for sustainable development. These solutions respond to the local situation and the interests and values of the communities involved" (Seyfang and Smith, 2007). I interviewed the organisations that are responding to the local needs in terms of food and that are part of civil society network, including social enterprises. The primary selection criterion was their reputation in the

community (mention in the local newspapers, presence in the conferences on social innovation, previous academic cases written on them, word of mouth, snowball effect - referrals from other organisations interviewed).

## 4.2 Data Gathering

I conducted twelve (12) independent interviews with one or two employees from nine organisations within the AFNs in Montreal. I chose semi-structured interviews as this technique allows the researcher to ask the questions pertaining to specific areas of interest, and at the same time allowed space to adapt and discover new information depending on the interview progress (Miles and Huberman, 1994).

Prior to starting my data gathering process, I successfully completed and obtain approval from Le Comité d'éthique de la recherche (CER) of HEC Montréal. To ensure confidentiality, the interviewees needed to sign the documents allowing them to opt to have their names and their organisations name confidential in the research paper. All the interviewees expect one signed to have their names displayed and all of them approved to have the name of their organisation displayed.

The sample group is composed of 10 Montréal social enterprises, mostly non-profit organisations working in food security sector. They vary in size and diversity of their work. Some organisations have the sole focus on food security while others have complementary programs such as meals-on-wheels, children's development and success of youth, work training, solidarity and alternative economy center, civil advocacy and purchasing groups. The sample is representing the diversity in activities (education, advocacy, citizen's empowerment, urban agriculture, etc), size (from organisations of 1 permanent employee to 25 employees), location (6 different Montréal neighborhoods) and language (French and English). The following Table 12 displays the sample group.

| # | People | Position | Length of the interview | Organisation |
|---|--------|----------|-------------------------|--------------|
| 1. | Employee | Employee | 1.5h | Carrefour Alimentaire Centre Sud |
| 2. | Claudie Thibaudeau | Program Manager | 1.2h | |
| 3. | Daniel Rotman | Executive Director | 1.2h | NDG Food Depot |
| 4. | Kim Fox | Program Director | 1.2h | |
| 5. | Réal Bonneville | Program Coordinator | 1.5h | Un Plant de Tomate à la fois |

| | | | | |
|---|---|---|---|---|
| 6. | Judith | Project Director | 1h | Batiment 7 à Nous |
| 7. | Gaëlle Janvier | Project Director | 1.2h | Nourrir la Citoyenité |
| 8. | Atlantis Puisegur | Program Coordinator | 1.5h | Club Populaire |
| 9. | Adam Taschereau | Co-founder | 1.5h | NousRire |
| 10. | Fiona Crossling | Executive Director | 1.2h | Share the Warmth |
| 11. | Emma Tilquin | Food Program Manager | 1.5h | |
| 12. | Pier Liné | Executive Director | 1.2h | Santropol Roulant |

*Table 12 - Research sample group*

The questionnaire used in my interviews is found in Appendix 1. The questionnaire starts with questions about general macro-tendencies in food to specify to the organisations, roles, and elements that I was looking for. The conversations during the interviews allowed me to ask questions regarding niche characteristics and allowed for the discovery of the new characteristics. I probed further when necessary on certain specifics that were mentioned by the interviewee that required further explanation.

I initially offered volunteering hours at double the time that I interviewed. This was done with the first two organisations due to the perceived lack of value and time. I wanted to do this as way of thanking them for their time and to use it as an observation method. However, I realized that observation didn't provide me with more insight from what I already gathered from the interviews and their website due to the short amount of time spent (3h of volunteering per organisation). Due to the time constraints of not being able to spend more time in each of the organisations, I decided not to continue with this observation method. The remaining volunteering hours will be completed once I finish this thesis.

The volunteering opportunities with Carrefour Alimentaire Centre Sud were to help in their collective kitchen where I didn't have a chance to engage with their clients as the shift that I did was on a regular day and with one staff of the organisation who was utilizing the left-over fruits from their local market. For the NDG Food Depot, I was asked by the executive director to help conduct their annual surveys with their clients. This offered insight about the people who participate in their collective gardens program.

Lastly, I also consulted the documentation available on their respective websites and I obtained access to some internal documentation that interviewees shared with me.

## 4.3 Data Analysis

Data analysis and interpretation was a mix of theory-driven and data-driven approach. The questionnaire was built based on the key concepts from the literature review and the theoretical framework where I

wanted to test the relevance of niche and GIs characteristics within civil society AFNs organisations in Montreal. This resulted in a theory-driven approach. However, I also wanted to stay open and allow for the emergence of new concepts and finding from the data that resulted in a data-driven approach. As a result, some elements of the framework have been confirmed by the analysis of data and other elements have been discovered as potential additions to the framework (Miles and Huberman, 1994).

To conduct the data analysis, I used the technique by Miles and Huberman (1994) composed of four parts: data collection, data condensation, data display, and conclusions.
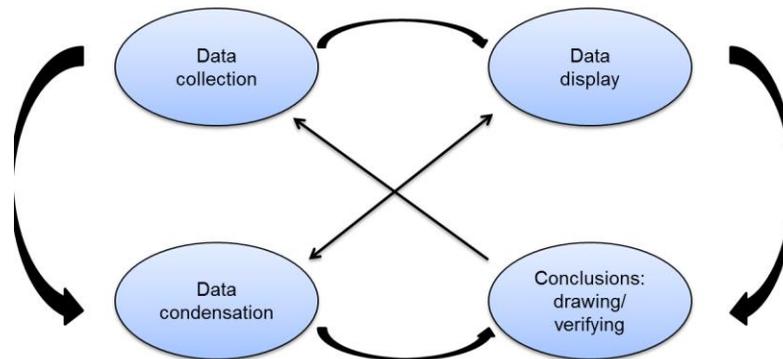


*Figure 17 - Components of Data Analysis (Miles and Huberman, 1994, 429)*

*Data collection*

After each interview, I manually transcribed them verbatim as soon as possible. Immediately after each interview, I took a few minutes to write down general notes on learnings and observations, things that seemed important to me from the interview and researched some new names or partners that were mentioned in the interview.

*Data condensation*

After the transcription, I re-read all the interviews one by one. I added notes on the side and researched certain concepts that were recently exposed to me. I consulted their websites again and read through the content displayed that was most relevant to our discussion. I accessed their Facebook pages for the latest information updates. I read question by question for all the questionnaire responses. My interview questionnaire is based on the niche and GIs characteristics I extracted from the literature so I decided not to use transcription software (such as NVivo).  My concepts have been clearly asked in the respective questions. Tables 9 and 10 summarize niche and grassroots characteristics, they are found at the end of

Chapter 3. I had my predetermined labels that I sought to confirm and obtain more information on. In this process, I was also looking for the new emerging concepts within those labels.

*Data Display*

The display of the results is done using one overall image on Figure 16 and in the Tables 9 and 10. I will add the results in the respective places and present new findings for each criterion. I also kept in mind any other new criteria that might emerge from the analysis.

*Conclusions*

To arrive at the conclusion for each criterion, I compared organisations one to another in their responses to the same questions. This allowed me to recognize patterns and form clusters amongst certain groups of sample items. In most cases, I also noticed plausibility of concepts as I immersed in the data and theory. Overall, I used the technique of making contrast/comparison to the literature and the results found and at the same time sought conceptual and theoretical coherence.

## 4.4 Criteria of Quality

| Evaluative Criteria |
| :---: |
| *(Lincoln and Guba, 1985)* |
| Credibility |
| Transferability |
| Dependability |
| Confirmability |

*Figure 18 - Evaluation criteria for qualitative research (Lincoln and Guba, 1985)*

To evaluate this research document, its findings, and to ensure quality, I have followed four criteria of trustworthiness by Lincoln and Guba (1985) being credibility (in preference to internal validity), transferability (in preference to external validity/generalisability), dependability (in preference to reliability) and confirmability (in preference to objectivity). To ensure credibility, the researcher must use criteria of rigour, verifiability of the data, and provide evidence of the facts mobilized by the theory. I have included an extended bibliography of the sources used in this research and have quoted them respectively

throughout my work. To attain transferability, the research findings must be robust and applicable to other contexts. The niche characteristics described in the Section 3 can be used as an example of transferability of socio-technical characteristics into another context of civil society. Dependability of the research results is based on their reliability to aspire trust, that if the same work was repeated, it would generate the same results. In this respect, the documentation of all the supporting materials and process of data analysis is presented here. Confirmability refers to the researcher's ability to stay as objective as possible, considering that this is a challenge when conducting qualitative research. The presentation of clear conclusions and restating them with regards to the theory mobilized in the Section 6 will ensure coherence of objectivity.

