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Veronica Bonomelli

► To cite this version:

Veronica Bonomelli. Building a participative tool to map the impact pathway of urban driven innovations on food systems sustainability: how to consider specific features of social innovation?. Political science. 2018. dumas-03866255

HAL Id: dumas-03866255

<https://dumas.ccsd.cnrs.fr/dumas-03866255>

Submitted on 13 Jan 2023

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Mémoire de Mission Professionnelle

présenté pour l'obtention du diplôme de Mastère Spécialisé® Innovations et politiques pour une alimentation durable

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par Veronica Bonomelli

Année de soutenance : 2018

Mémoire préparé sous la direction de :
Elodie Valette

Présenté le : 12/10/2018

devant le jury :

Marie Josèphe Amiot-Carlin

Nicolas Bricas

Benoît Daviron

Organisme d'accueil : Cirad

Maître de stage : Elodie Valette

Résumé

Des innovations alimentaires citoyennes ou portées par des gouvernements urbains prospèrent autant dans des villes du nord que du sud et proposent de nouvelles manières de nourrir les villes et de connecter les acteurs des territoires urbains et ruraux autour des questions alimentaires. Cependant, la recherche n'a pas encore fourni d'interprétations claires sur ces innovations et sur leur réelle contribution à la durabilité des systèmes alimentaires.

Le projet de recherche Urbal propose de construire et de tester une méthodologie participative d'identification des chemins d'impact d'innovations urbaines sur la durabilité des systèmes alimentaires, avec une attention particulière pour l'innovation sociale.

Ce mémoire s'inscrit dans la construction de l'outil méthodologique Urbal. S'appuyant sur une revue de la littérature sur l'innovation sociale, nous avançons des suggestions afin d'orienter théoriquement et structurer méthodologiquement l'outil Urbal. Les résultats montrent les caractéristiques spécifiques de l'innovation sociale à prendre en compte. Ils portent d'abord sur l'analyse de l'innovation : il faut considérer l'objectif, les acteurs impliqués et les ressources marchandes et non marchandes qu'ils apportent ainsi que les éléments du contexte nécessaires à comprendre les conditions d'émergence et de diffusion de l'innovation. Deuxièmement, il s'agit de structurer l'évaluation des résultats - définis comme les changements ou effets produits par l'innovation sur les différentes dimensions de la durabilité des systèmes alimentaires à court, moyen ou long terme - et d'étudier les modalités de diffusion (*scaling*) de l'innovation. Finalement, l'outil doit pouvoir s'adapter au processus non-linéaire de l'innovation, adoptant une approche systémique et permettant des allers et retours constants entre les problèmes et les solutions.

Le recouplement de ces résultats avec un travail sur les outils méthodologiques des chemins d'impact a permis d'élaborer la première version de la méthodologie Urbal, composée par des entretiens et par un workshop participatif, qui sera testée sur 12 innovations.

Mots clés

Innovation sociale – Chemins d'impact – Durabilité – Systèmes alimentaires
– Méthode participative

Abstract

Both urban government and citizens food innovations flourish in Northern and Southern cities and offer new ways of feeding cities and connecting actors of urban and rural territories around food issues. However, research has not yet provided clear interpretations of these innovations and of their real contribution to the sustainability of food systems. Urbal research project wants to build and test a participatory methodology to map the impact pathway of urban driven innovations on food systems sustainability, with an emphasis on social innovation.

This final dissertation is part of the construction of the Urbal methodological tool. Based on a literature review on social innovation, we make suggestions to theoretically orient and methodologically structure the Urbal tool. The results show the specific characteristics of the social innovation to be taken into account. Firstly, they focus on the analysis of innovation: one must consider the objective, the actors involved and the market and non-market resources they bring as well as the elements of the context that are relevant to understand the conditions of emergence and diffusion of the innovation. Secondly, the tool should be able to structure the evaluation of the results - defined as the changes or effects produced by the innovation on the different dimensions of the sustainability of the food systems in the short, medium or long term - and to study the modalities of scaling of the innovation. Finally, the tool must be able to adapt to the non-linear process of social innovations, adopting a systemic approach and allowing constant back and forth between problems and solutions.

The merging of these results with a work focused on impact pathways and other methodological tools made it possible to elaborate the first version of the Urbal methodology, composed by interviews and a participatory workshop, which will soon be tested on 12 innovations.

Key words

Social innovation – Impact pathway – Sustainability – Food system – Participative Tool

Acknowledgements

I would first like to thank my internship and thesis supervisor, Elodie Valette, for her support, her guidance and above all her spontaneity, which makes the work environment light and pleasant.

Nicolas Bricas, for his unconditional encouragement, his energy and passionate discussions.

Marie-Josèphe Amiot Carlin, for following this work closely and asking the right questions.

I would also like to thank the rest of the Urbal team, companions of interesting and constructive meetings and exchanges and Kerstin Schreiber, for the endless hours of discussion and for the support, when Urbal was still something fuzzy.

I am also grateful to the ISAM-IPAD team, for making me live a dense but extremely exciting year. I would do it again, a thousand times. A special thanks to Benoît Daviron, my tutor, for his trust and his constructive criticism.

Thanks to the close circle of pulcine: Julia, Camille and Valeria, core presences throughout the whole year.

Thanks to all the other ISAM-IPAD adventure mates, for the rich exchanges, for the laughs and for co-constructive experiences.

Last but not the least, thanks to the distant family and friends, for the constant presence and support.

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Preface

This document is a literature review conducted during a six-month internship within the Urbal project, 'Urban-driven Innovations for Sustainable Food Systems'. It is a three-year research project lead by an international consortium which includes the *Centre de coopération internationale en recherche agronomique pour le développement (Cirad)*, *Economia e Sostenibilità (ESTà)*, the *Unesco Chair World Food Systems* and *Wilfrid Laurier University*.

Urbal builds from existing work on sustainable food system assessment, impact pathway mapping and innovation with an emphasis on social innovation. Its aim is to build and test a participatory methodology to map the impact pathways of urban-driven innovations on the sustainability of food systems. The test includes twelve case studies called UFILs (Urban Food Innovation Labs) in eight countries across the world. UFILs have been chosen according to the following criteria: expected impacts on different dimensions (consumers practices, value chains organization and governance of urban food policies); different political and cultural environments (Milan, Montpellier, Berlin, Baltimore, Brasilia, Rabat, Cape Town and Hanoi); different type of actors that support the innovations (local public authorities, private sector and civil society).

On the one hand, the methodology will help city governments and/or policymakers, to get a detailed overview of innovations impact pathways in order to be more able to identify, understand and support social innovations related to food and therefore to bring about change. On the other hand, it will be useful for innovators as a tool for reflexivity or for communication, being able to capture the relation between their activity and sustainability.

This review of both academic and grey literature is instrumental to identify the specific features of social innovations related to food that are relevant in the building of Urbal methodological tool, that will then be applied to the UFILs. It is one of the outputs of the author's internship at Cirad and it is complementary to the work of another intern, Kerstin Schreiber, whose work is more focused on impact evaluation tools and participatory methods. The fusion of the main findings of the two-research works has generated a draft of a six-step participative methodology to map the impact pathways of urban-driven innovations on the sustainability of food systems that is illustrated in Appendix A.

Abbreviations

ANT	Actor Network Theory
DE	Developmental evaluation
EC	European Commission
MLP	Multi Level Perspective
OECD	Organization for Economic Cooperation and Development
SI	Social innovation
TI	Technological innovation
UFIL	Urban Food Innovation Lab

Introduction

According to the United Nations, more than half of the world's population now lives in urban areas with predictions that this proportion will increase to approximately two thirds by 2050. Given lifestyle and consumption practices, people living in urban areas monopolize three-quarters of natural resources and account for 60-80% of global GHG emissions (Unep, 2011). But if cities concentrate sustainability problems, they are also places of innovation that can contribute to building more sustainable food systems. Both urban government and citizen food innovations flourish in Northern and Southern cities (Blay-Palmer et al. 2015, Robineau & al. 2016, Viljoen & Wiskerke, 2012) and offer new ways of feeding cities and connecting actors of urban and rural territories around food issues. These innovations are usually seen as alternatives to the dominant food system and ways to contest industrial capitalism. However, research has not yet delivered a clear understanding about the innovations in play and how they influence the sustainability of the resulting food systems (Urbal project proposal).

Several impact evaluation tools for the sustainability of food systems exist but few research activities so far have aimed at analyzing their effect across both transitioning and industrialized countries and considering the diverse sustainability dimensions. In fact, while the assessment of sustainability innovation impacts on the food system has been explored by several research teams, they often limit the assessment to one or two dimensions of the sustainability, such as environmental issues (with life cycle analysis tools) and/or nutrition (through consumption surveys). Moreover, the existing projects and researches aimed at identifying relevant indicators to assess food systems sustainability propose from a few to more of one hundred indicators (Singh et al. 2012) but the methodologies to collect data are often complex and rely on statistics.

For these reasons, Urbal wants to be a simpler and less time and money intensive methodology that address, at least potentially, all the dimensions of sustainability (governance, food security, nutrition, environment, economy and socio-cultural dimension).

Most of the UFILs that will be studied within Urbal can be social innovations (SI) and that is why the impact pathway methodological tool should strongly take in consideration SI features. SI is therefore presented here in order to theoretically orient and to methodologically structure the case study work in Urbal project.

For that purpose, we first provide information about the link between social innovations, urban areas and food, highlighting the central question that has guided the elaboration of this report. Then, we explore social innovation concept and the way it has been addressed by both academics and practitioners. A third section is dedicated to the description of the recurrent features of social innovation, including the social need or opportunity that is supposed to be addressed by the SI, the actors involved, the elements of the context that enable or constraint the emergence and diffusion of SI together with the process aspect of SI. The following section explains two possibilities for SI to diffuse and to have an impact: scaling and contributing to transition towards sustainability along with other innovations. The fifth section explores some ways academics and practitioners has addressed the analysis and impact evaluation of social innovation, which gives guidance for Urbal tool, that

want to analyze and map the impact of SIs. Finally, some recommendations will be proposed, focusing on three aspects: the analysis of SI, the dilemmas of an impact assessment of SI and the nature of a tool that should fit to understand social innovations.

1 Why social innovation, urban areas and food?

Social innovation is often seen as a mean to respond to big challenges of the twenty-first century, such as demographic ageing, global security, climate change, resource scarcity and growing inequalities (Kirwan et al. 2013; Neumeier 2017a). As such, SIs have the potential to address those contemporary issues by replacing or by being complementary to governmental involvement and leaving citizens, enterprises and local governments being the agents of change. This context is an opportunity to rethink about innovations, that is often presented as a way to combine the aspiration to change and a form of guarantee of equity and social justice which would rely on the creativity of the actors and in particular the private actors (Richez-Battesti and Vallade 2012).

The local or city scale, especially urban neighborhoods, has been the privileged spatial focus of territorial development based on social innovation because of two reasons (MacCallum et al. 2009). The first one is that concentration of problems often happens in cities and *“the social relations, governance dynamics and agents ‘responsible for’ the decline are more easily identifiable in urban neighborhoods than in lower density areas or at higher spatial scales”* (MacCallum et al. 2009, p. 16). Secondly, urban neighborhoods act as a catalyst for revealing alternatives due to dense human interactions, resources, and new types of relations that drive alternative agendas (MacCallum et al. 2009).

Getting closer to food issues, some studies show that geographic concentration or clustering of alternative food initiatives are based on specific social relations, trust, and collaboration that can potentially *“realign production-consumption chains and capture local and regional ecological and economic value both within and between rural and urban spaces”* (Marsden 2010 in Beckie et al. 2012, p. 334). However, the link between SI and food systems has not been addressed sufficiently in scientific literature (Chiffolleau and Paturel 2018) and yet a lot of initiatives exist and they could be analyzed under the lens of a SI approach. Social innovation does not benefit from the theoretical and empirical knowledge that has developed in the field of technological innovation over the last twenty years neither (Harrisson and Vezina 2006). The development of knowledge on the conditions of its emergence, the process of creation, the diffusion to a larger number of people as well as the results or the consequences expressed in terms of improvement of the living conditions of the social actors and sustainability are much more recent and a lot remains to be studied (Harrisson and Vezina 2006). If social innovation can become a relevant driver for the transition to more sustainable food systems, there is a need to know how to analyze it. Urbal project aims to understand SIs and their potential to have an impact on the sustainability of food systems. Therefore, it is relevant to build a methodological tool that has a social innovation approach.

In this context, the demand of Urbal has been to realize a literature review on social innovation and to contribute to the elaboration of a participatory impact pathway mapping tool. For the first task, on which this document is focused, the guide question has been: what is specific to social innovation that should be considered in a methodological tool that analyzes the impact pathway of urban-driven social innovations on food system sustainability?

The main data were gathered in both scientific and grey literature. The collection of data started with an online search (Google Scholar, Web of Science and Cairn) throughout key words and it then proceeded with the snowball technique. This review has been enriched by personal conversations with researchers and practitioners that have made some considerations on the subject or suggested key references to consult. The whole research process has also been followed by the Urbal core team, through several presentations.