## 5. PRESENTATION OF THE SAMPLE

This section provides more information about the organisations I interviewed in my sample. The information included in the table is sourced from their website, the interviews I conducted, as well as their annual report, and any documentation that was shared with me. The majority of the organisations I interviewed are non-profit organisations in food security. Most of them have made their name known and are well established in the community.

| Organisation | Mission | Vision | AFN activity: CSA/farmers market | AFN activity: Empower marginalized communities | AFN activity: Education |
|---|---|---|---|---|---|
| *1. Carrefour Alimentaire Centre Sud* | Provide access to fresh food, food autonomy and citizen engagement | - Reach people in continuous services<br>- Become a Community Food Center | - 4 Farmers market sourced from local producers<br>- Mobile market (Fruixi)<br>- CSA baskets from local producers<br>- Project 'Déppaneur Fraîcheur' | - Community kitchen<br>- Program 'Recolte Solidaire': accompanying a group of people from growing to transforming the food<br>- Group purchases<br>- Regional carrier of project 'Déppaneur Fraîcheur' – offering fresh food in convenience stores | - Education classes for children, families and general public<br>- Neighborhood food tour<br>- 3 collective gardens and educational spaces<br>- Program for 'lunch boxes' for kids from 9-12<br>- Community kitchen |
| *2. NDG Food Depot* | Fight against the poverty by improving food security for people with insufficient income, increase access to fresh and healthy food, break social isolation and building a community, provide education | To become Community Food Center and be a place where we address the root causes on hunger and poverty | - Goof Food Market sourced from their own gardens and/or local producers<br>- 2 satellite markets<br>- Production gardening | - Community kitchen<br>- Collective Gardening<br>- Emergency Food distribution<br>- Meals programs<br>- Home deliveries<br>- Good Food Box | - Community kitchen<br>- Ça Pousse program – Education activities for different community institutions, including schools, health care establishments, senior residences, and communities.<br>- Yearly Seed production and conservation weekend |
| *3. Un Plant de Tomate à la fois* | Improving local access to fresh produce and encouraging healthy eating within the Desmarchais- | To reclaim our possibilities of changing the impact we have. | - 4 collective gardens | - Workshops on food transformation open to general public | - Education in two primary schools in Verdun |

| Organisation | Mission | Vision | AFN activity: CSA/farmers market | AFN activity: Empower marginalized communities | AFN activity: Education |
|---|---|---|---|---|---|
| | Crawford neighbourhood of Verdun | | | | - Workshops given weekly during the summer camps<br>- workshops on food transformation open to general public<br>- Internal library of educational material for schools |
| *4. Bâtiment 7 à Nous /*<br>*Pôle Alimentaire ** | - Create an artistic, cultural, social and political center, accessible and coherent with the creation of an alternative, ecological solidarity economy.<br>- Provide spaces for experimentation to promote independence, interdependence, complementarity and sharing of resources among alternative projects.<br>- Create a sustainable project, viable and rooted in the community, while focusing on outreach and external visibility<br>-Establish a participatory and horizontal management | To convert a heritage industrial building and a piece of popular history of Pointe-Saint-Charles, in place of gathering and sparking of alternative projects.<br>Pôle Alimentaire: Grow and feed the neighbourhood fully by this initiative | - Food production: greenhouse, collective garden, production of mushrooms, honey and fish<br>- Collective kitchen<br>- Public market<br>- General store<br>- Coffee bar | - Food production: greenhouse, collective garden, production of mushrooms, honey and fish<br>- Collective kitchen<br>- Public market<br>- General store<br>- Coffee bar | - Food transformation workshops |

| Organisation | Mission | Vision | AFN activity: CSA/farmers market | AFN activity: Empower marginalized communities | AFN activity: Education |
|---|---|---|---|---|---|
| 5. Nourrir la Citoyenneté | To develop green community spaces on Montreal rooftops and in other empty spaces, including several partners including various schools, businesses, community centres, senior citizen residences, and other community groups in Montreal. | Capacitation of people to develop more favourable environment | N/A | - Education workshops on urban gardening<br>- Empowering communities by developing a skillset in gardening and developing a common vision<br>- Help community projects start and be sustainable on their own | - Education workshops on urban gardening with schools, municipalities, organisations and communities<br>- Empowering communities by developing a skillset in gardening and developing a common vision |
| 6. Club Populaire des consommateurs | - Improve living conditions and health of families living in Pointe St Charles and defend citizens right<br>- Promote individual and collective power of citizens of Pointe, to control their lives, to change and improve their environment.<br>- Contribute to strengthening the social link<br>- Participating in 'popular' education | Respond to the need of food security and have a place to share with others. | - Monthly farmer's market<br>- Solidarity grocery | - Collective kitchen<br>- Collective gardens<br>- Solidarity grocery<br>- Popular education<br>- Strong citizen movement and activism | - Education on gardening and cooking |
| 7. NousRire | - Making available excellent quality organic food, and save money while creating a positive impact on the Earth and its inhabitants | - To resemble people to come back to the source of feeding from the earth and our spiritual source | - Online group purchase store of organic food offered at affordable price | - Social aspect of gathering together and coming together | - Sharing recipes and information related to the ingredients offered |

| Organisation | Mission | Vision | AFN activity: CSA/farmers market | AFN activity: Empower marginalized communities | AFN activity: Education |
|---|---|---|---|---|---|
| **8. Share the Warmth** (Their focus on Food security for all, with special attention to school-aged children) | To awaken hopes and dreams in the community through excellence in programming that fosters the overall development and success of youth, increases access to food security and health for all and offers work training programs. | - Vibrant community where all members reach their full potential and achieve their dreams. | - Good Food Boxes | - Cooking workshops<br>- Café-boutique<br>- School food programs<br>- Food Bank | - Cooking workshops<br>- Local Café<br>- Local boutique |
| **9. Santropol Roulant** | Uses food as a vehicle to break social and economic isolation between generations. Creatively and collaboratively, we strengthen and nourish our local community with our novel approaches to active youth engagement, urban and peri-urban food systems, food security and community care. | - To be intergenerational community Hub where we grow, prepare and deliver food to create a continuum of engaging services that help build a stronger social fabric, and increase food security and social inclusion for Montrealer's. | - Production farm<br>- Production and education roof top garden<br>- CSA baskets | - Community engagement<br>- Educational workshops<br>- Meals on wheels<br>- Collective project incubator<br>- Civil group: Fruits defendus, SantroVelo, etc. | - Educational workshops on food and food systems issues |

*Table 13 - Presentation of the sample organisations*

\* This project is still in process, in a visioning stage – it is not yet existent. The group of citizens from Pointe-St-Charles acquired the building that requires full renovation and major sources of funding.

# 6. PRESENTATION AND DISCUSSION OF THE RESULTS

This chapter presents the results of my research findings and the dialogue around analysis of the results. As mentioned in the previous chapter, I use the theory and data driven approach. Theory-driven approach allows me to test and validate the elements that I gathered from the literature review. At the same time, I expect to find new characteristics and items that will enrich and suggest future research paths that comprises the data-driven approach. As explained in Chapter 3, there are seven key elements that I am focusing on to answer my research question. Those are:

1. Assessing the utility of SNM theory in studying GIs (Points 1-4 on below Figure 16, Table 9)
2. Enriching elements of GIs such as its motives, challenges and diffusion (Points 5-7 on below Figure 16, Table 10)
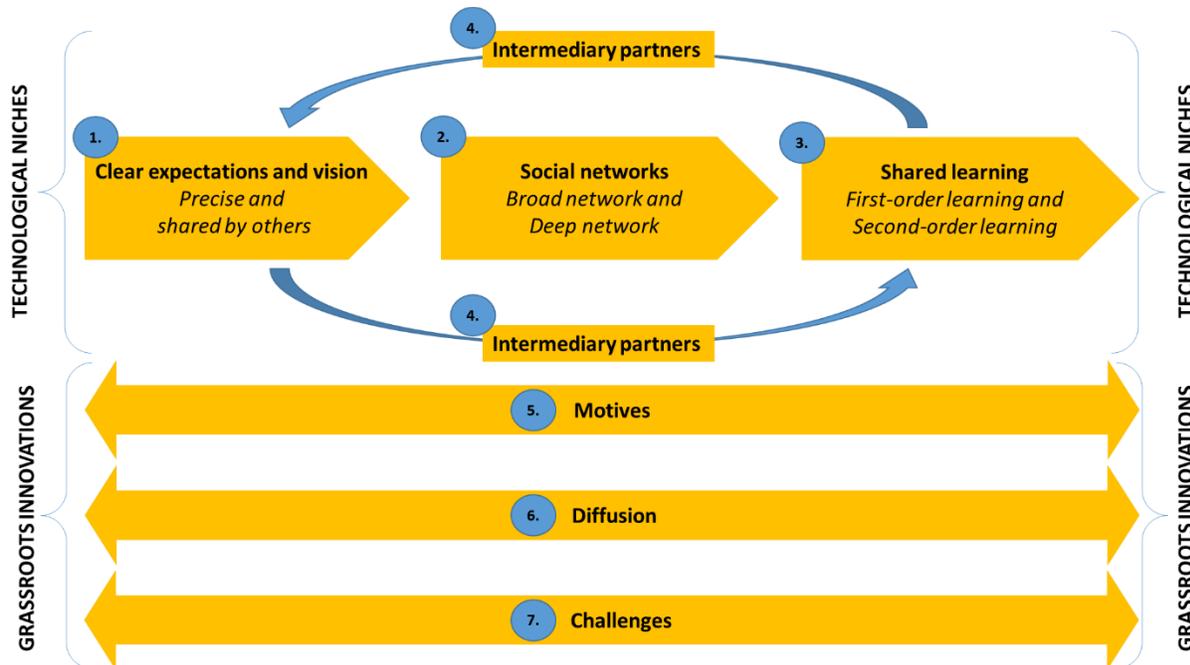


*Figure 16 - Summary of research elements*

This chapter is divided in seven sections, each section is dedicated to an element, being (1) clear expectations, (2) social network, (3) shared learning, (4) intermediary partners, (5) motives, (6) diffusion and (7) challenges. Within each section, I seek to find the **'how.' How are each of these elements being**

**formed, and how have they been evolving in the sample that I am interviewing?** In each section, I will briefly remind the reader what the literature already mentioned about this element. Then, I will present the results that were found. The majority of the time, the results addressed the gap that the literature elaborated less on, or around new findings that were discovered. At the end of each of the element sections, there is a discussion section of the analysis of the data in regards to the literature review. I assess the level of development of Montreal AFNs niche (Geels and Deuten, 2006, 269) in section (4) Intermediary partners.