2 Social innovation

Appeared in the 1970s, the notion of social innovation was already understood as an opening to consider other processes, actors and results than other types of innovations. The dominant approach was initially very critical with regard to the technical progress and its effects, and then it adopted more diversified approaches (Chiffolleau and Paturel 2018). Nowadays, social innovation is a term used globally to identify quite different initiatives and what it refers to is not clear.

Overall, the term is increasingly used, it is polysemic and it covers various definitions and realities depending on the actors that use it. That is why this chapter is firstly dedicated to clarifying social innovation origins in history, starting from the 19th Century. It then provides insights about the different theoretical approaches that have been adopted by authors, focusing on the main dichotomy between an economic and a social embedded lens. Finally, some contemporary definitions used in grey and scientific literature are given and, after having shown their core elements, a classification of major 'ideas' that can be interesting for Urbal and that imply a choice of one vision of social innovation will be proposed.

2.1 Origins of the concept

Social innovation is in vogue. The term is nowadays used with different connotations, within different disciplines and by different economic and political actors. In the past, other events that cover part of the same content have been used and various socio-political practices could explain the origin of the concept even though the term was not directly used at that time. In the 19th century, in a context of a great wave of industrialization and urbanization, the first "social innovations" appeared. There were about different form of social mobilizations (Jessop et al. 2013) such as microcredit, cooperatives, mutual self-help and trade unions. At that time, one of the pioneer country was Britain, where civil society created new models of childcare, housing and community development (Mulgan 2006). According to Karl Polanyi's historical analysis it was a way, for society, to fight back against the commodification of land, labor and money (Jessop et al. 2013). After the Second World War, governments have been major actors with the creation of the welfare state and the reshape of the schooling system, taking the lead on social innovation (Mulgan 2006). The welfare state was, for instance, born to cope with the economic and social challenges of that time, such as unemployment, poverty, sickness and inadequate housing which have previously been taken in charge by self-help and social economy initiatives. Lately, starting from the '60s, various social change movements and initiatives, such as neighborhood development initiatives, have appeared and been shaped by micro

and macro processes and agency along with the cultural and organizational perspectives of that time (MacCallum et al. 2009). Over the last decades, a fast spread of the so-called social innovations has been occurring due to several factors. Firstly, from a functionalistic perspective, government policies and the market have not managed to find solutions to the pressing issues of our times such as climate change and widening inequalities (Howaldt et al. 2018; Murray, Caulier-Grice, and Mulgan 2010; Richez-Battesti and Vallade 2012; The Young Foundation 2012). Following the same logic, the belief in technologic progress as a response to crisis has shown its limits: economic growth does not come automatically with social progress accessible to all but instead gives rise to a polarization of wealth (Richez-Battesti and Vallade 2012). Finally, there is more money flows towards NGOs and civil society, which are some of the main actors initiating social innovations, than ever before (Mulgan 2006).

Some contemporary examples of social innovations coming from the private sector or civil society include neighborhood nurseries, Wikipedia, the Open University, the fair trade movement and online self-help health groups (Mulgan 2006). From a public sector perspective, social innovation is nowadays largely mentioned by European institutions and European countries. What is particularly interesting is the evolution of the vision of innovations inspiring policies in the regions of Europe that has occurred over the last thirty years. This vision, which started out as technological (or even technical), has evolved into a vision where not only technological innovation has been broadened to include its organizational and social dynamics, but social innovation is also considered in because of its own dynamics, that is to say a transformation of social relations and governance of development and regions (Hillier, Moulaert, and Nussbaumer 2004). The existing and above-mentioned examples of social innovation are very 'generic', and they can encompass a lot of specific and unique initiatives. That is why some authors warn about the need of a deep analysis of case studies that can demonstrate if each hypothetical social innovation can be considered as such or not (Yuna Chiffolleau, personal conversation). We will come back to this point in section 2.3.

2.2 Different theoretical approaches

Following the chronological approach of the former section and to provide social innovation analysis a coherent epistemological status, some authors argue that the roots of the concept date back to the 'old theorists' of social change, which include authors coming from a period of time ranging from the end of the 19th century to the '70s (MacCallum et al. 2009). Here, social innovation is understood in the broad social science literature and related to large issues of ethics and social justice, going back up to the 'godfathers' of sociology (MacCallum et al. 2009). The German sociologist Max Weber, among his wide intellectual concerns, highlighted that a technical change is significant only when there is a new social order that endows it (Jessop et al. 2013). Moreover he affirmed that social agents who introduce new forms of practice, organization or product can initially be considered deviant but it does not exclude that they can lately exert a crucial influence and lead to established social usages (Jessop et al. 2013), which is currently related to some consideration related to social innovation process literature. Emile Durkheim emphasized the importance of understanding the innovation or renovation of social order when a technical change is studied (MacCallum et al. 2009), which implies that the consideration of the social aspect is crucial when a technical issue is

approached. Overall, Weber and Durkheim studied transformation in societies by considering the interaction between the economic, cultural and ethical dimensions that determine it. In the '30s, Joseph Schumpeter's - who is considered the godfather of the analysis of innovation in economics - studies considered also some sociological aspects (cultural, artistic, economic and political) in order to elaborate a comprehensive social theory for the analysis of innovation (Jessop et al. 2013; MacCallum et al. 2009). Schumpeter has been the first to stress the need for social innovation to ensure at least partial effectiveness of a technological innovation (Hillier, Moulaert, and Nussbaumer 2004).

Following this chronology, some authors consider the French intellectuals movement of the '*Temps des Cerises*' as a transition between the 'old theorists' and the 'new theorists' of social innovation (Jessop et al. 2013; MacCallum et al. 2009). They participated to the debate on the transformation of society of their time, giving some contributions on the role of the revolts organized by students, intellectuals and workers. Some of the most interesting issues raised by the '*Temps des Cerises*' have been taken up by Chambon, David and Devevey (1982) in their book on social innovation and include ideas that are also mentioned by a more recent literature: (a) Social innovation is related to the "*satisfaction of specific needs thanks to collective initiatives, which is not synonymous with state intervention. (...) The state can act, at one and the same time, as a barrier to social innovation and as an arena of social interaction provoking social innovation from within the spheres of state or market*" (MacCallum 2009, p.13). (b) "*Social innovation can occur in different communities and at various spatial scales but (c) is conditional on processes of consciousness raising, mobilization and learning*" (MacCallum 2009, p.13).

After the '80s different approaches to the concept related to various field of practice or research are observed and the majority of the literature emerged starting from '2000 for two reasons. On the one hand, there has been a reaction to the excessive enthusiasm towards technology and business innovation held by researchers, policymakers and practitioners (Moulaert et al. 2005). On the other hand, a renewed interest on social innovation emerged as a response to growing social and environmental changes (The Young Foundation 2012). Four main approaches are presented here, knowing that the list and the content are not exhaustive: governance and public policies perspective, the economic embedded approach, the social sciences approach and territorial development perspective.

Governance and public policies perspectives focus on different modes of (re)organizations that give more control and influence to users and on the simplification of procedures within public administration activities (Jessop et al. 2013). They are also interested in the ability of social innovation to transform organizations, especially public organizations, to make them more efficient or effective (Richez-Battesti and Vallade 2012).

In the early '90s social innovation is mentioned and studied with technologic and business oriented approaches, mostly limited to the context of enterprises (Dandurand 2005). The first documents of OEDC, after *Oslo Manual 1* and the *Frascati Manual 2* which essentially focuses on technological innovation in business, that are explicitly interested in social innovation appeared at the end of the '90s (Dandurand 2005). One of them, *Dynamiser les systèmes nationaux d'innovation* (OCDE 2002), without explicitly mentioning social innovation, address 'non technological' innovations such as new

forms of organizational models, managerial practices and working methods prior to the effective use of the technology. Besides this grey literature issued by European institutions and international organizations, the **economic approach** to social innovation includes scientific disciplines such as (a) marketing and management sciences and (b) innovation economics and microeconomics. Within the former, studies related to the integration of ethics (fair business practices and respect for worker's rights) and values (justice, solidarity and cooperation) into entrepreneurial communities are included (MacCallum et al. 2009). Moreover, in the specific field of management, researchers tend to focus on the role of social capital in the improvement of the economic functioning of organizations, which is particularly relevant for no-profit organizations (Hillier, Moulaert, and Nussbaumer 2004). Innovation economics and microeconomics theories focus on the entrepreneurial dimension of social innovation, on the figure of the social entrepreneur whose individual characteristics (such as his or her dynamism, creativity and leadership) are decisive in the accomplishment of the social purpose. In this approach, the entrepreneur is seen as an actor of change, which implies that the individual is crucial compared to the organization (Richez-Battesti and Vallade 2012). The social entrepreneur is therefore a 'classical' entrepreneur motivated by a social purpose, who proposes some changes that create a 'social' value, a value that is quite difficult to measure across the market (Richez-Battesti and Vallade 2012).

The third field concerns the broad **social embedded approach**, which often provides an institutional vision of social innovation. It means that social innovation is likely to carry the seeds of a sustainable social transformation focused on the participation of multiple stakeholders and on local democracy. This process could be based on new practices, rules or standards which are capable to transform society (Nussbaumer and Moulaert 2007). Moreover, a lot of importance is given to the institutional and local context in which social innovation is embedded (Hillier, Moulaert, and Nussbaumer 2004). In the social and solidarity approach adopted by Richez-Battesti and Vallade (2012), a particular attention is given to collective processes emerging within territories, in order to meet unmet social needs, in a dynamic of transformation of the society. For them, in addition to the enabling or constraining context, it is crucial to study the transformations that occur in social relations (production, consumption, gender and class) thanks to the social innovations and the way collective uses and processes are carried by the association of many stakeholders. This approach, therefore, is more focused on the collective dimension and on the participative aspect of social innovation.

The fourth approach concerns **territorial development**, which has been largely applied to housing issues and neighborhood development within cities. In the context of European cities, Moulaert and colleagues observe the dispersion of skills in various areas of urban and local development policy, a lack of integration of spatial scales and, most important, the alienation of the needs of vulnerable groups in urban society (Moulaert et al. 2002 in Hillier et al. 2004). Overall, the approach is interested in the potential of socially innovative strategies that aim to improve the quality of life of people living in economically and socially disadvantaged areas. This could be reached through the increase of socio-political capability and access to resources, including the participation in decision making processes within structures that are often alienating or oppressive.

Even though each approach presented can overlap with other disciplines, a sort of dichotomy exists

between some policy discourses and business approaches (found in documents produced by the European Commission, OECD and the Conseil supérieur de l'Économie Sociale et Solidaire in France, for example) and the socially embedded view adopted by other authors (Bucolo et al. 2015; Chiffoleau and Prevost 2012; Chiffoleau and Paturel 2018; Jessop et al. 2013). In other words, there is a 'weak notion' of SI, which has the tendency to give very broad definitions that can encompass a lot of different initiatives and therefore to make social innovation commonplace (*banaliser*). And there is a 'strong notion' of social innovation that define it through accurate characteristics and therefore reduce social innovations to a few of well analyzed cases.

Jessop and colleagues (2013), for instance, mention the new wave in innovation policy that has emerged in early '2000 within the EC and OECD, where the social dimensions of innovation have started to be considered, to the 'detriment' of the sole economic dimension. However, authors criticize this 'narrow vision of social innovation', that privileges social enterprises as key agent for social change (Jessop et al. 2013). Even though these institutions claim to have integrated a social dimension to innovation, the authors affirm that they only have a "*minimal social consciousness approach*", where the care about social issues goes along with the modernization of the economy and the increment of economic competitiveness through R&D and technological innovation (Jessop et al. 2013). This debate is not the main object of this report. It is nevertheless important to acknowledge that it exist an 'official' (institutional) discourse about social innovation which is partly joined by the research with an economic approach and by some business practices (weak notion) and that some authors criticize this ambiguous status of social innovation, asking for the introduction of a stronger human development dimension¹ or giving precise characteristics which are unconditional for defining 'something' a 'social innovation' (strong notion) (Yuna Chiffoleau, personal conversation).

2.3 Definitions and core elements

According to the exploration of the vast literature existing on social innovation, many different definitions have been found. Firstly, we will present social innovation as a type of innovation², since some authors describes it as an innovation opposed to or presenting distinguishing features in relation to other types of innovations. Later, we will present a selection of proper definitions, highlighting the features that prevail and showing the difference between the weak notion and the strong one.

Dandurand (2005) states that social innovations have similar features to other innovations, including the following:

- (a) Newness: it consists in the design of a product or a service which is new or alternative, somehow breaking with the current state of things.

¹ For more information about the debate and a proposition of a methodological framework that adopts human development-oriented ontology, see Jessop et al. 2013.

² The Oslo Manual define an innovation as "*the implementation of a new or significantly improved product (good or service), or process, a new marketing method, or a new organizational method in business practices, workplace organization or external relations*" (OECD and Eurostat 2005, p.46). The determining characteristic that distinguishes an innovation from an invention is that the former included the implementation and adoption of the new product or service by different actors.