## 6.7 Clear Expectations and Vision

As per SNM literature, a niche needs to have clear expectations that is commonly shared by actors that are constituting the niche (Kemp, Schot, and Hoogma, 1998; Geels and Raven, 2006; Schot and Geels, 2008). For the organisations analysed in this sample, they all have respectable websites that state their values, mission and vision. Also, they clearly vocalized them in the interviews:

For Pier Liné (Santropol Roulant) :

> *"To use the power of food to bring generations and people together no matter their culture etc. and break social isolation".*

For Fiona Crossling (Share the Warmth) :

> *"Overcoming hunger and poverty by awakening hopes and dreams so that all can eat, all can grow and learn, and all can work".*

Atlantis Puisegur (Club populaire des consomateurs) :

> *"To answer the need of food security in our neighborhood, that is really one first and main mission, including the social aspect of it".*

Claudie Thibaudeau (Carrefour Alimentaire Centre Sud) sums up their mission into three main axes of work:

> *"Food access, food autonomy and citizen engagement".*

Similarly, Daniel Rotman (NDG Food Depot) mentions that their focus is to:

*"Fight against poverty and hunger through food. All our activities involve food and aim to do these three things: 1) break isolation and build community, 2) provide skills and education and 3) provide access to fresh and healthy food".*

The results show that 'clear expectations' for those organisations are often related into having **clear impacts**.

Pier Liné (Santropol Roulant) emphasizes the importance of speaking about impact rather than activities:

*"Once we had the bigger vision of being part of the systems, we stopped talking in terms of activities and started talking in terms of impact. Impacts we want to have helps understand our work. So now we talk about social innovation and food security instead of meals-on-wheels and urban agriculture."*

Claudie Thibaudeau (Carrefour Alimentaire Centre Sud) speaks to this in her words:

*"We already have evaluating practices but we need to improve them. We need to improve them for us and for the donors. Generally, NGOs are very aware of the things that they have done but the impact of the change is important to show and measure. And we want this for all our activities."*

Kim Fox refers to this as one the biggest vision of their organisations and a challenge:

*"So putting this center together is about communicating about the impacts that this center is going to have."*

I found out that the new trend of impact measurement and impact announcement is a new way to communicate clear expectations.

> ➢ ***Discussion***

After analysing the results, I concluded that there are three main themes that summarize their missions: (1) providing access to fresh (local) food, (2) fighting social isolation and (3) empowering people. These themes agree with the three criteria that I used to choose the AFNs initiatives, as per Allen et al., (2003). Thus, their internal activities such as food bank, urban agriculture, farmer's markets, collective kitchens and educational workshops all have a transversal vision of addressing those three main themes. In the majority of times those organisations sit on round tables related to 'food security', 'urban agriculture', 'poverty reduction' and/or 'social isolation'.

The diversity of their interventions is hard to simplify into a singular voice and such challenge has already been mentioned by Seyfang et al. (2014). Namely, it calls for over simplification of different and complex socio-technical configurations (in this case, community led initiatives) into unrealistic homogenous niches working against also a problematically simplified homogeneous regime (Genus and Coles, 2008). As proposed by Seyfang et al. (2014), single niche development within GIs is unclear but sub-niche developments are a possibility. I agree with this view and given that GIs are first and foremost social innovations (Seyfang and Hexeltine, 2012), they need to be treated in a distinctive and adaptable way. Also, I cohere with the literature that that building institutional infrastructure is very difficult when the niche is diversified through diverse interests (Hargreaves et al., 2013).

The data analysis allowed me to discover a new element that is the importance of articulating clear impacts. Over the last years, impact measurement has become an essential aspect in philanthropy, and GIs are no exceptions. Smith (2006) specify that niches need to stay both radical and reforming. Given the complexity of social innovations, impact measurement is a way of communicating results in a more 'context-free' way some organisations in the sample outline as an important aspect. I will not assess if impact measurement is good or bad, rather I am simply bringing this new notion forward that hasn't been mentioned in the literature so far. Nevertheless, as mentioned by Seyfang et al. (2014), specific configuration of different types of capital must be assessed on a case by case basis and will differ from project to project, therefore impact measurement could be a potential solution to allow for this.

| NICHES CARACTERISTICS | |
|---|---|
| **1. CLEAR EXPECTATIONS AND VISION** | |
| **Existing Literature** | **New Findings** |
| ➢ **Clearly articulated and shared** <br><br> Their mission, vision and objectives are clearly articulated and shared by others. | ✓ **Clearly articulated Impacts** <br><br> Past and future performance impacts are announced and clearly articulated. |

*Table 14 - Clear expectation and vision, existing and new findings*

## 6.7 Social Networks

As per SNM literature, social networks are important aspects of niche development and they need to be first, diversified (broad) and second, able to mobilise the resource from its network (deep) (Kemp, Schot,

and Hoogma, 1998; Geels and Raven, 2006; Schot and Geels, 2008). However, SNM literature doesn't explain further how these social networks get formed, especially when the niche is still in the making and without existence of strong intermediary partners (Kemp, Schot, and Hoogma, 1998; Geels and Raven, 2006; Schot and Geels; 2008). It has been concluded that the relationship between local projects and niche level identity is abstract in how local community projects reinvent and reinforce the niche level lessons and norms (Smith, 2007).

I analysed the results in two parts to assess how can social networks develop their depth and broadness. First, I discovered that there are three different groups of networks: (1) civil sector, (2) public sector and (3) private sector to assess the diversity of actors. Second, I have asked the organisations about their financial partners to assess the 'depth' of their networks. I will explain each of those sections one by one.

*Civil Sector*

To begin, it is important to consider the reality of the Quebec social economy.

Claudie Thibaudeau (Carrefour Alimentaire Centre Sud) talks about this:

> *"English Canada and French Canada is not the same. In Quebec, there are lot of community organisations and people work a lot in concert in round tables."*

Thus, many organisations create their networks with other organisations via round-table meetings. Claudie Thibaudeau (Carrefour Alimentaire Centre Sud) spoke about table CIGAL (Concertation et Intervention pour une Garantie Alimentaire Centre-Sud) as an important network partner.

> *"CIGAL table is a round-table against food insecurity that regroups other organisations that actively participate in this. The mission is to regroup projects that are resembling that fight against food insecurity and to have stronger political representation by putting our energies together."*

Thus, the round tables allow for occasion to meet and discuss with other organisations on the neighbourhood level and city level.

Kim Fox (NDG Food Depot) talks about round tables:

> *"Some of the networks are the working groups that meet; we sit on twenty community tables. Lots of the networks form around calls for grants funding within an specific area, like urban agriculture, and so we all meet and decide what are the needs."*

Pier Liné (Santropol Roulant) also put importance on those networking circles:

*"We sit on many tables. These allows us to get connected with other organisations and these things are important as they do the work that we don't have time to do. You are part of the partners and they will amplify your voice. We don't know how to do that and that is why partnerships are super key."*

However, few have made the mention of the efficiency of those round tables.

Kim Fox (NDG Food Depot) said that:

*"There are lots of meeting. And putting meetings into action is what is an obstacle."*

Fiona Crossling (Share the Warmth) mentions that:

*"It is great to have local concertation as you are dealing with the local issues in a collective way. How effective that is, that's another question. Some are better than others."*

The majority of the networks within social economy are formed rather informally.
Pier Liné (Santropol Roulant) says that:

*"There are like minded organisations and we meet them via informal meetings a lot and because we are friends and that happens on the local level as well as on the national level."*

Daniel Rotman (NDG Food Depot) specify that:

*"The networks are built very informally with like-minded organisations and personal connections."*

It is also the proximity of the people in the neighborhood that allows for this informal creation of the network.
Atlantis Puisegur says (Club populaire des consommateurs) :

*"Usually, it is the same people that go from one organisation to another and same people that are sitting on different committees. So, it is the same network. Lot of us are also friends as we live in the same area, our kids go to the same school, etc."*

In terms of more formal networks, there is only one that occurred from the interviews, mentioned by Daniel Rotman (NDG Food Depot) being Système alimentaire montréalais (SAM).[6]
Therefore, I concluded that social networks within social sector form via round tables and in an informal way.

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[6] http://concertationmtl.ca/ce-que-nous-faisons/experimenter-et-propulser/systeme-alimentaire-montrealais/

*Public Sector*

In the public sector, social network occurs on the local level with the political actors of the borough and city level. As I previously mentioned in advocacy section, Claudie Thibaudeau (Carrefour Alimentaire Centre Sud) elaborates on this point:

> *"We have relationship with the borough level and with the Ville Marie neighborhood, we have adopted a first food strategy in Quebec. On the local level, there are possibilities."*

Réal Bonneville (Un plant de tomate à la fois) mentions:

> *"Two people from City of Verdun came and visited us, to see what we do as we were present in the same assembly before that and they said that they want to schedule a meeting with the major of Verdun in early fall to talk about how can borough support it more. City of Verdun has received funding from Centraide in relation to food sovereignty and wants to invest in different initiatives in the neighbourhood. So, there is political local will to want to engage. Urban agriculture is something that is hot now and we are surfing on that wave."*

Gaëlle Janvier (Nourrir la citoyenneté) sees her role as a potential network creator at the city level, saying:

> *"Cultiver Montréal is born out of the network we have developed on the city level around urban agriculture that was framed by us and that is typical."*

Therefore, social networks within public sector get created by advocacy action with local policy makers. Moreover, in some neighborhoods, there has been interest from local policy actors to work with local organisations because they have recognized the latter as social innovation actors and connoisseurs of local issues and realities.