- (b) Dissemination: it must be disseminated and find users or promoters, which differentiates it from an invention.

However, SI is distinguished from technological innovation because of the following characteristics:

- (a) Origin: TI derives mainly from the action taken in research and industrial development or academic research (fields of health, natural sciences and engineering) while SI comes often from citizen's initiative and from the benefits of research in social sciences and humanities (Dandurand 2005).
- (b) Primary location: TI is mainly born in the private sector (since it is often a matter of marketable products or industrial processes) and SI mainly in the public and tertiary sectors (since it is often about interventions, approaches, practices) (Dandurand 2005).
- (c) Goal: Commercial gain and introducing new products or services for the sake of exploiting new markets is not the primary focus of SI, as it is for TI and economic innovations (Howaldt et al. 2018; The Young Foundation 2012).
- (d) Field of action: TI transforms the material reality and economic innovations put the technological innovations to the service of the production of surplus value (Hämäläinen and Heiskala 2007). On the other hand, SI includes changes in social practice; in the cultural, normative or regulative structures of the society (Hämäläinen and Heiskala 2007) or in attitudes, behaviors and perceptions (Dax et al. 2013; Kirwan et al. 2013), that can be considered an intangible reality.
- (e) Model: in TI change remains mainly thought in a linear and centralized way, it is initiated by an entrepreneur or by science, it is generalized by mimicry or because of increasing returns related to standardization and economies of scale. SI model, instead, is more open in terms of actors that participate and mechanisms of diffusion that take place (Chiffolleau and Paturel 2016). The diffusion of SI is a non-linear process, characterized by heterogeneous and often slow forms of appropriation by actors and institutions. Socially innovative project promoters most often respond to local or specific needs of the specific population. When SI wants to spread, it has to adapt to new context, much more than a product of a commercial enterprise that can apply the standardization of supply chains (CGET 2017).

An example which is often quoted in the literature to show the unusual actors involved and the uncommon way of identifying and responding to a problem in SI compared to other innovations, is the one presented by Michel Callon. He defines social innovation as an encounter between individual concerns and collective concerns that lead to concrete solutions based on user's experience and skills (Callon 2007 in Chiffolleau and Paturel 2016). Concretely, he observed that in the '70s, in Japan, people affected by an unknown disease have been able to diagnose the source of the problem (industrial pollution), coordinate and implement solutions. Callon uses the adjective 'social' to qualify the fact that users drive the innovation and they co-construct it, instead of receiving a centralized driven innovation such as in TI.

Social innovation can also be distinguished by other manifestations of social change. What is crucial is intentionality: social innovations are driven by certain actors in an intentional targeted way and *"with the goal of better satisfying or answering needs and problems than is possible on the basis of established practices"* (Howaldt et al. 2018, p. 18).

Defining the SI only in opposition to the TI is very simplistic, because it would mean to include a multitude of activities and initiatives, trivializing the term. Social innovations are such because they meet specific criteria and it is important to identify and distinguish them, giving a significant value to the term and identifying a critical type of innovation (Pol and Ville 2009).

A selection of explicit definitions that have been found in the literature are given, highlighting the broad characteristic, sometimes overlapping, on which each one is focused.

- a. Newness: SI involves new ideas or novel solutions, that do not necessarily have to be new but at least to be perceived as such by the relevant unit of adoption that can be the territory, the sector or field of action (The Young Foundation 2012). Many of SI combine 'new' elements and 'old' ones. To illustrate this purpose, the example of the characteristics of initiatives issued by the social economy can be used: they use distributed networks to sustain and manage relationships; there are blurred boundaries between production and consumption; an emphasis is put on collaboration and on repeated interactions and care rather than one-off consumption; there is a strong role of values and missions (Murray et al. 2010)
- b. Impact: SI can be seen as more effective than existing solutions (The Young Foundation 2012), as *"societal achievements that, compared with already established solutions, provide improved solutions that are to a lesser extent defined by their absolute novelty more than by their consequences"*. Moreover, it *"brings measurable improvements for the population they serve and meets needs more effectively than pre-existing alternatives"* (Neumeier 2017b). For other authors, social innovation is such if the implied new idea has *"the potential to improve either the macro-quality or the quantity of life"* (Pol and Ville 2009, p. 882), knowing that no agreed definition of 'macro-quality of life' exists and that, in their definition of SI, they define it as an increase of valuable options that people can choose from.

What is crucial in these definitions is that SI is recognized *a posteriori*, when it reaches its objectives and provide results, leaving individuals in a better situation than the former.

- c. Motivation: SI is *"explicitly for the social and public good. It is an innovation inspired by the desire to meet social needs which can be neglected by traditional forms of private market provision and which have often been poorly served or unresolved by the state"* (Murray et al. 2010). Many authors associate the SI with the satisfaction of needs, however there is no consensus on the need or not to show through analytical tools that this satisfaction takes actually place (which distinguishes it from definitions focused on 'impact'). Furthermore, 'social need' is a very broad term and who identifies these needs should be clarified: the researchers, the actors who create the SI (social innovation holders) or the 'beneficiary' actors of the SI (target group)?

Another debate is about the boundaries of 'social need'. Bouchard, for example, broadens the conception of social innovation linked to the 'social need', while following the same logic. For her, social innovation is an intervention initiated by social actors to respond to an aspiration, to meet a need, to provide a solution or to take advantage of an opportunity for action in order to modify social relations, to transform a framework of action or to propose new cultural orientations (Bucolo et al. 2015). From this point of view social innovation goes beyond the field of social services and aims to change the institutional frameworks that shape relationships in society; it then encompass activities that respond to new societal

aspirations (express themselves, work, exchange, consume differently, etc.) and which aim at changes in the relationship of production and consumption (Bucolo et al. 2015).

- d. Interaction between actors: SI is strongly focused on the changes of individuals and social relations among the individuals involved in SI. Authors highlight that SI is related to “*new ideas about how people should organize interpersonal activities, or social interactions, to meet one or more common goals*” (Mumford 2002, p.253) and that they are based on the involvement of target groups and the empowerment of beneficiaries (Howaldt et al. 2018, p.20).

Other definitions combine several core features, sometimes being very general and making social innovation an umbrella-term (‘weak’) and other times being more precise and making explicit a few conditions to consider social innovation as such (‘strong’).

In what we consider a weak notion of SI, there is the definition given by Murray et al. (2010) in *The open book of social innovation*. There, SI is about “*new ideas (products, services and models) that simultaneously meet social needs and create new social relationships or collaborations. In other words, they are innovations that are both good for society and enhance society’s capacity to act*”. The definition stresses on the newness, on the motivation of satisfying social needs and on new forms of interaction between actors.

Definitions which are more precise, include the one given by Moulaert and colleagues (2005) who underline that among the various disciplinary approaches to SI, there are three aspects which cut across:

- a. Satisfaction of human needs that are not currently satisfied by either the market or the state, admitting that these needs may vary among societies and communities.
- b. Changes in social relations that enable the above satisfaction and also increase the level of participation of all, but especially deprived groups in society.
- c. Increase of the socio-political capability and access to resources, that contribute to the empower of individual or groups.

Another precise definition is proposed by the french Observatoire Régional ESS - CRESS PACA (2015), in their guide book *Le guide de l’innovation sociale*. For them a SI combines a social or societal purpose of its activity and a participative process that the organization implements to carry out this activity. It also includes a better involvement of users, and more broadly of many stakeholders of the territory³, and the share of the value produced (economic, social and environmental) with the whole society. According to this definition, SI:

- a. satisfies a social or societal need;
- b. is based on a participative process;
- c. has a link with the territory where it is located;
- d. promotes the collective appropriation of value.

Overall, even though it implies to leave the definition of SI quite broad, there are some elements in common to most of the definitions found in the literature:

³ The exact scale or geographical space of a territory depends on the purpose chosen and it also varies according to the discipline. It could mainly be limited by: administrative boundaries, boundaries related to particular infrastructure facilities or management of resources, limits of biophysical characteristics, life of their inhabitants, and having shifting contours defined

- a. What: SI include products, services, processes, markets, platforms, organizational forms and business models that are new or perceived as such by the relevant unit of adoption.
- b. Who: Actors who drive SI include public sector, private sector, civil society and the informal sector, individually or in collaboration.
- c. Why: SI are conceived to meet a recognized and unmet social need.
- d. Where: SI are developed at a local level, they are socially, culturally and territorially embedded; they occur within the context of a society and in interaction with social relations, practices, norms and values; Therefore, it is important to evaluate the social impact of SI, as there are generally 'winners' and 'losers' (Bock 2012; Howaldt et al. 2018).
- e. How: SI goes through a process (see section 3.4).

Social innovations may also be (but not always) cross-sectoral, occurring at interfaces between sectors and involving actors from across fields of intervention (The Young Foundation 2012). They may also bring new social interaction and capabilities, for instance because they are often developed 'with' and 'by' users and not delivered 'to' and 'for' them (The Young Foundation 2012). This last characteristic is object of debate: for some authors the co-construction of the solution with the actors having a social need is an essential condition (but not sufficient) for SI to be defined as such (Yuna Chiffoleau, personal conversation).

Within this plethora of definitions, Richez-Battesti and colleagues provide three notions of social innovations (Richez-Battesti et al. 2012). We illustrate them with examples related to food and to the Urbal project, because they reflect the types of innovations and actors involved in Urbal:

1. SI can be seen as a tool for modernizing public policies in order to better answer to social issues. It is shaped into new forms of interventions, usually based on public-private partnerships, such as the Projets Alimentaires Territoriaux⁴ (PAT) in France or, more in general, urban or territorial food policies that engage multiple actors (Chiffoleau and Paturel 2018).
2. SI is linked to social enterprises and entrepreneurs, implementing market-oriented activities that both look for profit and social impacts (in Urbal project, it could refer to aquaponics in Berlin or to restaurants in Brasilia).
3. SI includes multi-actor collective process, emerging to respond to unsatisfied social needs by the public sector or by the market or to put into effect a desired change. This category includes some examples of community-supported agriculture (Chiffoleau and Paturel 2018) or, in Urbal, la Cagette cooperative supermarket in Montpellier.

It is important to highlight that for some authors not all the above-mentioned initiatives are social innovations *a priori*. They can be defined as such, case by case, after a study that have demonstrated that they meet certain requirements of social innovations (Yuna Chiffoleau, personal conversation).

by development issues (Wassenaar et al. 2017).

⁴ In France, the *Loi d'avenir pour l'agriculture, l'alimentation et la forêt* (a law for the future for agriculture, food and forestry) has introduced the concept of 'territorial food projects' in 2014. These projects can be initiated by the State and its public institutions, local authorities, associations, economic and environmental interest groups, farmers and they meet the objective of structuring the agricultural economy of a territory and of implementing a territorial food system (website RnPAT).

3 Specific features for Urbal

The literature covered above opens up a diversity of definitions fields that, according to their tradition, put the emphasis on specific features, but which, all taken into account, offer complementary dimensions to a multidimensional analysis of social innovation. To find an agreement on a clear definition of what a social innovation is and is not is not the purpose of this work and perhaps SI is a concept *“that we can only frame and use as an analytical tool as well as we can but not exhaustively define”* (Sotarauta 2009, p.2) . Therefore, in this section we suggest possible dimensions of social innovations that capture the aspects that seem relevant for the innovation that will be studied (UFILS) and that can shape an analytical tool for Urbal.

The most relevant SI dimensions that are mentioned in the literature are: the values, the identified social need and the mission that SI holders have when they start and pursue their activities; the nature of the organization which lead the SI along with the involved actors that bring in different material or immaterial resources; the context, from the organization’s to the international scale, that enable or constraint SI settlement and development; the process of social innovation, namely the different steps throughout the SI evolves over time.

3.1 Values, social need and mission

Many definitions of SI highlight that its main purpose is to satisfy a ‘social need’ (Bucolo et al. 2015; Hillier et al. 2004; Mulgan 2006; Nussbaumer and Moulaert 2007; The Young Foundation 2012). As everyone can imagine, defining a need is very subjective. The need of someone can come into conflict with someone else's, because it refers to an ethical position of social justice that can be subjected to a variety of interpretations (Moulaert et al. 2005). Therefore, social innovations are not necessarily good for everyone, they may be socially divisive or having negative social effect (The Young Foundation 2012). In a nutshell, social innovations are embedded in a value system, that is shared at least by innovation founders and that influences the ‘need’ that is identified when the SI is created.

There is no consensus among the authors on what is the particular driving force for social innovators to start their initiative. It can be simply seen as an ambitious intervention aiming at changing society (Chiffolleau 2016), a way to transform social relationships (Jessop et al. 2013) or as actions inspired by the desire to meet social needs which can be neglected by traditional forms of market and which have often been poorly served or unresolved by the state or another collective agent (Harris and Albury, 2009 in The Young Foundation 2012; Hillier et al. 2004). As mentioned above, Bouchard broadens the conception of social innovation linked to the ‘social need’, while following the same logic. For her, SI is an intervention initiated by social actors to respond to an aspiration, to meet a need, to provide a solution or to take advantage of an opportunity for action in order to modify social relations, to transform a framework of action or to propose new cultural orientations (Bouchard in Bucolo et al. 2015). The common denominator among all these definitions is that social innovation has the purpose to change one situation in order to improve one or more aspects of the life of individuals, which includes social or societal goals.

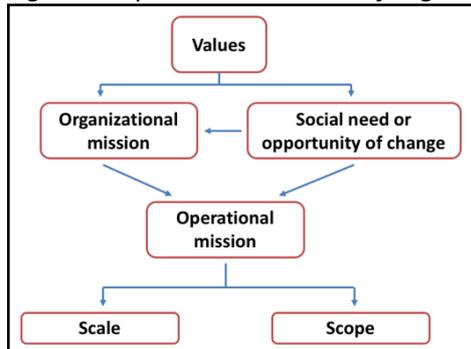
The user or beneficiary is central in identifying the needs and its resolution (Observatoire Régional

ESS - CRESS PACA 2015). The relevance and improvement of the service depends on the involvement of users and the people involved in the activity, service or product offered by the SI are irreplaceable to explain needs and contribute to the solution (Observatoire Régional ESS - CRESS PACA 2015).

The social need or opportunity of change is realized through a set of activities. Organizations dealing with social or societal goals, have an 'organizational mission', which is a wide aspirational mission and an 'operational mission', a pragmatic mission which refers to the immediate work at hand (Ebrahim and Rangan 2010). To illustrate this example, Ebrahim and Rangan show that the Aravindi Eye Hospital in India has the 'organizational mission' of eliminating blindness and its 'operational mission' consists in providing surgical correction to those suffering from cataract blindness, since 75% of blindness in India is caused by that disease (Ebrahim and Rangan 2010). The operational mission is conceived in relation to a scale (what reach of operations?) and a scope (what range of activities?) (Ebrahim and Rangan 2010).

The link between values, social need and operational mission can be illustrated as following (Figure 1): the values of one individual or group of individuals influence the way they see the world and as a consequence their sensitivity towards a particular social need or an identified opportunity to change the society. Both elements underlie the formulation, that can be implicit or explicit, of an organizational mission, that is to say a wide aspirational goal they would like to contribute to through the activities of their organization. This organizational mission combined with the social need they identify is traduced, once again implicitly or explicitly, in the definition of a concrete mission to carry (operational mission), that will target a specific area or population (scale) and will be based on specific activities (scope).

Figure 1: Operational mission of organizations dealing with social and societal issues.



Source: Adapted from Ebrahim and Rangan 2014.

3.2 Organizations and actors

As mentioned above, SI can be led by actors coming from civil society or informal organizations, the private sector and the public sector. Moreover, SI often happens in overlapping spaces between sectors even if each one has its own rules and resources to operate (The Young Foundation 2012).

Since one of the main features of SI is that it involves different stakeholders and it is based on co-construction, it seems crucial to understand the actors and the organizations leading social innovations.

While thinking to actors related to a social innovation process, it is instinctive to consider the actor(s)

who initiated the activities related to the SI and the way they did it. The agents initiating these activities can be individual or collective (MacCallum et al. 2009). Besides that, it is important to focus on the core group or central person, which are not necessarily the 'inventor' of the project, that lead the process of SI (Buchegger and Ornetzeder, 2000). Networks of social actors within a territory must be understood in order to understand SI (Mulgan 2006; The Young Foundation 2012), not only in its nature but also in terms of the kind of support they give to launch and diffuse the SI (Harrison and Vezina 2006). This support could be in terms of material (available on the market) and immaterial (not available on the market) resources, including inspiration and knowledge sharing (Lettice and Parekh, 2010).

The social capital of a territory, that could be mobilized by a social innovation, permits the *"internalization of certain transaction costs, the minimizing of economic risks, the facilitation of learning processes, the leveraging of know-how and traditional knowledge, the guaranteeing of the application of quality criteria to a product or a form of production, etc."* (Wassenaar et al. 2017, p. 258).

Another category of actors considered by the literature is 'users' of social innovations. Even though finally the users of a SI will always be individuals, the target of 'changes' can be individuals, enterprises (organizations) or territories (Cloutier and CRISES 2003). Most of the consulted texts focus on individuals. In particular, the social and solidarity economy approach, takes individuals into account according to their participation in a co-constructed solution and in the activities of the social innovation as well as according to their reasons and strategy to participate. Participation is analyzed at different levels: the governance and decision-making process, the intensity of participation and the enlargement of stakeholders (Observatoire Régional ESS - CRESS PACA 2015). As for the interest towards individuals and individualities, one of the characteristics of SI is that they transform social relations, including production, consumption, gender and class (Chiffolleau and Paturel 2016). Therefore, an analysis of social innovations should focus on the strategies of actors in order to fight against power relations and to be recognized by 'dominant' groups. SI, in this sense, opens new possibilities for excluded or precarious people and implies a potential change of the 'users' of SI (Chiffolleau and Paturel 2018). Moreover, there are different expectations, from the same social innovation, according to the actors related to it. Chiffolleau, for instance, shows different expectancies towards a community supported agriculture initiative according to the type of actors involved (Chiffolleau 2012). Producers, for example, have the economic expectancy to add value to their production and the social expectancy to respect the local heritage (including techniques employed and cultivated varieties) and to get recognition for their profession. Consumers join the SI in order to pay a 'fair price' and because of the taste and health quality of food; in parallel they have the social expectancy to respect the work of producers and give them a 'fair remuneration'. Public institutions see the initiative as an opportunity to maintain and create employment and to guarantee a correct level of farm income and wages.

These can be, expectancies that individuals have since the beginning or desires that appears during the participation to the activities related to SI, beyond the initial expectations (Chiffolleau 2012).

Another focus must be made on organizations holding social innovations. In the social and solidarity economy approach, SI is often seen as a set of activities operating in spaces where the market and the state have failed to answer to social needs, implying that social innovation often occurs within

interstices or in partnership with state and other local authorities (Richez-Battesti and Vallade 2012). If this perspective is often relevant, it may suggest a clear separation between social innovations and the market whereas many social innovations can be both in and against the market. They can have a strong economic and market dimension without however, lose their nature as they aim to modify the functioning of the economy and the market as it is, to propose other operating methods, more in line with the expectations of socio-economic actors (Chiffolleau and Prevost 2012). Richez-Battesti and colleagues propose different typologies of organizations that can lead a SI, according to the degree of the redistribution of profits, the governance and the nature of mobilized resources (Richez-Battesti et al. 2012). The **degree of redistribution of profits** includes organizations that:

- are no profit;
- have a limited profit;
- make profit which is reinvested for a social purpose;
- are evolving towards a limited profit.

As for **governance**, the following characteristics are observed:

- ownership (individual or collective);
- decision-making process (individual, collective or one person-one vote);
- participation (different categories of actors depending on the SI). It is also relevant to identify what is the degree of participation of these individuals: are they simply consulted? Is the identification of the social need realized with users or not? Are solutions co-constructed?

In terms of **resources**, SI can be based on:

- non-market-oriented resources (charitable contributions, volunteer work);
- market resources (receipts, employees);
- mixed resources;
- private capital (*venture philanthropy*).

The different organizations represented by the combination of these features produce more or less radical adjustments to the model of regulation of capitalism. These conceptions of social innovation have in common the fact that they broaden the conception of innovation to a non-technological dimension and that they define SI as a creative response to unmet social needs (Richez-Battesti et al. 2012). However, again, the notion of 'social need' can vary, ranging from promoting the access to the market for poor individuals to building new forms of cooperation among actors.

Socially innovative initiatives often raise questions about value and the wealth created. As illustrated, SI look for the sharing of the value produced with the whole society. The value can be monetary or non-monetary (trust, gratitude, consideration, etc.), material or immaterial (Observatoire Régional ESS 2015). Also, the beneficiaries of the value are varied, including the organization, the users (individuals), the territory or society as a whole (Cloutier and CRISES 2003; Observatoire Régional ESS 2015).

3.3 The context

Social innovations are context dependent. They take different meanings and forms and can engage a diversity of actors and organizations depending on social, cultural and territorial features of the

context. The context enable and constraint social innovation actions (Cajaiba-Santana 2013; MacCallum et al. 2009), that is why it must be studied in order to understand the conditions of emergence and diffusion of a SI. It includes elements of the socio-economic and politico-administrative context as well as the legacy of the previous experiences that conditioned the experiments at the origin of the social innovation (Bouchard 2006).

At a micro-scale, there could be differences in the emergence and acceptance of the social innovation according to 'emerging' organizations and 'established' organizations⁵ (Lettice and Parekh 2010). This is a theory coming from business innovation literature and it is based on the assumption that proposing a social innovative activity within an organization or enterprise that has not done it before can be difficult. This is because a totally new approach, product or service may not be easily accepted inside the organization and among customers that are not used to it (Lettice and Parekh 2010). Social innovators that face these obstacles within an 'established' organization may adopt some strategies in order to overcome them. For example, they can change the lens with which they view the problem they are responding to: the obstacle 'there is no market for the electric vehicle' can be re-expressed with 'there is a market for desirable vehicles'. This raises questions on the way social needs are identified at the beginning and its evolution according to the organization's traditions, views and functioning. A difficulty for 'established' organizations could be to overcome the resistance from established players (Lettice and Parekh 2010), meaning to move from an engaged niche to the mainstream. It is both valuable for the organization that looks to find a new 'customer' base for its innovation and for the individuals proposing an innovation within the established organization, in order to see their proposal accepted and put in practice. This raises questions related to the way the proposal has been received and the contextual elements that has supported it (awareness among other members, finance channels and partnership opportunities). On the other hand, for an 'emerging' organization, there are two important issues: establishing a network for peer-support and gaining resources and finding funds, especially within start-ups where ideas are generated but it is more difficult to find funds to put them in practice. Funding and connect with a community for support can also be an obstacle for 'existing' organizations in case the competition for internal resources is intense (Lettice and Parekh 2010).

Other approaches to social innovation focus on its territorial dimension, on the contingency and the casual and micro-agency that occur in specific territories and therefore are constituents of its real character. The territorial context includes local leaders, charismatic leaders, traditions of economic solidarity, experience with public-private partnerships (Moulaert et al. 2005) and it can determine the way local initiatives emerges and evolves.

At a macro level a social innovation can be influenced by the institutional context, by public regulations and other existing norms (Richez-Battesti and Vallade 2012). Regulatory constraints, for instance, can be lever for social and territorial innovations (Sonnino 2010). Sonnino makes the example of canteen's procurement via local products that involves the modification in relationships between public figures, canteen's related actors, suppliers and producers related to a new regulation (2010). For her, in this case it is interesting to observe the informal relationships and dynamics that

⁵ 'Emerging' organizations refers to organizations that are born in order to settle the social innovation whether 'established' organizations concern organizations that already exist and carry activities and, at a certain point, start a social innovative activity.

lead to the adaptation of this 'formal' constraint, which comes from the context.

Other authors adopt the approach of the territorialized agri-food system, very developed in the French literature⁶. They can be defined as systems constituted by production and service organizations (agricultural production units, agri-food companies, commercial and services companies, restaurants, etc.) that are associated, by their characteristics and their functioning, with a specific territory (Muchnik and Sautier 1998). This approach shows how agricultural market-oriented areas, a priori places of competition, are also places of cooperation and exchange between producers and other actors (Chiffolleau 2012). That could influence the emergence and process of social innovation, since the perception of the collective interest can allow the cooperation to dominate competition (Faure et al., 2018).

3.4 The process

The three dimensions mentioned above should be understood in terms of evolution, change, process. Social innovation evolves over time and it goes through different stages, from the identification of a problem or a need to an impact, which is called the process of social innovation. Some authors propose to decompose the process in different stages while others criticize the linear approach expressed towards different stages.

In the first category, different stages, more or less detailed, are proposed (Mulgan 2006; Murray et al. 2010; The Young Foundation 2012):

1. **Identification of a need** that has not been met yet. This could happen because of an external factor, such as a crisis or the emergence of a new evidence or data that push an individual or a group to react. This could also be actively sought by social innovators, for instance through user-driven processes for identifying needs.
2. **Development of an idea** on how the need could be met, which implies the transition from a need to a solution. Different techniques to find new solutions can be adopted at this stage, which include the *crowdsourcing* and the *positive deviance*⁷.
3. **Prototyping of the idea** which means to test it in practice. Often this step goes fast, since the innovators don't need a detailed business plan before starting to set activities (Mulgan 2006). Techniques for this stage include the *proof of concept testing*⁸ and *beta testing*⁹.
4. **Consolidation** of the innovation occurs when the idea is implemented, and it has a secure financial sustain and an appropriate organizational and legal form (commercial entity, co-operative, mutual, charity, etc.). For some researchers, not only SI does not have to have an organizational and legal form to be considered as such, but it is even more interesting (Yuna Chiffolleau, personal conversation). It is about 'discrete' social innovations, which are not necessarily well formulated,

⁶ They are literally called *Systèmes alimentaires territorialisés* (Syal).