*Private Sector*

As for the networks with private partners, those are usually expressed in the form of financial donors and/or volunteers.

Fiona Crossling (Share the Warmth) mentions this:

> *"Quebec comes from the very French philosophy that government has to pay for everything as the church is no longer there. Although, that was true, that is not the only way. If you demonized philanthropy and private money, you can demonize its insolvency but we don't have time. Our model isn't like that and we have had private funding."*

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Kim Fox (NDG Food Depot) talks about deep network as:

> *"We raise mostly private fund, donations from individuals or companies but mostly individuals. We maintain relationships with bigger or regular donors, who have been giving for a long time."*

Claudie Thibaudeau (Carrefour Alimentaire Centre Sud) gives an overview of funding trend in Quebec:

> *"In Quebec, it is becoming more and more popular to be financed by the private and philanthropic organisations because the government is disengaging from their responsibilities, but in Quebec we count a lot on the institutional grants, on the municipal, provincial and national level."*

Another important group of actors in the private sector are volunteers. Given the nature of the social economy and its values, I am adding that volunteering is another way of mobilizing resources for the organisation and deepen their network as time is a monetary asset.

Pier Liné (Santropol Roulant) talks about it:

> *"Our biggest partners are our volunteers, the people that talk about our work the tremendous help that they offer. They help us in many ways from aid in the cooking to giving us the workshops on how to speak to media."*

Fiona Crossling (Share the Warmth) mentions:

> *"Our biggest base are our volunteers. They are engaged in different levels and they are our most important partners and we couldn't function without them."*

What was stated numerous times was that the attraction and retention of the volunteers is primarily based on relationship-building: appreciation events, and a sense of strong community that has been created around those organisations. The results have shown that changes in financial support from the government, to a more diversified way including private funds, and the value-add of volunteers, all count as important resources.

> ➢ ***Discussion***

My analysis explored how social networks form in early stages on niche development. This is a gap that has not been addressed in SNM literature that often (Kemp, Schot, and Hoogma, 1998; Geels and Raven, 2006; Schot and Geels, 2008). Thus, I discovered that there are three levels of networks: 1) civil sector actors, 2) public sector actors, and 3) private sector actors, including volunteers. It emerged from the data

analysis that studying these three levels present opportunities for broadening and depending social networks.

I confirmed that coordinating local projects is very resource expensive and requires lots of confidence and capacity building (Hargreaves et al., 2013). That is why building social networks takes time to build the necessary trust to engage in a relationship of financial partnerships. To mitigate risk and dependence on specific partners, it is important to explore different sorts of partners and capital available. Thus, having diversified social networks like I explored helps propagate the larger values of such initiatives (recognizing diversity, value-plurality, and non-monetary outcomes) to policy frameworks (Seyfang et al., 2014). Recognizing volunteering capital as an important source of capital for grassroots innovations can build bridges between civil society and private sector in a more action-support way. Support needs to be distinctive and with adapted resources (Seyfang et al., 2014).

The importance of building social networks in such a diverse way is helpful for niche growth as it has been mentioned by Seyfang and Hexeltine (2012) as GIs need to include external-facing networking and engaging with regime actors.

Namely, taking the local context into consideration to understand how do networks have usually been built (informally, in round tables, by traditional financing by government grants) is essential in GIs (Seyfang and Hexeltine, 2012; Seyfang et al., 2014).

| NICHES CARACTERISTICS | | |
|---|---|---|
| **2. SOCIAL NETWORKS** | | |
| **Existing Literature** | | **New Findings** |
| ➢ **Broad Networking** | ➢ **Deep Networking** | ✓ **Consideration the local specifies of:** |
| Different partners are involved in the social network of the GI. | GI is mobilising commitment and resources from its social network. | 1) **Civil sector:** round tables<br>2) **Public sector**: local level government<br>3) **Private sector:** new funding partners<br>  **3.1 Volunteers:** resource base |

*Table 15 - Social networks, existing and new findings*

## 6.7 Shared learning

As per SNM literature, niches develop through the development of two levels of learning, first-order learning and second-order learning (Kemp, Schot, and Hoogma, 1998; Geels and Raven, 2006; Schot and Geels, 2008). First-order learning is at the internal level of organisation, including internal procedures and

processes. Second-order learning is when a niche is reframing the problem in a way that changes the initial assumption frame (Kemp, Schot, and Hoogma, 1998; Geels and Raven, 2006; Schot and Geels, 2008).

From all the interviews, all the organisations have established internal processes and learnings. As shown in the presentation of the sample in the Table 13, all the organisations are legally registered and  have internal processes and learning that are existent and continuous.

In terms of second-order learning, I found out that reframing of the social issue is done by creating an innovative program and offering it available for others to us. Here are few examples.

Pier Line (Santropol Roulant) mentions that:

> *"Everything we do at Roulant is copyright free. We developed a much more nutritious menu for our meals-on-wheel program and we have created a website with all the recipes we use. We are also developing a very complex database that can match the recipe and order specifics as our orders change everyday, and we want to make this database available to everyone in Canada. We also built collectively with other 12 farms, a root vegetable washer that because shipping it from US was too expensive. This speaks about social change and how to share and disseminate the knowledge we had."*

Fiona Crossling (Share the Warmth) talks about their knowledge sharing:

> *"I visited Community Links and they developed papers on their approach that others can take it and they also offer trainings on it. This gave me a vision on how small can be beautiful and helpful for others. So, our first attempt to this is the white paper we wrote on school food. Not everyone needs a hot meal. We provide healthy, simple homemade cold lunches."*

Their White Paper[7] is available online and targets to change the mindset that cold lunches are not a second-best option but rather healthy, nutritious, easy to prepare and affordable option given that there are 1 million children across the country that don't have enough to eat, as mentioned in their document.

Claudie Thibaudeau (Carrefour Alimentaire Centre Sud) talks about sharing the information:

> *"It happens often that get I get a call from other organisations about our program Recolte Solidare from other areas of the city saying that they find it interesting and want to know more."* Claudie explains that this program is *"rainbow program that considers all three focuses of the organisation – providing access to fresh food, developing skills and building*

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[7] http://sharethewarmth.ca/non-profit/wp-content/uploads/2014/03/School-Food-Model-2016.pdf

*engagement. Within this project, participants garden in collective garden, cook in collective kitchen and volunteer at the market for exchange of free fruits and vegetables."*

Claudie also talks about their program of 'Dépanneur Fraîcheur' that offers fresh fruits and vegetables at the convenience stores as people have the habit of going there, and Fruixi – a mobile market that goes in the parks, in front of hospitals, senior's homes, child care centers, and low income areas, to offer access to fresh fruits and vegetables.  Both of those programs are redefining access to fresh food in different ways. Daniel Rotman (NDG Food Depot) talked about their after-school educational program 'Boîte à Lunch' and how this will be the pilot project to be shared in another neighbourhood via partnership with Carrefour Alimentaire Centre Sud.  This program provides educational after school cooking workshops with elementary and high school youth and their parents, building skills about healthy food cooking.

> *Discussion*

Based on the data analysis, my results corroborate with the literature and add a new element. I concluded that second-order learning is done by organisations who make available their innovative programs on their platform and via partnerships. This is not something that has been explicitly mentioned in SNM literature (Kemp, Schot, and Hoogma, 1998; Geels and Raven, 2006; Schot and Geels, 2008). This confirms that due to its context-specific nature, tactic knowledge spreads by 'learning by doing' and proactive learning interactions between groups (Seyfang et al., 2014). Also, Seyfang and Longhurst (2016) mention the collaboration with other organisations that are interested in developing the same program in their area is one of the key aspect of grassroots diffusion.  Yet more importantly, it is the appropriateness of the programs to the local social contexts and their agility proves yet again how the local context can never be underestimated (Seyfang and Hexeltine, 2012; Seyfang et al., 2014).

| NICHES CARACTERISTICS | | |
|---|---|---|
| **3. SHARED LEARNING** | | |
| **Existing Literature** | | **New Findings** |
| > **First-Order Learning** | > **Second-Order Learning** | ✓ **Second Order learning** |
| Documentation of internal processes, procedures and projects | Radically reframing the problem or innovation that is addressing to change the assumptions and cognitive frames related to the issue in question. At this level, the learning is shared with | **Creating innovative programs, making them available and working in partnerships with others to tailor and implements the product/service to their local social context** |

| | others who also start adopting and using the reframed notions | |
|---|---|---|

*Table 16 - Shared learning, existing and new findings*

## 6.7 Intermediary partners

As discussed in 'earlier' SNM literature, niches need to develop three necessary elements being 1 - have clear expectations, 2 - developed first and second-order learning and third, 3 - established broad and deep networks (Kemp, Schot, and Hoogma, 1998; Geels and Raven, 2006). However, 'later' SNM concluded that their further success depends on the creation of the global-niche level and identified that there are two levels of niches: local niches level (projects on the ground work, where lessons are learned and tested) and a global-niche level (that carries the best practices and standards, learned from the local level (Geels and Deuten, 2006; Schot and Geels, 2008). Therefore, Geels and Deuten (2006) put forward the role of intermediary partners, as an important role of an aggregator of knowledge between the local and global level of niches.