⁷ This approach consists in the observation of the behavior and strategies of individuals that "enables them to find better solutions to problems than their peers, while having access to the same resources" (Murray et al. 2010, p.36)

⁸ This usually happens before the prototyping stage and "is a method for testing the idea – rather than the product or service. It usually involves asking members of the target audience to assess, rate and/or refine the product or concept" (Murray et al. 2010, p. 51).

⁹ It is a technique that consist in the introduction of a service or product to a "small number of people who are then tasked with trying it out and reporting back any problems" (Murray et al. 2010, p.51), suggestions and improvements.

militant or visible but that change things without being seen and can lead to social changes.

5. **Scaling** consists in diffusion, which includes organizational growth, replication, emulation and inspiration for example. The practices, rules and innovative tools are decoupled by the relationships and individuals that have invented them (Chiffolleau and Paturel 2016), spreading into other initiatives or places. More details about this step will be given in section 4.1. The common model of diffusion is that of an 'S curve', which starts slowly at first, it diffuses and then accelerates significantly before tailing off as the last segment of late adopters take up the innovation.

6. **Learning and evolving** is when SI keep changing and sometimes it turns into forms that may be very different from the expectations, even though normally it is consolidated around a few core principles.

7. **Systemic change** involves re-designing entire systems and will usually involve different organizations and sectors over time. It *"is the ultimate goal of social innovation, even if very few social innovations reach this stage"* (Murray et al. 2010, p.13). The challenge, at this stage, is to articulate the SI to different power and administrative layers so that it is recognized, disseminated and consolidated (Fontan 2010 in Richez-Battesti et al. 2012). Some authors talk about the shift from a social innovation to a social transformation, happening when in the long term a local innovation can lead to results that go beyond the project framework and question the development models (Chiffolleau and Paturel 2016).

Several examples can illustrate the systemic change. Smith (2007), for example, shows the case of organic food and the way it lead to a systemic change starting from social movements and NGO's campaigns. A more detailed description is provided in section 4.2.

It is important to highlight that many of the stages may overlap and don't go in this exact order. Moreover, a SI does not necessarily go throughout all stages and the process is not sector specific: it can occur in one sector, or cut and move across sectors, or start in one sector and be taken up in another.

Urbal stands with authors that criticize this approach, stating that the diffusion of social innovation should be analyzed as a non-linear process, that SI should be thought differently from a diffusionist model (exploration, selection and exploitation) inspired by the adoption of a technological standard or a marketing of a new product (Richez-Battesti 2015). Social innovation is still thought, in some research and policy contexts, with a vision of life cycle of the innovation ranging from the identification of needs to fundraising, from the implementation of a prototype undergoing a test phase to its marketing and then its duplication in other territories (Billaudeau et Dewynter 2015 in Bucolo et al. 2015). That is criticized in favor of a strong consideration of the contextual and contingent dimension of social innovation, sometimes going so far as to affirm that the process of emergence determines the diffusion on the territory (Besançon 2015 in Bucolo et al. 2015). The importance of local arrangements and institutional mediations leads to get away from the forms of generalization of innovations that would be the result of a spin-off or of the replication of standardized practices from one territory to another (Bucolo et al. 2015).

Another approach to the process of SI separates it into three steps, which are mainly related to the actors that join or support the SI and their participation (Neumeier 2017b). The first step is 'problematization', which consists in the *"identification of a need by a small group of actors, triggered by an initial impetus, external or internal to the actors involved (like a threat or impairment,*

emotional issues, or themes of interest to potential regional actors). This need leads to the formation of an initial group of actors seeking a solution to the identified need” (Neumeier 2017, p.35). The second step is the ‘expression of interest’, where other actors join the core group because of different reasons and seeing a particular advantage in participation. The third one is ‘delineation and co-ordination’: all the involved actors negotiate about new form of collaborative action. “Skills, knowledge and knowhow are exchanged between the participating actors, and mutual learning occurs. A new form of collaborative action gets shaped. If the new form of collaborative action becomes accepted and is implemented by the majority of participating actors and beyond, as it proves to be superior to ‘traditional’ forms then one can speak of a social innovation” (Neumeier 2017, p.35). This process is proposed in the context of rural development at the local or regional level, assuming that social innovation is a tool for communities to respond to local problems and to react to environmental, economic and social challenges (Neumeier 2017b).

4 Beyond the initial initiative

The vertical and horizontal collaboration among actors in alternative food networks and innovative initiatives is crucial for the adoption of strategies to address challenges of scale, scope, infrastructure and organizational capacity (Beckie et al. 2012). Reflecting on the sustainability of food systems means not only to analyze what social innovations related to food have done until the moment we study them, but also to get knowledge about their capacity or potential to have a broader influence on the life of individuals, about their ‘transformative’ potential. This chapter is therefore dedicated to shed light on the scaling processes and on the ‘forces’ in play in the transition towards sustainability, including local innovations.

Scaling processes can be informal or formal, strategically conceived or not (MacCallum et al. 2009). Some intentional strategies that actors, such as SI holders and public actors, can adopt in order to promote the scaling will be presented.

In the second place, it is important not only to understand the change of scale of SI but also, more directly related to food, to think about the transition from food practices to a greater consideration of the social and ecological conditions of food production (Chiffolleau 2016). This has been studied by the ‘transition theories’, that show that not all SI (or niches) can have a broad impact over time. It depends on a multitude of internal and external constraints and opportunities; part of the transition theories will be therefore introduced, providing a framework to identify the combinations of factors that influence wide impacts over time.

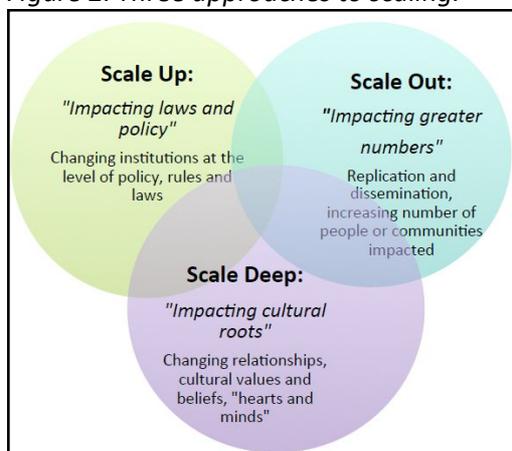
4.1 The scaling

Scaling is the next obstacle facing the local food movement and other initiatives wishing to make food systems more sustainable. *“In order to affect broader systemic impacts, local food systems will have to grow, and engage either more or larger consumers and producers” (Mount 2012, p.107). In addition, social innovation holders often struggle not only to make a difference at a local level but also to challenge and possibly change the larger system which originates problems (Westley and Chair, 2011). To do so, they adopt different strategies that allows them to impact the broader system level and to find openings for their innovations and novel ideas (Westley and Chair 2011). On the*

other hand, social innovations can receive some form of protection from ‘mainstream competition’ or support, for instance by public institutions, in order to develop (Kirwan et al. 2013). It is therefore interesting to understand the ability of social innovations, as a form of niche innovation, to respond to locally identified problems, needs or aspirations and to effect more widespread change in terms of sustainability.

Across social entrepreneurship and social enterprise literature, talking about scaling often means to diffuse or replicate initiatives. However, according to a broader literature, scaling for social innovations should take into account wider changes in terms of rules, legal measures, resources, beliefs and relationships at different spatial or institutional scale (Bucolo et al. 2015; CGET 2017; Neumeier 2017; Riddell and Moore, 2015). In this sense, three types of scaling processes can be distinguished: scale up, scale out and scale deep (Figure 2).

Figure 2: Three approaches to scaling.



Source: Riddell and Moore, 2015, p.3.

Scale out refers to a mechanism of horizontal diffusion (bottom to bottom), which includes the “efforts of the organizations to replicate and disseminate their programs, products, ideas and innovative approaches [...], when the organization attempts to affect more people and cover larger geographic area” (Westley and Chair 2011, p.3). Mechanisms of scaling-out include the social business model (franchised duplication, creation of a value chain, merging of organizations) and the peer-to-peer model (the reproduction of the initiative in another area, often by imitation) (CGET 2017).

Scale out can also occur through informal processes that strongly relies on the social network of SI holders and on word of mouth (Richez-Battesti 2015).

Scale up concerns mechanisms of vertical diffusion, when the organization “aims to affect everybody who is in need of the social innovation they offer, or to address the larger institutional roots of a problem” (Westley and Chair 2011, p.4). It can go in both directions: bottom-up (when the SI are adopted by public institutions or established networks) and top-down (when public institutions or established networks encourage or facilitate local actors to engage in these innovations). For the latter, public actors can either directly generalize the innovations or promote their diffusion by becoming a facilitator or collaborator (support the diffusion through the market, the social business

model or the peer-to-peer model) (CGET 2017).

Scale up is a form of standardization of the innovation that normally occurs within a local and regional perimeter; only rarely it spread to a national scale, if SI principles are recognized at a national level by dedicated institutions (Richez-Battesti 2015). An even more vertical and institutionalized process that lead to normalization is the creation of institutionalized networks and federations, that include charters, labels, guides and other formalization tools such as 'replication tools' (Richez-Battesti 2015).

A question raises: when in these diffusion processes normalization take place, should it be considered as a form of trivialization or does it illustrate, on the contrary, a successful social transformation that occurs through the extension of uses? This topic could be explored as another research question that put in relation social innovation and their potential in the transition towards sustainability.

Scale deep is related to the cultural values, beliefs and status of individuals. These changes at an individual scale could lead to be able to promote innovation in different economic and social environments. Promoting does not only refer to propagation but it must be understood in terms of the capacity to influence, to transform and to regulate on higher scales. In this perspective, many studies on social innovation highlight the role of researchers studying these processes in the construction of the legitimacy of innovation, contributing to its ability to influence (Chiffolleau 2016). Scaling deep includes some 'symbolic' mechanisms of diffusion such as the recognition of good practices by the encompassing institutions and the legitimization of actions by researchers (Chiffolleau and Paturol 2018).

Three conditions are important for the generalization of SI. Firstly, the mediation and translation mechanisms among actors to build multi-stakeholder coalitions that can promote innovation in different economic and social environments (Bucolo et al. 2015). Being able to make compromises between heterogeneous actors is key (Richez-Battesti 2015). Secondly, the collective learning that allow the selection and adaptation of generic elements of a social innovation to the territorial singularities of the new places of implementation (Bucolo et al. 2015). And lastly, the hybridization of market resources with non-market or non-monetary resources (Bucolo et al. 2015), which include reciprocity and volunteering, the personal commitment of entrepreneurs and the mobilization of employees or users.

4.1.1 Strategies to scale: social innovation holders' perspective

Social innovation holders can adopt different strategies in order to scale, even though it is not always the case. Riddell and Moore (2015) identify three types of scaling and five associated strategies, as well as five cross-cutting strategies, that are illustrated in Figure 3.

Scaling out strategies include the deliberate replication and the dissemination of principles in other contexts. Strategies for scaling up are focused on different efforts to generate policy or legal changes. Scaling deep strategies refer to the spreading of cultural ideas and the investment in transformative learning and communities of practices.

Cross-cutting strategies are very diverse and include building networks and partnerships, that can enable to have access to funders, decision makers, allies and other supports. Partnerships across

sectors are valuable for addressing cross-cutting issues from a common sense of purpose. They also allow more targeted approaches, focused collaboration, resource-pooling and the extension of influence (Riddell and Moore 2015).

Figure 3: Strategies to scale.

	Description	Main Strategies
Scaling Out:	<i>Impacting greater numbers.</i> Based on the recognition that many good ideas or initiatives never spread or achieve widespread impact.	Deliberate replication: Replicating or spreading programs geographically and to greater numbers Spreading principles: Disseminate principles, with adaptation to new contexts via co-generation of knowledge
Scaling Up:	<i>Impacting law and policy.</i> Based on the recognition that the roots of social problems transcend particular places, and innovative approaches must be codified in law, policy and institutions.	Policy or legal change efforts: New policy development, partnering, advocacy to advance legal change and redirect institutional resources.
Scaling Deep:	<i>Impacting cultural roots.</i> Based on the recognition that culture plays a powerful role in shifting problem-domains, and change must be deeply rooted in people, relationships, communities and cultures.	Spreading big cultural ideas and using stories to shift norms and beliefs Investing in transformative learning and communities of practice
Cross-cutting strategies for scaling:	<i>Cross-cutting strategies</i> were those approaches all participants reported using to scale their initiatives, and were not specifically associated with scaling out, up, or deep.	Making scale a conscious choice Analyzing root causes and clarifying purpose Building networks and partnerships Seeking new resources Commitment to evaluation

Source: Riddell and Moore, 2015, p. 4.

The choice of the strategy to scale is determined by several factors. These include the ambitions and intentions of social innovation holders, the founding conditions of the organization, the resources and support the organization can access, the choices of partners and the contextual opportunities (political, cultural and social) that emerges (CGET 2017; Riddell and Moore 2015; Westley and Chair 2011).

4.1.2 Strategies to scale: public actors’ perspective

Public actors, including both the state and local authorities, can play a key role in the scaling of socially innovative initiatives issued by the private sector and civil society.

Local authorities can be facilitator, collaborator or users and their specific roles are summarized in Table 1.

Table 1: Role of public actors (local authorities) for the scaling of social innovations.

Role	Tasks
Facilitator	<ul style="list-style-type: none"> Finance the project Communicate over the project Mobilize and coordinate actors on the territory Provide physical assets (public spaces, rooms, tools) Relay information to other actors on the territory
Collaborator	<ul style="list-style-type: none"> Become a partner Set up new services so to complete or complement the initiative Actively participate to the evolution of the project
User	<ul style="list-style-type: none"> Use the services set up by SI holders and become ‘customers’

Source: Adapted from CGET 2017.

'Clustering'¹⁰ is also a potential for the scaling up of alternative food networks and initiatives. The public sector can support the *"expansion of the social and physical infrastructure needed for future cluster development, as part of a broader collaborative strategy involving public, private, and social economy sectors in the scaling up alternative food networks"* (Beckie et al. 2012, p.334).

Besides the support to SI initiatives issued by private initiatives, public actors can take a step further and take them over. According to a survey to social innovation holders in France, the taking over has the possible advantage to reach more individuals on the territory and to be based on a viable business model (knowing that financial and human resources are often an obstacle for civil society organizations) (CGET 2017). On the other hand, it can be disadvantageous because of the possible relational discrepancies between SI holders and local public administration and because of the diminution of the efficiency of the project, where the specific SI would become a public activity among others (CGET 2017).

As for national authorities, the support to scaling of social innovations happens through the inclusion of some SI principles in the main lines of action of national systems or, more strongly, through the creation or modification of laws (CGET 2017). National public actors can also take over, in official documents, some ideas and concepts coming from SI holders and consequently contributing to a sort of scaling deep through the introduction of new visions, notions and methods (CGET 2017).

4.2 Increasing the scope

Organizations working within social and societal issues can increase their control over long term impacts not only via scaling processes but also increasing their scope. Scope is *"the range of activities required to address the need identified in the operational mission"* (Ebrahim and Rangan 2014, p.126) and it includes offering more comprehensive services or partnering with other actors in order to tackle a wide problem (Ebrahim and Rangan 2010).

4.3 The transition towards sustainability

Theories of transitions seek to understand how major transformations take place in technology and in the way societal needs are ensured, such as housing, education, health and food. The transition corresponds to the intermediary step between the reality of today and the reality of tomorrow and it can be seen as another interpretation of the scaling of SI. This topic has been addressed by the literature under different terms, such as regime transformation (van de Poel 2003), system innovation (Elzen et al. 2004) and socio-technical transition (Geels and Schot 2007). We focus on the latter and overall on the literature produced by Geels and colleagues, which is embedded in *Science and Technology Studies*, since it seems the most pertinent to link social innovations and sustainability.

¹⁰ Clusters are defined as *"geographic concentrations of interconnected companies, specialized suppliers, service providers, firms in related industries, and associated institutions (for example, universities, standards agencies, and trade associations) in particular fields that compete but also co-operate"* (Porter 1998 in Beckeman and Skjöldebrand 2007).

Research on transition are embedded into strategic niche management (SNM), which focus on the internal dynamics of niche development (Smith 2007). More recent work place niches¹¹ at the base of a multi-level system, which is a model that maps large transition processes occurring with the interactions between different socio-technical systems.

The multi-level perspective may not be easy to apply in Urban because it pays little attention to actors in the 'niche' and because it only fits with transitions that last a long period of time (more than 50 years). Nevertheless, it is possible to use a part of the tool to study the transitions dynamics at a more local level, for shorter periods of time, elaborating single case studies and focusing on the actors that act towards transition pathways. This approach has been explained by Hodson et al. (2017) in a paper that takes urban areas as unit of analysis and link it to sustainability, that will be presented in the second part of this section. Theories of transitions at large scales will be presented first.

Starting from the postulate that niches can foster 'sustainable innovations journeys' through bottom-up processes of niche expansion, the Strategic Niche Management (SNM) approach focus on its internal processes (such as learning processes, networking and articulation of different expectations and visions) (Schot and Geels 2008). According to last findings, in order to understand regime shifts it is also crucial to consider niche external processes. This is shown by the Multi Level Perspective (MLP) approach that emphasizes the alignment of processes at multiple levels and the fact that niche innovations can have a real impact if they link up with higher levels (Schot and Geels 2008).

The MLP proposes three levels of analytical concepts, based on a nested hierarchy related to local practices:

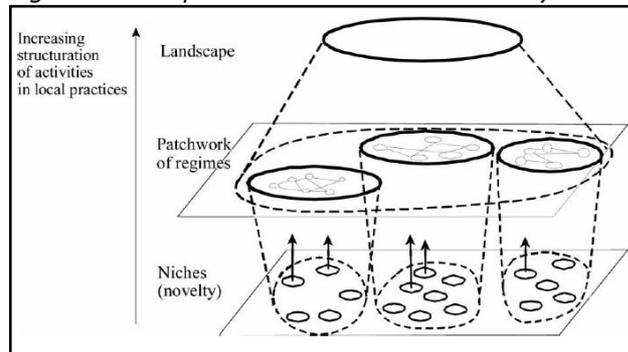
1. Niche innovations: the micro-level where radical changes emerge, composed by innovations carried by small networks of actors (micro-level).
2. Socio-technical regimes: shared cognitive routines, belief systems and aligned activities in communities of scientists, policy makers, users and other special interest groups (meso-level).
3. Socio-technical landscape: *"an exogenous environment beyond the direct influence of niche and regime actors (e.g. macro-economics, deep cultural patterns, macro-political developments). Changes at the landscape level usually take place slowly, in the order of decades"* (Schot and Geels 2008, p.545) (macro-level).

Transitions would then come about through the interactions between processes occurring at the three levels (Figure 4). Different transition trajectories can exist depending on nature and time on which the this interactions occur (Geels and Schot 2007). Geels and Schot identify ideal-types of transition pathways, ranging from a 'reproduction process' to a 'reconfiguration pathway'. The former is a static situation: even if niche innovations may exist, there is no external landscape pressure and therefore the regime remains stable and reproduces itself. The latter includes re-alignment and de-alignment processes. The re-alignment is about niche innovations acting at a local level to solve local problems and being simultaneously in symbiotic relations with the regime. Because of these relations they can be easily adopted as add-on or replace existing techniques, user practices and perceptions. In the reconfiguration pathway there are substantial changes in the

¹¹ Niches are defined as *"protected spaces that allow the experimentation with the co-evolution of technology, user practices, and regulatory structures"* (Schot and Geels 2008, p.537). Niches are usually not created by government in a top-down logic, but they emerge through collective implementation.

regime's basic architecture, involving multiple technologies (agriculture, hospitals, retailing).

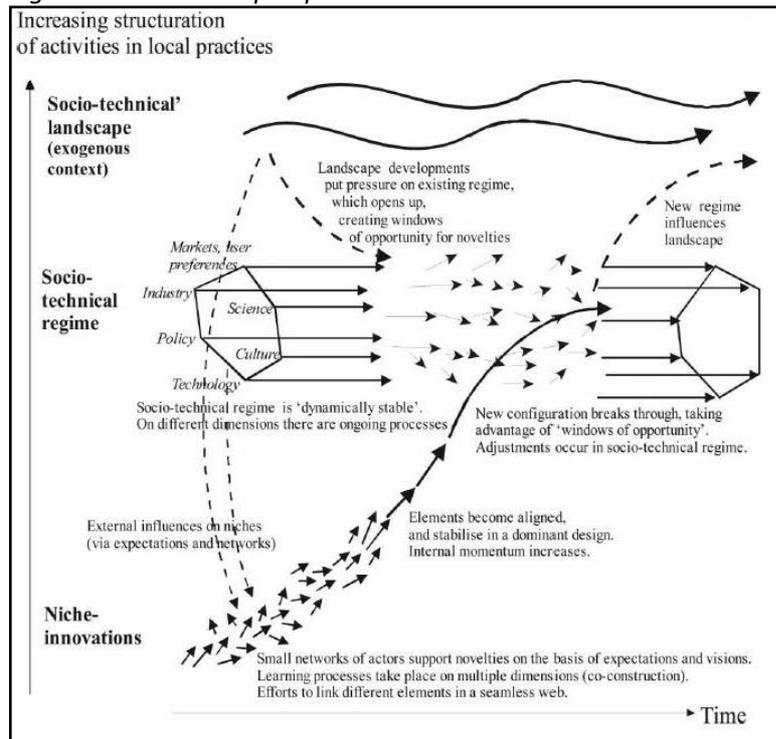
Figure 4: Multiple levels as a nested hierarchy.



Source: Geels 2002, 1261 in Schot and Geels 2008, p. 546.

Niche innovations act at a local scale and evolve through learning processes, performance improvements and support from powerful groups. *“Changes at the landscape level create pressure on the regime and destabilization of the regime creates windows of opportunity for niche innovations”* (Geels 2011, p.29). The alignment of these processes can enable the breakthrough of novelties in mainstream markets where they compete with the existing regime (Geels and Schot 2007). This multi-level perspective on transitions is illustrated in Figure 5.

Figure 5: Multi-level perspective on transitions.



Source: Geels 2002 in Schot and Geels 2008, p. 546.

Two examples of initiatives that translate from the niche to the regime are illustrated in a study of Smith (2007), regarding organic food and the eco-housing in UK. New practices were initially pioneered by niche actors in relatively secluded spaces (green activists and architects) and major

changes occurred when the niche principles have been translated and picked up by regime actors (Schot and Geels 2008).

Some critics have been addressed to the MLP perspective. The first one is that the model has little consideration of actors, their interactions and their strategies (Chiffoleau and Paturel 2018). The MLP does not even consider that niche actors may not want to change the situations at a higher level (Yuna Chiffoleau, personal conversation). The second one is that the transformations of the dominant system are analyzed as being linked to the opening of a window of opportunity in the dominant socio-technical regime, under a pressure coming from the landscape and the niches, without the precise visualization of the underlying social mechanisms (Chiffoleau and Paturel 2018) and without considering other mechanisms of scaling that are not related to the transformation of the dominant system. More precisely, Chiffoleau argue that case studies considered with the MLP approach focus on 'alternative niches' that are close to dominant technologies and that do not challenge the coherent system of actors holding the regime (Chiffoleau 2016). The approach also serves to study cases of more radical transitions whereas fundamentally, it does not break with the techno-scientific promise regime, and therefore with the model of technological innovation (Nieddu 2015 in Chiffoleau 2016). This gives advantage, both in the analysis and in the support, to innovations which are already organized, endowed with resources, skills and 'heroes' (Chiffoleau 2016).

Even though Geels and colleagues tend to focus on macro-tendencies and adopt an economic perspective rather than a sociological one in order to study social transformations, it is interesting to see their analytical framework for urban transitions towards sustainability¹² (Hodson et al. 2017), that considers more the actors involved and their strategies. The framework is made up of three components:

1. Systems and experiments: it addresses the relationships between experimental projects and pre-existing systems. The analysis should move beyond single innovations and study how a larger number of innovations towards sustainability compete, coexist and complement at the level of the city (Hodson et al. 2017). It may lead to the understanding of the forms of connection that different experimental processes have with each other¹³ and with the existing system(s)¹⁴.
2. Forms of governance: in urban contexts, there is multi-level governance. One must understand the relationship between pre-existing governance arrangements and the new ones at a local, regional, national and international level.
3. Conceptions of sustainability: there are contested conceptions and views of sustainability, according to the different actors within a city who are involved in these processes of transformation. This dimension addresses the comprehension of how multiple conceptions of sustainability shape urban experimental processes.

The combination of these three elements gives a multiplicity of responses and patterns about urban transitions.

¹² See appendix A.

¹³ The authors highlight that in UK, many urban sustainability innovations are episodic interventions with a lack of strategic connection (Hodson et al. 2017).

¹⁴ The authors explain, through the example of urban experimentations with sustainable transport innovations, that they do not take place in a 'clean' laboratory but in actually existing urban contexts (Hodson et al. 2017). One cannot neglect that, to observe change, the way these processes are related to existing transport systems in the city, must be understood.

5 Existing approaches to SI analysis and impact evaluation

Since the main goal of Urbal is mapping the impact pathway on sustainability of social innovations, it is relevant to give a brief introduction on the usefulness of analysis and evaluation tools. Actors that claim for impact evaluation tools include funders, policymakers, innovation holders and researchers and each of them may have a different interest towards the tool (Ebrahim and Rangan 2010). Funders may use an evaluation tool in order to plan the repartition of their funds, to better communicate and to strength transparency and accountability. Policymakers would use it mostly to be accountable for their spending decisions (Murray et al. 2010). Innovation holders are more interested in performance improvement, capacity building and accountability to funders, partners and beneficiaries (Milley et al. 2018). Academics need a better holistic view of the impact of their research and of the innovations they study, especially in the case of Urbal (Urbal 2017). For a community of actors, such as an innovation community, an impact evaluation tool is useful to promote learning and improve the ongoing effort or just as a reflexivity tool (Milley et al. 2018).