The results on the intermediary partners element have identified that three out of nine organisations that I interviewed, have a label of 'Good Food organisations'[8] issued by Community Food Centres Canada (CFCC).[9] CFCC is a model developed from The Stop Community Food Centre in Toronto that has been an innovative space that went beyond traditional approach to charitable food provisioning since the 1970s. "*Community Food Centres Canada provides resources and a proven approach to partner organizations across Canada to create Community Food Centres that bring people together to grow, cook, share, and advocate for good food*" (http://cfccanada.ca/mission_vision). CFCC offers national programming based on three core areas as per the figure below. The first area is about providing healthy food emergency access in a dignified and respectful manner to those in need. The second area is working on developing healthy food skills, especially in cooking and gardening. The third area is about offering a space, agency and a voice to communities and individuals for food and larger issues.

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[8] http://goodfoodorganizations.ca/
[9] http://cfccanada.ca/

*Figure 19 - CFCC areas of focus (http://cfccanada.ca/)*

CFCC created a label of 'Good Food Organisations' after recognizing that their model of Community Food Center might not be applicable or possible for everyone. "*The Good Food Organizations is an effort to go deeper into knowledge exchange and dissemination by working more closely with community food security organizations to provide more resources and supports that are tailored to local needs and contexts and to strategically work towards a set of common goals*" (http://goodfoodorganizations.ca/about/).  Thus, the Good Food organisations network is composed of organisations working in food security that share the common vision of building more fair and healthy food systems. The Good Food organisations have access to educational resources online, a network, annual meetings, and grants.

Therefore, CFCC is a potential intermediary partner that "*provides ideas, resources and a proven approach to partner organizations across Canada to create Community Food Centres that bring people together to grow, cook, share, and advocate for good food*" (http://goodfoodorganizations.ca/about/). In Quebec, there is no CFCC yet and the NDG Food Depot is the closest to becoming one.

Daniel Rotman (NDG Food Depot) states:

> *"The vision of NDG Food Depot is to become a Community Food Centre and to be a place where we address the root causes of hunger and poverty."*

Claudie Thibaudeau (Carrefour Alimentaire Centre Sud) mentions*:*

> *"CFCC is another partner that are important to us. We are a Good Food organisation. We share practices and there is a national gathering every year. The financing is not coming*

*from them, but we maintain relationships. We and NDG Food Depot are the closest that it*

*is to CFCC as we have continuous services under one roof."*

Fiona Crossling (Share the Warmth) says:

*"CFCC has been a very important partner on the food security piece. We haven't had*

*financial partnerships but rather strategic. They are feeding us ideas."*

➢ ***Discussion***

I conclude that the CFCC is the closest form of an intermediary partner given that they fulfil the three roles that the literature outlines. I will not evaluate the effectiveness of CFCC model as this is not the scope of my project.

As per Hargreaves et al. (2013), intermediary partners have three main roles: 1-providng 'context-free' knowledge, 2-sharing of the knowledge and 3-providing guiding principles for local level. As previously explained, the CFCC meets these three roles. However, this model is still in its beginnings as the majority of my sample set (six out nine organisations) are not part of the CFCC network.

Furthermore, during the interviews, organisations often referred to intermediary partners either as the financial partners, or the network partners. The results and analysis show the fulfillment of the previous three elements, I assessed that the AFNs niche is still in the 'Inter-Local Phase' (Geels and Deuten, 2006) given that the knowledge exchange is occurring via the CFCC for some, and if not, it is shared between similar minded organisations as I explained in the last section.
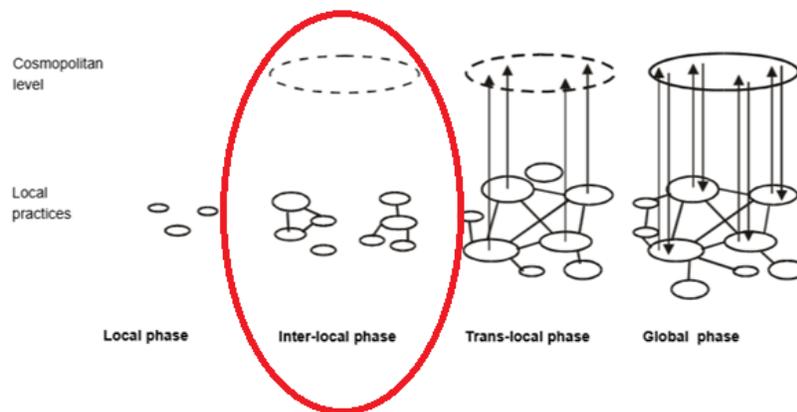


*Figure 20 - Assessing the phase of development of shared technological knowledge (Geels and Deuten, 2006, 269)*

Finally, Seyfang et al. (2014) confirm that at the Inter-local phase is when the niche level is beginning to emerge.

| NICHES CARACTERISTICS | | | |
|---|---|---|---|
| **4. INTERMEDIARY PARTNERS** | | | |
| **Local Phase:** | ✓ **Inter-Local Phase:** | **Trans-Local Phase:** | **Global Phase:** |
| At this level, there are no infrastructure that makes available for people to interact and exchange knowledge. No intermediary partners are born nor do the GIs take that role yet | Circulation of knowledge is present within a network and alliances are being built around supporting projects and shared visions of the projects. GI usually acts as intermediary partners when they have strong programs and history record of learning | In this phase, the emergence of the intermediary partners happens as the circulation of knowledge has moved from specific projects to more the field as a whole | Knowledge has become institutionalised and standardised and part of the dominant cognitive rules. Intermediary partners are part of the regime |

*Table 17 - Intermediary actors*

## 6.7 Motives

In the GIs literature, Seyfand and Smith (2007) talk about two motives of GIs – social need (simple niche) and ideology (strategic niche). The authors note that these two motives usually overlap and are not mutually exclusive.

The results I gathered show that all organisations respond to the social needs of their neighbourhoods in their day-to-day activities. This is to be expected given that I interviewed organisations within social economy. However, they all have a larger vision of systematic changes that they would like to see as they recognize that their existence is a consequence of the unsustainable current regime. They all have larger visions for making an unsustainable system better and they engage in advocacy to attain those ideological aspirations. The below excerpts provide examples of this:

Daniel Rotman (NDG Food Depot) mentions:

> *"Our vision is to become a Community Food Center and be a place where we address the*
> *root causes of the hunger and poverty. To become an actor in NDG, Montreal, and Quebec*
> *and advocating on behalf the community we serve and the issues that affect them. Issues*

*that are not only related to food, but income, cost of housing, cost of transportation etc. as*
*they are all linked together".*

Judith Cayer (Atelier 7 à Nous) refers to her vision as:

*"Cultivate the city of tomorrow"*

and their project is doing this

*"By building a factory of collective autonomy to meeting all basic needs of their*
*neighborhood'.*

Gaëlle Janvier (Nourrir la citoyenneté) mentions :

*"People need to talk. You are a consumer but you are also a citizen that can act not only*
*with your wallet but also can act differently. If we don't accept certain politics, we need to*
*do something about it".*

Pier Liné (Santropol Roulant) specify:

*"If you have a beautiful vision that only depends on you, you will not get very further. You*
*need to influence at the higher level. It is all about balancing, smaller vision and greater*
*vision going together".*

Adam Taschereau (NousRire) mentions:

*"We can't avoid that governance doesn't exist. And that is why we must engage in political*
*action. It is important to get engaged in this."*

Thus, advocacy is done via round tables (as I mentioned in the social network section) and by exercising
our right as citizens. Gaëlle Janvier (Nourrir la citoyenneté) was amongst the core initiators of the first
Urban Agriculture group at the city level after finding a law that allows citizens to ask for a public
consultation if they obtain 30,000 signatures in 90 days.

Atlantis Puisegur (Club populaire des consomateurs) talks about activist spirit of his neighbourhood:

*"I think we don't leave the mayor much choice. If not, we will act quickly and loud. And we*
*can get in the streets and we are very solidary, especially when it is a common problem. It*
*is very efficient. So, we have nice relationships with the major and we work in partnerships."*

Claudie Thibaudeau (Carrefour Alimentaire Centre Sud) speaks of the importance on acting at the local
level:

*"Food doesn't interest government. Food is so fundamental but there is no minister or food, nor is food is not part of the political agenda. So, we can have pressure more on a local level. We have developed with the Ville-Marie borough who accepted the first food strategy in Quebec this spring."*[10]

➢ **Discussion**

After analysing the data, I conclude that the AFNs in Montreal is a 'hybrid' niche, a mix of 'strategic' and 'simple' niche (Seyfang and Smith, 2007). Namely, organisations that are involved in this 'hybrid' niche are responding to the social need and aspire to a completely different ideology of the current regime. They achieve this by engaging in **advocacy** and political pressure. This confirms that they need to be both radical and reforming (Smith, 2006). Therefore, advocacy is an important element in niche development, and can be done by building close relationships with local government as I elaborated in the social networks section.

| GRASSROOTS INNOVATIONS | | |
|---|---|---|
| 5. MOTIVES | | |
| Existing Literature | | New Findings |
| ➢ **Social Need – Simple Niche** | ➢ **Ideological Need – Strategic Niche** | ✓ **Hybrid Niche** |
| Grassroots Innovations exist as a response to a social need | Grassroots Innovation exist as an alterative way of living to what is a current system | Addressing the social needs while also aspiring for making greater systematic change by **advocacy and political pressure** at the local level |

*Table 18 - Grassroots innovation motives, existing and new findings*

## 6.7 Diffusion

Seyfang and Longhurst (2016) propose three possible scenarios for diffusion: 1-scaling up (growing), 2-replication, and 3-partial adoption by the regime. The specialty of the GIs niche is that they are representative of the local environment that they belong to and are reflective of the realities that they meet on day to day basis (Seyfang and Smith, 2007). Thus, the 'cookie cutter' solution is not possible in the civil society niche as every local reality is different and dependent on the social needs and the history of the location (Seyfang et al., 2014).

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[10] http://ville.montreal.qc.ca/pls/portal/docs/PAGE/ARROND_VMA_FR/MEDIA/DOCUMENTS/STRATEGIE%20ALIMENTAIRE_VFINAL.PDF

The results demonstrate that a growing and partial adoption by the regime is not a diffusion vision of the organisations that I interviewed. However, there is a common theme that emerged from their dialogue. Atlantis Puisegur (Club populaire des consommateurs) rejects scale:

> "We don't want to get bigger. The team is holding the organisation but we still believe that it needs to come from the citizens."

Emma Tilquin talks about diffusion in the following way:

> "I don't see the need to expand beyond of what we are doing right now. It is more about quality and reinforcement rather than in the quantity."

On the other hand, the results confirm that replication is the most popular way of diffusion, as mentioned by Seyfang and Longhurst (2016). The data analysis reveals that replication is done via partnerships, where the program from one organisation is adapted and tailored to the specifics of a context in another organisation.

I also discovered two other diffusion potentials. The first new diffusion is building an exemplary project that will inspire and motivate others to activate and explore their own local opportunities, needs, and possibilities. The second new diffusion possibility is becoming a 'Hub', which is the hybrid of the first two kinds of diffusion. More specifically a hub that engages into partnerships with other organisations to diffuse programs. Those distinctions are not exclusive and often can be intervened together. I will explain further each of them.

1) *Replication via partnerships*

Atlantis Puisegur (Club populaire des consomateurs) talks about diffusion in the following way:

> "The point of our existence is to respond to the needs of the neighborhood and we can do that in partnerships with other organisations. We don't want to do things that other organisations do."

Like this, Emma Tilquin (Share the Warmth) also confirms:

> "Diffusion is more about sharing the best practices. We can diffuse and publicise our practices and can mentor other organisations about it. So, it is more in the quality and reinforcement rather than quantity. What can happen more is an extension in terms of influence by joining the movement or creating the movement with similar minded organisations."

2) *Building an exemplary project*

Based on the results, two organisations aspire to be an example for others to learn and be inspired by the solutions and opportunities available.

Pier Liné (Santropol Roulant) talks about diffusion in following way:

> *"We are a cycle organisation, social cycle, artistic cycle, and there are not that many organisations that work in cycle – either working with people in isolation or in food but not both. We decided not to franchise as we believe our business model is about coming through Roulant, learning, getting inspired and leaving Roulant and continuing to grow food security outside of Roulant. Our work is an example."*

Judith Cayer (Atelier 7 à Nous) talks about scale and grandeur of their initiative:

> *"We are developing an exemplary project and a demonstration project. It is linked to challenges and opportunities that we are exposed to. Everyone has that intelligence of localism. We need to dare to move to the next level and we need to think of the projects in terms of two to three generations. The small initiatives are fragile and at the mercy of the energy of its members' as building an institution is long, but it is feeding itself after."*

*3) Hub*

Based on the results, one organisation aspires to be a Hub and is a hybrid of the two previously discussed diffusion ways. It is a mix between an exemplary project that sees itself as a 'resource hub' that engages into partnerships with other organisations to share the best programs and knowhow.

Daniel Rotman (NDG Food Depot) talks about their way of replication:

> *"CFCC model is an interesting model that is worth exploring. What I like about Depot is that our model reflects the local context. So, it is not a cookie cutter. It has to be based on the local context, who are the strong players, what are the needs of community, the concertation that exists in Montreal and that doesn't exist in Toronto."*

Kim Fox (NDG Food Depot) also speaks about their model in similar way:

> *"I see us being a Hub, a space where people can come to learn about what is going on in realm of food security, what is innovative and new in food, which programs are being offered and how to offer these programs. I see us being a resource space for the food where*

*we are doing lots of food programing but also a space where people can connect with each*

*other, find resources and bring appropriate programming into their neighbourhoods."*

> **Discussion**

The data analysis confirms that replication is the most common diffusion route (Seyfang and Longhurst, 2016). More precisely, replication is done via partnerships where a program can be adapted to reflect a more realistic picture of certain locality. Those partnerships often occur from relationships built via social networks. As mentioned by Hargreaves et al. (2013), coordinating local projects requires a lot of confidence and capacity building. That is explains that working in partnership is a right fit given those realities. Furthermore, linking with my findings of the second-order learning, I confirmed that internal project-to-project networking is the niche activity most linked to diffusion success, as found by Seyfang and Longhurst (2016).

I have found two other new ways of diffusion, namely by being an exemplary project and building a Hub. Namely, being an exemplary project allows different organisations to get inspired by that project and go back to their communities and create something similar that is more suitable for their own communities. As noted by Seyfang and Longhurst (2016), projects with hands-off central control spread most effectively, proving that this is an appropriate way for grassroots initiatives. This is also the case given the importance of creating social networks and the reality of Quebec where local organisations work in round tables and have occasion for maintaining that social network.

The last diffusion option was being a Hub, inspired by a CFCC model, as discussed in the section of intermediary partners. Seyfang et al. (2014) noted that GIs need to be nurtured and supported and not 'managed', the model of Hub is characterized like this. The Hub would be the place of support for other organisations with new programs and be a resource hub for food related issues. I see an opportunity of this becoming an intermediary partner in the long run as noted by Hargreaves et al. (2013): learning must be a constant and ongoing process between projects and intermediary. Finally, I found that diffusion is an element that is very dependent on what Seyfang and Hexeltine (2012) concluded that the identity, belonging, purpose and community underlie GIs niche growth and the evolution of goals and priorities over time. Thus, the models of diffusion must be adaptable to this agile nature of GIs and this why replication via partnership, building an exemplary project, and becoming a Hub fits with this reality.

| GRASSROOTS INNOVATIONS | | | |
|---|---|---|---|
| **6. DIFFUSION** | | | |
| **Existing Literature** | | | **New Findings** |
| **Scaling Up** | **Replication** | **Partial Adoption by Regime** | ✓ **Three ways of diffusion:** |
| Refers to growing in size, activity and impact. | Refers to reproduction of the same project in other locations. | Refers to the partial adoption par regime. However, once accepted by the regime, the ideas are loosened and more adopted to adhering to the current system rather than challenging it. | **1)** *Replication via partnerships*<br><br>Working in partnerships in other neighborhoods that are interested in tailoring the program to their locality.<br><br>**2)** *Being an Exemplary Project*<br><br>Being an exemplary project that will inspire others to innovate in their own localities in similar ways.<br><br>**3)** *Building a Hub*<br><br>Hybrid of two first options and possible new role of an intermediary partner. |

*Table 19 - Grassroots innovation diffusion, existing and new findings*

## 6.7 Challenges

In the grassroots innovation literature, Smith et al. (2014) identify three main challenges that GIs struggle with. I have rephrased those in terms of tensions: 1-local-scale appropriateness vs. wide scale diffusion, 2-local innovations vs. current social and economic imbalances, and 3-project based solutions (micro) vs. changes of social and economic power (macro).

Based on the results, I found out that the first issue hasn't been mentioned amongst organisations in my sample as GIs are locally specific and often don't aspire for the vast standardized diffusion.

The results show that the biggest challenge that organisations in food face is the bigger systematic problem that impedes and limits innovations. The current system is unsustainable and unjust (3rd challenge mentioned by Smits et al. (2014)), local innovations have a hard time to avoid that injustice even when they try to find new innovative ways to resolve the issue in the first place (2nd challenge mentioned by Smits et al. (2013)). These two challenges were found in my results:

Pier Liné (Santropol Roulant) talks about the challenges in following way:

*"We are swimming against the current. The power of corporations is getting stronger, and we are really going against the current macro level. It's about balancing the tiny work that we do, and we are small against some bigger tendencies that are occurring on macro level."*

Emma Tilquin (Share the Warmth) talks about this:

*"Challenge is more in a structural way. We serve the community and we do a great job but how do we go the next level. We know the reasons why people keep on coming to the food bank but how do we make structural changes in regards to social services, guaranteed income etc. So how do we innovate in order to get to the root cause of the issues?".*

To illustrate this issue of innovations having a hard time to avoid the current unsustainable injustice even when they try to find new innovative ways to resolve the issue in the first place (2nd challenge mentioned by Smits et al. (2014)), I will use the following example. Claudie Thibaudeau (Carrefour Alimentaire Centre Sud) speaks to this:

*"And if we want for people in the neighborhood who are the most marginalized to eat and have access to the fresh fruits and vegetables as they most need it, we can't allow just organic local fruits. Its all about balance, as if there is no political incentive put in place that supports local organic producers and allows the producers to sell at the lower price, to reduce their production costs, their products will stay more expensive given that they are fighting against the big producers and technologies that are not accessible for them."*

The results revealed a new challenge that food security organisations are experiencing. Namely, food security organisations are going through an identity transition of not only being an urgency service organisation but rather a food system development organisation. They create programs that support sustainable food systems and empower communities to be part of it, instead being a charity food bank. Their challenge is to communicate their activities in terms of impacts, which ties to my first element of grassroots niche characteristics having clear impact.