Current measurement tools and approaches to SI mainly evaluate its economic and financial performance and there is a need to find new methods that go beyond these dimensions (Antadze and Westley 2012). Furthermore, doing SI evaluation is demanding because there is a diversity of practices, because of the complexity of social problems and initiatives and because of the intangibility of outcomes (Milley et al. 2018). Since research on social innovation is fragmented, some authors claim for a general framework of analysis that allows the understanding of the entire story of the innovation, from the inputs to the impact (Antadze and Westley 2012).

Urbal tool is more oriented to the identification of the impact pathway of social innovations with regard to the sustainability of food systems, which is something that has not been addressed by the literature yet. This chapter is dedicated to shed light on existing impact and analysis tool for social innovation, coming from different sources and theoretical inputs that may provide useful information for Urbal methodological tool.

The limits of existing approaches and developmental evaluation

Since social innovation is a process, with different stages, metrics that simplify SI impacts to a single product or behavior or that attempt to correlate it with a single variable outcome is not appropriate (Antadze and Westley 2012). Impact measures from traditional financial and business sectors applied to SI have their limits, for instance because they fail to address the issue of causality, given that in social sector impacts can be caused by multiple factors and actors (Antadze and Westley 2012). Studies of the International Development Research Center (Canada) show that social impact may be the result of actions by more than one organization, and that the process is too long and complex to discern cause–effect relationships between the realized projects or programs and their achieved impact. In order to respond to these limits, developmental evaluation (DE) has been proposed¹⁵. It is

¹⁵ Developmental evaluation “*informs and supports innovative and adaptive development in complex dynamic environments. DE brings to innovation and adaptation the processes of asking evaluative questions, applying evaluation logic, and gathering and reporting evaluative data to support project, program, product, and/or organizational development with timely feedback*” (Patton 2011 in Preskill and Beer 2012, p. 7). For more details about the difference between traditional evaluation

based on two strong principles:

1. Adaptation: SI is seen not as a product but as a process which does not start and end to a point but goes through a cycle. DE suggests constant movement back and forth between problem and solution, especially because destination and pathways for SI are emergent and cannot be defined in advance.
2. Context specificity: because of the diversity of innovations contexts, no standardized or generic metrics are either possible or desirable. Metrics should be therefore built in relation to each social innovation and should change as new processes and outcomes emerge (Antadze and Westley 2012). Developmental evaluation takes into account SI complexity, the fact that small changes can create large and often unanticipated effects and that innovators do not have enough control over the whole scope of factors or actors to plan outcomes in the same way that an implementer of a well-tested, stable program intervention often can (Antadze and Westley 2012). It is an adaptive and evolving methodology that is suited for organizations trying to solve a complex problem with an adaptive solution, adopting an *in-itinere* approach¹⁶.

The outcome/impact dilemma

Some organizations dealing with social and societal issues should measure long-term impacts (lasting changes in the lives of people and their societies) (Ebrahim and Rangan 2014) while others should focus on short-term outputs and outcomes. It depends on time, because it is not suitable to evaluate SI impact too early as many results are unknown and come during the SI process (Antadze and Westley 2012). To observe impacts, an innovation should have been in activity for at least five years (Genowefa Blundo Canto, personal conversation).

It also depends on two analytical problems endemic to the social sector: the problem of causality (understanding the relationship between cause and effect of an intervention) and the problem of control over results (the way SI holders exercise control over their interventions and results) (Ebrahim and Rangan 2014). Measuring impacts makes than sense if it is possible to establish clear causal linkages through evidence (between outputs and outcomes) and if there is sufficient control over results to attribute impacts to an organization's work; it depends whether the range of the integrated interventions needed to achieve outcomes are within the control of the organization (Ebrahim and Rangan 2010). If this is not possible, one can measure intermediate outcomes or speak about the 'influence' of an action on something. Another solution is that the evaluator does not speak about 'attribution' but about 'contribution' instead (Delahais and Toulemonde 2012), assuming that other factors could also be involved in the generation of results.

Social sector organizations can increase their control over long term-impacts in two ways:

1. Scale: increase their operations in order to reach more people through organizational growth, inspiration for similar initiatives, influencing public policies, building collaborative networks, etc.
2. Scope: offer more comprehensive services or partnerships with other actors or organizations in order to tackle a problem.

From a practical point of view, participatory and collective impact or outcome mapping methods are suited to identify high complexity and interactions across multiple organizations and sectors (Ebrahim and Rangan 2010).

and developmental evaluation, see Appendix C.

¹⁶ *In-itinere* is a monitoring-oriented evaluation approach, which is distinct to *ex ante* and *ex post* approaches. It can be applied on cases in which the innovation process is "*still in progress when the evaluation takes place*" (Barret et al. 2018, p.

Qualitative methods and practice-oriented research

Konstantatos et al. (2013) state that qualitative methods based on interactive procedures and participatory techniques can support the need of a transdisciplinary approach to social innovation. They refer to techniques such as focus groups, participatory research or action research which could (1) bring together, and foster the interaction of, the multiple actors involved and (2) contribute to the empowerment and self-determination of the subjects of research (Konstantatos et al. 2013). These techniques “*would not only enrich academic knowledge but also contribute to develop connection, new ideas and practices among those involved in the field*” (Konstantatos et al. 2013, p. 283)

As in developmental evaluation, the authors highlight the importance of context specificity and the existing differences in socio-political context, in welfare state regimes and in civil society formation which define different ways socially creative strategies develop, or which is the innovative component in each case (Konstantatos et al. 2013). They operationally suggest developing tools that help to study the details of their constitution, evolution and the context in which they operate.

The conditions of emergence, diffusion and institutionalization of SI

Following the idea of the need of a tool that is shaped to understand the conditions of emergence and evolution of social innovation according to its context, Bouchard (2006) proposes possible steps to analyze the conditions of emergence, diffusion and institutionalization of social innovations. She talks about social innovation as a ‘type’ of innovation and not as a single initiative¹⁷. Firstly, one should identify the elements of the socio-economic and politico-administrative context along with the legacy of the previous experiences that conditioned the experiments at the origin of these social innovations. The second step consists in the description of the set of innovations that redefine consumption and production relations, and the relationship between the state, the market and civil society. The third step is about making an evaluation of the impacts of these social innovations and studying their continuation over time.

The criteria for assessing the ‘progress’ achieved by social innovation would be both on the recipient’s and public policy side. On the recipient’s side one should observe direct effects (related to the quality and effect of the service on the user) and indirect effects (that SI has on his consumption or another type of behavior according to each SI goal). On the public policy side, one should focus on either the introduction of private methods in the public sphere (the new public management) or the use of new forms of non-economic instruments of public policy, notably the network (Bouchard 2006).

A general framework to study SI

The book *Social innovation and territorial development* (2009) provides a general analytical framework to study social innovation. We only present synthetically the five dimensions proposed by the authors, given that most of the content of each one has been already presented in other sections of this document. To analyze a SI, one should focus on:

- *from whom* – the agents of innovation (individual or collective);

66).

¹⁷ This approach would for example study the cooperative supermarkets in Hérault region (France) as a social innovation and not a single initiative such as *La Cagette* cooperative supermarket located in Montpellier, a city part of the Hérault region.

- *to whom* – the adopters (key protagonists in the innovation processes and users of the SI);
- *how* – the diffusion channels, including the resources deployed to promote the dissemination of the innovation (they can be formal or informal, strategically conceived or not);
- *opportunities and constraints* – inertia and resistance factors;
- *impacts* – effects of social innovation in terms of local development (MacCallum et al. 2009) or, for Urban, in terms of sustainability dimensions.

The actor-network approach

To understand social innovation and its ability to transform higher scales, the *Actor-Network Theory* (ANT) constitutes a first analytical grid (Chiffoleau and Paturel 2018). The ANT based on the studies of Michael Callon (1986 and 2007) allows to understand the network of actors and objects that build and consolidate around new ideas and how this socio-technical network (actors and objects) can contribute to changes in society.

The original aspect of the approach is that it goes beyond the consideration of interpersonal relations in order to understand innovations, but it also considers ‘intermediary objects’. As an example, the charter of a local market can be considered as an intermediary object for the actors and their cooperation (Vinck 2009 in Chiffoleau 2016). The charter contributes to the exchange of knowledge and the construction of shared understanding about the food system in which they are embedded, the formation of compromises, the formalization of alliances in the service of a new food system which would take more into account the expectations and constraints of each (Chiffoleau 2016). Furthermore, it is a concrete mediation resource that help the market related actors to coordinate, without necessarily being directly linked to each other (Chiffoleau 2016).

The economic and network sociology and care approach

Chiffoleau and Paturel (2016) propose to analyze SI’s impact on individuals, putting a strong focus on people and relations among them. Their framework strongly considers individuals, relationships, networks and the context¹⁸ and is made up by the convergence of two theoretical approaches. On the one hand the economic and network sociology approach, where innovation is considered as embedded in social structures: social relations allow novel ideas and learning processes to circulate and therefore becoming practices; actors adopt strategies and have a precise reason to participate to ‘collective’ innovations; new operating rules and institutions are created (Chiffoleau and Paturel 2016). On the other hand, the Care approach considers individuals who are aware of their own vulnerability and of the one of others. The Care approach developed by Tronto recognizes vulnerability as constitutive of human life and it is based on the principle of interdependence between the lives of each and a responsibility of each in and to the lives of others (Tronto 2009 in Chiffoleau and Paturel 2018). Under this lens, SI is about new practices or tools that modify the relations of domination and consequently bring about some social transformation. Analytically it focuses on the strategies of actors in order to fight against power relations and to be recognized, opening new possibilities for excluded or precarious people (Chiffoleau and Paturel 2018).

The two authors link social innovation with food and social inequalities, especially people living in ‘precarious conditions’ in a study composed by two examples of active participation of ‘precarious

¹⁸ With context they refer to the political context, existing power relations, existing institutions and legacies of the history (Chiffoleau and Paurel 2016).

people' to community supported agriculture initiatives in France (Chiffolleau and Patuere 2016 and 2018). In doing so, they focus on what we consider the social dimension of sustainability.

The results of their two cases studies show the importance of the singularity of individuals engaged in SI, the resources that individuals bring to the SI, their sensitivity to certain issues and their previous and current experience and network of social relationships. Secondly, they stress on the evolution of the status of individuals and on the relevance of the 'symbolic capital', that is a possible social impact of the SI.

6 Recommendations for Urbal

Social innovation literature put the emphasis on a social or societal goal, on changes within relationships and social interactions, on the resources that actors bring in during the whole process as well as on the elements of the context that influence its emergence and diffusion. It also goes throughout a process, within complex systems and the dynamics of innovation are non-linear, uncertain and unpredictable. That is why, the literature is skeptical about the sufficiency of a positivist cause-effects measurement. An evaluation or impact pathway mapping tool should consider SI as a complex process with its own dynamics and multi-dimensional impacts or results. That said, building on findings that have been exposed in the previous sections, this chapter is dedicated to some considerations that should be integrated in Urbal methodological tool.

The first part focus on SI analysis, highlighting the type of data that should be collected in order to study a SI and to understand its emergence, evolution and results in terms of sustainability. It also stresses that it is important, for each case study, to define why the innovation considered is a social innovation and possibly to demonstrate if it is the case or not. Otherwise we suggest calling it an 'innovation towards sustainability' or a 'sustainability-oriented innovation', stressing on the sustainability dimensions that it wants to address rather than on the 'social' aspect of the innovation. The second part is dedicated to the impact assessment and proposes possible solutions to avoid the outcome-impact dilemma. It also suggests that to link SI and sustainability effects one could not neglect to think about scaling processes and possible transitions towards sustainability.

The last part places SI in its process dimension, claiming that SI should be analyzed in a systemic way, in a logic of evolution and change.

6.1 Social innovation analysis

One challenge for social innovation analysis is to understand its conditions of emergence and diffusion (Richez-Battesti et al. 2012). According to the main features of social innovation that have been listed in chapter 3, a methodological tool that identify the impact pathway of SI should consider these features, observe how they evolve during time (following the SI process) and detect which are the internal and external factors that influence this evolution. Besides the interviews that will be employed to gather these data within the Urbal methodology, it would be interesting to look, when available, at tangible resources (such as project documents of the beginning of the SI) that may reduce the bias of the current subjectivity of the innovation holders at the moment of the interview. Attention should also be paid to the different perceptions of the core actors of SI, identifying whether they have different visions on the three dimensions that will be presented (6.1.1, 6.1.2 and

6.1.3) and how these visions evolves through possible debates, negotiations and compromises.

6.1.1 Values, social need and operational mission

Social innovations are embedded in a value system, they are not intrinsically good and what is undesirable (problems) and desirable (solutions) can change over time. During an interview, Adalbert Evers states that social innovation is an innovation that at a given moment, raises hope and expectations of progress towards something better (a more sustainable, democratic or efficient society). However, the values, actions and results of social innovations, reflecting in a way what is widely believed to be good or potentially better for civilized societies can be widely objected (Bucolo et al. 2015).