Emma Tilquin (Share the Warmth) speaks on this:

*"Our biggest challenge is moving from the charitable model to a more development model. Charitable is about giving without developing much and it is more passive role, where developing model is more of an active relationship, to be able to involve the people so that they feel the need to be involved. The ownership of the community is a beautiful challenge."*

Kim Fox (NDG Food Depot) also speaks to this:

*"Lot of people are still more comfortable donating to the food bank than to the food centre. They want to know that they money is going to direct food access and not programs, they want to feed poor people, they don't want to give to the programs Its kind of like removing preconceived notion of what is emergency relief and to sensitize people about food systems itself, why we are doing this kind of work and to talk about our impacts."*

➢ **Discussion**

The data analysis concluded that wide scale diffusion has not been mentioned in my sample and is explainable by what has been mentioned in previous section on 'diffusion'. As noted by Seyfang and Longhurst (2016), projects with hands off central control spread most effectively and so a 'cookie cutter' approach doesn't work in the social sector as every locality has different needs and opportunities (Seyfang et al., 2014)

More precisely, the analysis has proved that wider regime and socio-political factors significantly determine diffusion success (Seyfang and Longurst, 2016). The current systematic problems limit succession and further diffusion of the niches and is a reason why organisations "stagnate' on project based solutions (micro level) without being able to reach and address bigger systematic problems. Similar tensions have also been proven in the study of Montreal local food markets completed by Audet et al. (2015).

A new challenge that has been identified from the analysis of the results, speaks to what has been stated by Smith et al., (2014) that grassroots innovations need to be both radical and reforming. This proves their evolution in the innovation of their services as GIs are social innovations (Seyfang and Hexeltine, 2012).

| GRASSROOTS INNOVATIONS | | | |
|---|---|---|---|
| **7. CHALLENGES** | | | |
| **Existing Literature** | | | **New Findings** |
| **1. Local-scale appropriateness vs. wide scale diffusion** | **2. Local innovations vs. current social and economic imbalances** | **3. Project based solutions (micro) vs. changes of social and economic power (macro)** | ✓ **Transition to Development Model** |
| Tension between staying true to the area specifics and local suitability vs diffusing innovation | Tension between innovation at the local level vs. conflicting realities of injustice and | Tension between acting on the pressing issues and problems vs. addressing the bigger systematic problem that | Challenge with changing the mindset from an urgency service organisation to a food system development organisation |

| across as far as possible | inequalities that impede the adoption of the local innovation | caused the issues that are being addressed (addressing only the 'tip of the iceberg') | |
|---|---|---|---|

*Table 20 - Grassroots innovation challenges, existing and new findings*


# 7. SUMMARY OF THE DISCUSSION

By studying seven key elements found in SNM literature and GIs literature, being (1) clear expectations, (2) social network, (3) shared learning, (4) intermediary partners, (5) grassroots innovation motives, (6) grassroots innovation diffusion, and (7) grassroots innovation challenges, my research objectives are:

1. To assess the utility of SNM theory in studying GIs (points 1-4 on Figure 18, Table 8)
2. To enrich elements of GIs such as its motives, challenges and diffusion (points 5-7 on Figure 18, Table 9)

Within each section, I sought to find out the 'how'; how are each of those elements formed and how have they been evolving in the sample that I am interviewing to answer my research question of ***'How do Alternative Food Networks initiatives in Montreal form a sustainable grassroots innovations niche?'***

I was able to answer my research question by identifying new elements and assessing the state of an AFNs GIs niche in Montreal. I summarize the results in the below figure and further elaborate.
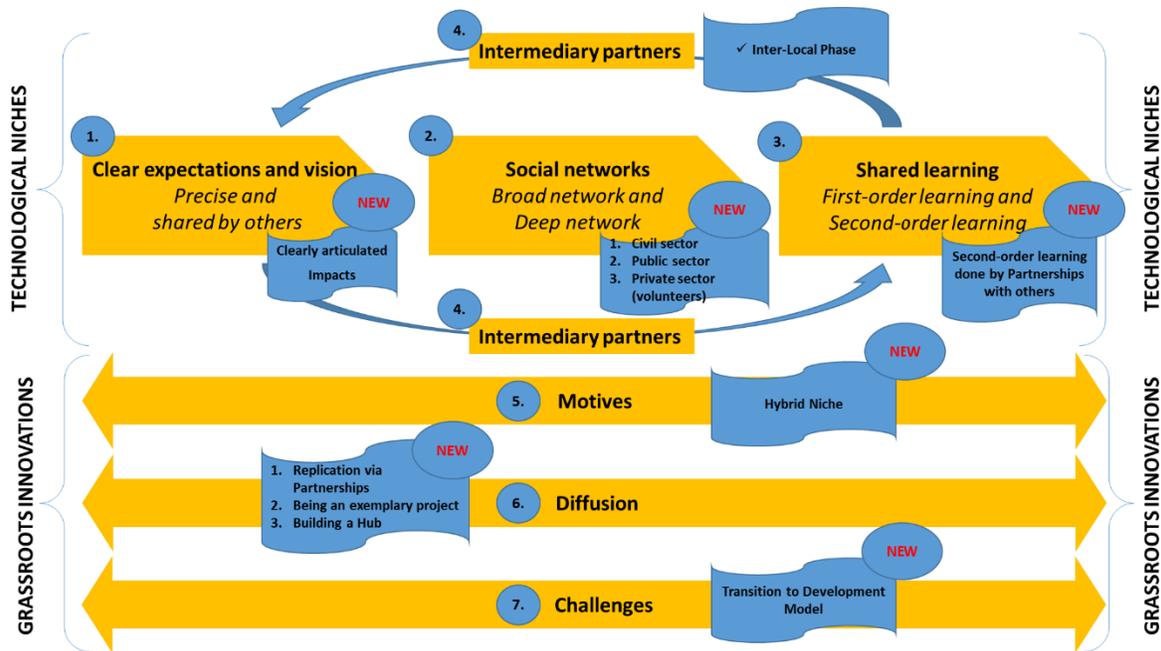
*Figure 21 - Summary of research results*

So, *'How do Alternative Food Networks initiatives in Montreal form a sustainable grassroots innovations niche?'*

They form a sustainable GIs niche by (1) identifying clear impacts; (2) building broad and deep networks by exploring civil, public and private sectors and valorizing the capital asset of volunteers; (3) engaging in second-order learning by sharing via partnerships innovative program/views on the issues. Given the lack of existence of a strong intermediary partner, I concluded that the AFNs GIs niche is the 'Inter-Local Phase' (Geels and Deuten, 2006, 269). The SNM framework is a useful guideline to assess GIs however, it needs to be adapted to diversities and social innovation nature of GIs.

Furthermore, Montreal AFNs GIs niche is a (5) hybrid niche as they have a simple and strategic niche motive (Seyfang and Smith, 2007). GIs niche is responding to the local need but also aiming for a greater structural reform. It enrols in (6) diffusion by 1-replication via partnerships, 2-being an exemplary project and 3-becoming a Hub. GIs niche meets many (7) challenges in their day to day activities and innovations, especially systematic injustices of the current system and their discriminatory aspects that become unavoidable even when GIs try to bring forward an innovative solution. Besides those permanent challenges, Montreal AFNs GIs niche is dealing with an identity transition within the food security sector of moving towards more of a development model rather than an urgency service model. All of these seven elements respond to the **HOW** Montreal AFNs grassroots innovations niche is being constructed.

| TECHNOLOGICAL NICHES CHARACTERISTICS | | | NEW FINDINGS |
|---|---|---|---|
| **1. CLEAR EXPECTATIONS & VISION** *(Kemp, Schot, and Hoogma, 1998; Geels and Raven, 2006; Schot and Geels, 2008)* | | | |
| **Clearly articulated and shared**<br><br>Their mission, vision and objectives are clearly articulated and shared by others | | | ✓ **Clearly articulated Impacts**<br><br>Past and future **performance impacts** are announced and clearly articulated. |
| **2. NETWORKING** *(Kemp, Schot, and Hoogma, 1998; Geels and Raven, 2006; Schot and Geels, 2008)* | | | |
| **Broad Networking**<br><br>Social network is composed of multiple diverse stakeholders. | **Deep Networking**<br><br>Niche is mobilising commitment and resources from its social network. | | ✓ **Consideration the local specifies of:**<br>1) **Civil sector:** round tables<br>2) **Public sector**: local level government<br>3) **Private sector:** new funding partners<br>  3.1 **Volunteers:** resource base |
| **3. LEARNING** *(Kemp, Schot, and Hoogma, 1998; Geels and Raven, 2006; Schot and Geels, 2008)* | | | |
| **First-Order Learning**<br><br>Documentation of internal processes, procedures and projects. Refers to the amount of knowledge capital that is being accumulated internally | **Second-Order Learning**<br><br>Radically reframing the problem or innovation that is addressing to change the assumptions and cognitive frames related to the issue in question. At this level, the learning is shared with others who also start adopting and using the reframed notions | | ✓ **Second Order learning**<br><br>Creating innovative programs, making them available and working **in partnerships** with others to tailor and implements the product/service to their local social context |
| **4. CREATING INTERMEDIARY PARTNERS** *(Geels and Deuten, 2006)* | | | |
| **Local Phase:**<br><br>At this level, there are no infrastructure that makes available for people to interact and exchange knowledge. No intermediary partners are born nor do the GIs take that role yet | ✓ **Inter-Local Phase:**<br><br>Circulation of knowledge is present within a network and alliances are being built around supporting projects and shared visions of the projects. GI usually acts as intermediary partners when they have strong programs and history record of learning | **Trans-Local Phase:**<br><br>In this phase, the emergence of the intermediary partners happens as the circulation of knowledge has moved from specific projects to more the field as a whole | **Global Phase:**<br><br>Knowledge has become institutionalised and standardised and part of the dominant cognitive rules. Intermediary partners are part of the regime |

*Table 21 - Technological niche characteristics findings*

| GRASSROOTS INNOVATIONS | | | NEW FINDINGS |
|---|---|---|---|
| **5. GRASSROOTS MOTIVES** *(Seyfang and Smith, 2007)* | | | |
| **Social Need – Simple Niche** Grassroots Innovations exist as a response to a social need (social need – simple niche) | **Ideological Need – Strategic Niche** Grassroots Innovation exist as an alterative way to what is currently done (ideology – strategic niche). | | ✓ **Hybrid Niche** Addressing the social needs while also aspiring for making greater systematic **change by advocacy and political pressure** at the local level |
| **6. DIFFUSION** *(Seyfang and Longurst, 2016)* | | | |
| **Scaling Up** Refers to growing in size, activity and impact. | **Replication** Refers to reproduction of the same project in other locations | **Partial Adoption by Regime** Refers to the partial adoption par regime. However, once accepted by the regime, the ideas are loosened and more adopted to adhering to the current system rather than challenging it | ✓ **Three ways of diffusion:** **1)** *Replication via partnerships* Working in partnerships in other neighborhoods that are interested in tailoring the program to their locality **2)** *Being an Exemplary Project* Being an exemplary project that will inspire others to innovate in their own localities in similar ways. **3)** *Building a Hub* Hybrid of two first options and possible new role of an intermediary partner |
| **7. CHALLENGES** *(Smith et al., 2014)* (*I rephrased the titles below in form of tensions) | | | |
| **1. Local-scale appropriateness vs. wide scale diffusion*** Tension between staying true to the area specifics and local suitability vs diffusing innovation across as far as possible | **2. Local innovations vs. current social and economic imbalances*** Tension between innovation at the local level vs. conflicting realities of injustice and inequalities that impede the adoption of the local innovation | **3. Project based solutions (micro) vs. changes of social and economic power (macro)*** Tension between acting on the pressing issues and problems vs. addressing the bigger systematic problem that caused the issues that are being addressed (addressing only the 'tip of the iceberg') | ✓ **Transition to Development Model** Challenge with changing the mindset from an urgency service organisation to a **food system development organisation** |

*Table 22 - Grassroots innovation elements findings*

# 8. CONCLUSION

In conclusion, I answered my research question of 'How do Alternative Food Networks initiatives in Montreal form a sustainable grassroots innovations niche?' and contributed to both the theory and practice of the field.

The richness of the data analysis has permitted me to contribute to the theory of GIs in two ways. First, by exploring 'how' do sustainable GIs niches form by assessing the applicability of the SNM theory and second, by enriching existing elements in GIs theory.

Through the diversity and local contextualisation of GIs, I was able to extrapolate some generic elements that can be useful when analysing and studying how do GIs niches take form. Namely, the three basic elements of the niche (clear expectations, social networks and shared learnings) can be looked at in terms of communicating clear impacts; exploring social networks in all sectorial levels: civil, public and private, considering the asset capital of volunteers; and engaging in second-order learning via partnership and learning-by-doing together given the collaborative nature of the civil society sector.

Second, I contributed to the theory by finding new elements with regards to the GIs niche motives, diffusion, and challenges. I discovered that GIs niche motives are hybrid – that the niche is responding to the social need, and at the same time advocating and fighting for ideological changes in the current system. This holistic view of grassroots niche allows for a larger understating of the diversity in their actions, diffusion options and challenges. Due to this nature of the grassroots niche, I discovered that diffusion options are replications of the projects via partnerships, being an exemplary project and becoming a Hub. These new findings demonstrate that development of GIs niche occurs by exploring the local specifics, and leveraging those unique aspects to innovate within the areas to encourage others to do the same. However, this is timely and costly, especially given their new challenge of identity transition to become a development organisation rather than respond to an urgent need. This evolution allows for the theory to incorporate aspects of local resilience and capacity building in the GIs niche elements.

My research thesis also brought contribution to the practice. Just like the old proverb says *'Give a man a fish and you feed him for a day; teach a man to fish and you feed him for a lifetime.'* There are two parts of this contribution. First, financing is the biggest and the most known challenge for civil society organisations. The organisations need to use impact measurement to communicate and measure capacity building and engage with donors in this way. Impact measurement needs to be used as a tool to tell the story of their valuable work and to engage within civil society. The research does not underestimate how challenging this can be. Second, building social networks with private organisations to obtain volunteers

that have a special skillset, such as in communication, creative writing, social media understanding, and graphic design etc., is another possibility to obtain support and enhance skill-building internally.

Nevertheless, it is important to elaborate on some limitations of this research. There are two critiques pertaining to the theory and one limitation related to the methodological approach. The first critique is based on the SNM literature tone of not challenging and criticizing enough the systematic system in place that is causing those unsustainable patterns and problems that "sustainable niches" are trying to solve for. The literature has an opportunistic tone to it. On the other hand, GIs theory is projected in a more criticizing civil rebellious voice. I believe that this distinction is the reason for not taking seriously the sustainable innovations that happen within civil society. Nevertheless, this distinction and this polarized view is nothing new. There are certain myths that have been associated to civil sector (inefficient, slow, not updated to the latest technologies, etc.) vs. private sector (efficient, new, most recent technology, fast-paced, innovative, etc.). In this holistic battle against unsustainable systems, I believe it is important for the Sustainability Transitions field to adopt a more critical voice, with united messaging, and an oppositional view to alarm and mobilize diverse stakeholders with urgency to the necessary actions. Academia has a duty of informing and enriching the overall knowledge arena and society around the state of the most pressing issues of our time.

The second critique is based on the impact measurement need and pressure of the civil sector and fears of 'green/social washing' that can occur as consequence of that. Impact measurement is important but let's not forget that everything that is important can't be measured in quantitatively. Therefore, vigilance with impact measurement is necessary as the risk for an organisation to tailor their activities to meet the impacts targets might alienate the organisations from addressing the pressing social needs and ideology goals. For example, if an organisation is measuring the number of people that have been enabled to go back to workforce due their program, they will want to choose people that are the 'least marginalized' and the 'most apt' to adaptation which would exclude offering services to those most in need. Also, not everything that is measureable is important. There is a risk of using measurement to show some impacts in numbers where perhaps in reality they did not have significant effect. The risk of 'green/social washing' – organisations showing that they are engaging in the social or ecological initiatives as a part of their marketing strategies and brand strengthening needs to be monitored. Thus, impact measurement needs to be at the service of organisations and not the other way around. It also needs to be more agile and diversified to be able to accommodate differences in sectors, area needs and social priorities.

The last critique is with regards to the methodology limitations. My initial aim of this research was to study varied types of food AFNs in Montreal. However, many of small citizens led groups (CFNs) are very hard

to reach and document. The majority of them don't have formal structure, nor a designated contact person and are mainly volunteer led. Due to time and resource restrictions, I studied the organisations that responded to my requests and mobilized their time and resources for participating in the interview. My sample size thus become more homogeneous than I initially intended it to be. Furthermore, the interviewing technique took time during the summer which is a busy season for groups working in food production and agriculture. Thus, this aspect also skewed the participants' choice in my sample group. If I had more time and resources, I could have assembled a larger and more diverse group (12-14 organisations). Even then my sample would not be representative of the Montréal population (not in scope of this work) but it could have showcased the diversity of existing initiatives within the AFNs GIs field.

Finally, in terms of future research, there are two main future trajectories. First, I believe that GIs field needs to be studied along with social innovation literature. Social innovation literature debates and elaborates on the boundaries of its definition, measurement, growth, and preservation of identity, all the items that GIs are also struggling with. Namely, GIs are social innovations and thus, we must incorporate existing literature of this field into Sustainability Transitions. This addition will enrich the Sustainability Transitions field and provide more credibility in the messaging, and more depth for incorporating a more critical tone in its overall vision. It is important to elaborate on the issue of institutionalization of social innovation and the tensions between staying true to their mission vs. becoming more like the private sector. There must be more research exploring fields in between those two opposite poles and studying hybrid types. Sustainability is an innovative field of work as we must find new ways of doing and functioning that are more humane, sustainable, and just.

Second, there needs to be more research done in terms of power relations and engagement with policy stakeholders. How can GIs engage political parties and policy actors and work more in partnerships to advance the agenda within policy circles? Given the urgency of climate change, all initiatives need to be working together with the focus on the public actors to continually find collaborative ways to work together. Bottom-up solutions need to be tunnelled upwards and included in the policy discussions as there is value for all in this approach. I believe that studying governance methods and policy relationship can provide a large contribution for the practice and theory of GIs and Sustainability Transitions.

# Appendix 1 – Interview Questionnaire

1. When we talk about 'sustainable food system' what does that mean to you?

2. What do we need to do (as a society) to achieve a sustainable food system such that you just defined?

3. How does your organisation contribute to such?

4. How does your role contribute to such?

5. What is the primary motivation of your organisation?

6. What is the vision of your organisation?

7. Who were and who are some intermediary partners who contribute to the development of your organisation? How do you maintain those relationships?

8. What are some major sources of funding and how does your organisation ensure its economic viability?

9. Has your organisation developed the network with similar organizations and, if so, how?

10. What types of learning have you developed within your organization and with other similar organizations (example: internal processes and training for your employees, conferences with other organisations on similar topics/processes)?

11. What kind of management structure is present in the organisation? How does your legal structure contribute or impede on that?

12. What are some of your biggest challenges at the organizational level and in your specific role?

13. How do you see the diffusion of your organisation? In what form? (For example: branching out, growing in size, being adopted by an institution or other organization, etc.)


14. What does food justice mean to you?


15. How does your organisation contribute to food justice?


16. In 25 years from now, when we made the transition to sustainable food system, what does that world look like and how are you involved in it?

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