The implicit values of one individual or a group of individuals influence the social or societal need or the opportunity to change that are on the basis of the social innovation activities. SI can also be seen as an aspirational intervention aimed at changing society (Chiffolleau 2016). There is therefore an intentionality to change the situation in relation to the previous situation, to improve one or more aspects of the life of individuals.

In light of that, an analysis of social innovation should include the identification of the social or societal need or the opportunity of change that has been identified by innovation holders at the beginning of their project¹⁹. Since this need or opportunity shapes the operational mission of the organization leading the SI, the mission should also be clarified, as well as the expected impact pathway (long term vision)²⁰ targeted by innovators at the beginning of the SI process. This step should also clarify the spatial perimeter, namely on who and to which geographical extent the SI wanted to have an impact, on which specific area or population²¹ (see section 3.1). All these features must be observed within the evolution (process) of the SI.

Some of the questions that could be addressed in this part are:

- When did actors start to think about doing something together related to the initiative (SI) that exists today?
- What was the goal, or the initiative aim at the beginning? Has it changed over time? Why? How?
- What were the strategy and the set of activities that you wanted to do to address this goal? Have they changed? Why? How?
- Who were the targeted individuals/organization/territory? Have they changed? Why? How?

¹⁹ As Urbal is dealing with the sustainability of food systems, this need, or opportunity will always refer to one or more sustainability dimensions.

²⁰ The impact pathway mapping is based on the concept of ‘theory of change’, that “*reveals how an organization perceives its own change of goals, and their vision of how existing institutions and structures could be altered in order to respond to existing social needs*” (Westley and Chair 2011).

²¹ This does not exclude that unexpected impacts on untargeted individuals exist. The identification of unexpected or undesired impacts will be part of an exercise in step 3 of Urbal methodological tool (see Appendix A).

6.1.2 Actors and organizations

Actors are key within social innovations. They can be multiple and have different roles, that is why it is important to identify them and to map their contribution to the SI. The role of single participating actors is likely to change during the course of a participatory process, as are the participating actors themselves – but a central actor or group of actors (that can also change) leading the process should exist throughout (Buchegger and Ornetzeder 2000).

SI holders and core actors are those who initiated the SI related initiative and that supported it, at the beginning of the process and/or throughout it. For some authors the ‘entrepreneur personality’ or the personal trajectory and the existing network of the innovator(s) seems also fundamental.

A tool for analyzing SI should identify SI holders and core actors on two levels. The first one is dedicated to the understanding of the role of actors in the phase of creation of the SI: definition of the problem and identification of causes and solutions. The second one is related to the material and immaterial resources they brought in, that include information, contacts, funds, objects²², knowledge, expertise, training, psychological health, support and self-esteem.

Users are the adopters, the main target actors of the SI²³. In some cases, it may be interesting to focus on status of those individuals and analyze if the SI has the intention or potential to transform traditional relations or relations of domination. However, this is a focus on the social dimension of sustainability.

Methodologically, we suggest using an actor-oriented approach in order to empirically study SI. One can build an actor map, showing the actors and networks that influenced the or are influenced by SI and explaining how it occurred. Since social innovation occurs in participative processes, bringing together different actors with different backgrounds (Neumeier 2017), it seems also relevant to identify the degree of participation of the actors (co-decision, consultation or negotiation).

Some of the questions that could be addressed in this part are:

- Who are the SI holders? Was there something specific in their previous experience that influence the creation of the SI?
- Who are the core actors or networks that influenced the SI at the beginning and during the its evolution? What is their role? What has been their contribution? Have they changed?
- Who is the target of the impact of the SI?
- Are SI holders, core actors and users participating to the decision-making process of the SI? How?
- How does the role of each actor evolve during the SI process?

As for the organizations holding SI and the existing differences among them, we suggest building a characterization according to the following features:

- The degree of individual redistribution of profits (no profit, limited profit, profit reinvested for a social purpose, evolution towards limited profit).
- The governance (ownership and participation).

²² According to the actor-network theory we also consider objects, as part of a socio-technical network, that contribute to changes within the SI.

²³ Individuals can only be the targeted unit or both the 'provider' (SI holders) and the 'user' of SI (or the service proposed by the SI) at the same time.

- The mobilized resources (non-market-oriented, market resources, mixed resources or private capital).

6.1.3 Context

The literature shows that the social innovations depend on the context in which they emerged, and they operate. Contextual differentiation is crucial for understanding SI priorities, practices, organizational structures and activities (Konstantatos et al. 2013). The context includes macro elements (at an international, national, regional and local scale) and micro elements ('established organization' or 'emerging organization').

The methodological consequence is that the Urbal tool should be able to identify the relevant contextual elements to understand the conditions of emergence and evolution of the SI; these will be elements that facilitate and constraint the activities or implementation of the SI. As perceivable, it is also about how the elements of the context evolve during time (following the SI process) and how they influence the SI.

Some of the questions that could be addressed in this part are:

- Which previous experiences have influenced the SI?
- Which are the relevant elements of the context that allow to understand the SI, its emergence and evolution?
- What were the enabling or constraining factors at a macro or micro scale?

6.1.4 Defining the UFIL as a social innovation

Considering the multiple definition of SI that have been given and the diversity of the UFILs, we suggest, in each case, to describe why the UFIL is considered a social innovation and which are the characteristics that define it as such. This implies to take a decision of the definition to adopt, either an omni-comprehensive definition or a more specific definition. In both cases, if the will is to stick to the term or to the idea of social innovation, one should gather specific data and provide a specific analysis to support the statement. An alternative is to assemble the UFILs around the question of sustainability, that is crucial within the Urbal project. In that case, one might call them 'innovations towards sustainability' or 'sustainability-oriented innovations', since the exercise that will be done through the methodological tool is precisely conceived to analyze their influence in terms of sustainability.

Another connected issue is the definition of the meaning and the perimeter of the 'social' dimension of the innovation. 'Social' can refer to poverty and exclusion concerns, to societal matters (for example responding to environmental challenges) or to organizational structures, being related to organizational development that improve the efficiency of organizations (Richez-Battesti et al. 2012). The latter includes several new legal statutes that allow to associate a plurality of stakeholders in a particular field of activity or territory and to pool resources but also new informal ways of acting, coordinating or exchanging among actors.

6.2 Impact assessment

The Urbal project wants to focus on impacts pathway mapping. However, after the literature review, it is may not the most pertinent option. Thus, we discuss the possibility to substitute the term 'impact' with the term 'result'. On the other hand, we propose to take into account the scaling processes of the UFILs and to consider the relevance of thinking about all the factors that contribute to transitions towards sustainability, especially if the tool wishes to support decision making processes.

6.2.1 Results, outcome or impact assessment?

As exposed in chapter 5, it is not always possible to evaluate impacts of the activities of organizations dealing with social and societal issues. This is due to three reasons:

- One must be able to identify the exact causal links between output, outcome and impacts; this is not always possible because social and societal phenomena are complex and sometimes it is not easy to explain the direct links between two events.
- Sufficient control over results is required to attribute impacts (on sustainability) to the activity of a single social innovation related organization and this is not often the case.
- Impact measurement may be possible only when the studied initiative operates from at least 5 years, which is not always the case in Urbal.

As a consequence, it seems not pertinent to use the term 'impact', because the UFILs are very recent and because they are initiatives that act in a complex system where it seems not possible to attribute impacts to their only activity. This implies two possible methodological adaptations:

- Attribution: to avoid the difficulty of attributing effects to a single action, Urbal could speak about 'contribution' instead (regarding at one intervention as a contributory cause).
- Results: instead of using the term 'impact pathway mapping', Urbal could use the term 'results pathway mapping' or stop to an 'outcomes pathway mapping' tool. We are more inclined towards the first option since referring to outcomes may lead to confusion as different disciplines have conflicting views on this term. 'Results' would than refer to changes or effects of an intervention at a short, mid or long term.

6.2.2 Scaling and scope

We have seen that scaling must be considered when studying changes in food systems. It is important to deepen the specific conditions of scaling (Chiffolleau and Paturel 2018), that already happened and that could happen. Methodologically, it would be interesting to study the process of generalization or scaling of the UFILs that, on the long term, could generate an impact.

Within the application of the Urbal tool, on the one hand, we can observe if any type of scaling has already been produced. On the other hand, we can ask whether the innovation holders have the intention to scale and, if yes, to produce the possible trajectories of the SI in the future and the desirable conditions to scale or enlarge their scope.

As part of the participatory workshop, some of the questions that could be addressed are:

- Has the SI experienced any type of scaling? Which one(s)?

- How has it occurred? With what support?
- What have been the constraints?
- Is scaling a deliberate choice?
- Is the SI adopting a strategy to scale or to enlarge its scope? Is it planning to do so?
- Have public actors taken measures to foster or support the SI or similar SI? Is it a plan for the future? Are they interested in doing so?
- What should be done in order to generalize the initiative? Which configurations, relational mechanisms and mediation resources?

6.2.3 Transition towards sustainability

Study the potential of SI as contributors to the multiple dimensions of sustainability is a valuable step to nourish knowledge about their effect and to better orient actions and engagements taken by policymakers. However, it is important to keep in mind that, for a real transition towards sustainability (long term and wide impacts) it is necessary to understand the interaction between these social innovations (niches) and other forces at greater scales (Kirwan et al. 2013). This is crucial for Urbal, since its target users are policymakers and policy interventions may be needed *“in order to articulate regime tensions into a clear pressure for change and help reconfigurations push developments along a new trajectory”* (Smith 2007, p.430).

One key reason for local government to sustain very recent innovations is the expectation that they will become important for realizing particular societal and collective goals in the future (Schot and Geels 2008). These innovations can grow and become a new regime that eventually replaces the old one, but they can also remain an isolated local project that is incorporated into existing regimes (Schot and Geels 2008).

Policymakers would then be more likely to identify SI as a strategic niche that is worthy of support and encouragement. Nevertheless, some authors caution that policymakers should not see the potential of such initiatives as obviating the need for structural-level changes to address issues of food inequality and poverty, for example (Dowler and O’Connor 2012). That is because *“urban transitions are not about technological or social innovation per se, but about how multiple innovations are experimented with, combined and reconfigured in existing urban contexts and how such processes are governed”* (Hodson et al. 2017, p. 1). When analyzing the impact pathway of social innovations, one must keep in mind that sustainability is a wide issue and that it is about interactions between social and technical innovations, policy/power/politics, economics/business/markets, and culture/discourse/public opinion (Hodson et al. 2017). This has two implications for Urbal:

1. Considering Hodson et al. framework (2017) is a step further to social innovation impacts on sustainability. As a variety of urban social innovations related to food starts to unfold across the world, one interesting question is whether they serve to reinforce ongoing neoliberal urban restructuring or effectively produce new, post-neoliberal, urban governance rationalities (Hodson et al. 2017). In other words, the framework is useful to understand if SIs have to potential to transform the dominant system or if they remain isolated initiatives.
2. Since the Urbal tool is conceived for policymakers in order to support them to better understand and sustain SI on their territory and to take measures towards sustainability, one must acknowledge that looking at SI alone is not the only thing that should (or could) be done in order to address

sustainability issues. Other dynamics influence the evolution of SI and its impact on sustainability and different interactions among them produce different results. There are many innovations with the potential to contribute to more sustainable urban food systems. *“Which ones (in the plural) are selected and how these come to be combined and configured in relation to existing urban food systems in the city remains poorly understood”* (Hodson et al. 2017, p. 2).

Beside the analysis of SI scaling (micro scale), it would be interesting to visualize the 'transitions' that the SI support, what contribution they can give to more sustainable food systems considering other factors and actors operating at a meso and macro level. However, concretely, it seems too complex to build transition scenarios with the actors that will participate to the UFIL workshops, because it is too demanding in time and other resources. A solution would be that researchers in charge of each UFIL collect some data to build transition scenarios considering the existence, co-existence, competition and complementarity of initiatives, governance levels and conceptions of sustainability within an urban area. Another option is to leave these considerations out of Urbal for now and to keep them in mind in the case of a second phase of the project.

6.3 The nature of the tool

The Urbal tool should lead to the comprehension and analysis of very diverse social innovations, understanding the details of their construction, functioning and evolution. For this reason, we suggest integrating the process of the SI in the methodological tool and to adopt a systemic approach.

Also, given that Urbal involves many diverse actors, we think that their interests should be considered - especially those of social innovation holders that are bringing in a lot of resources to the exercise - and that we should not neglect the importance of the learning process of such a methodology.

6.3.1 The process of SI and the systemic approach

In the review of Richez-Battesti and colleagues (2012), different challenges are highlighted for SI analysis and support: what are the conditions of emergence and diffusion of SI? Who are the individual or collective actors that are at the origin of SI, intended as new rules and practices that wishes to solve socio-economic problems, satisfy unsatisfied social needs or operationalize a desired change? How do they spread at a local level and, in a perspective of social change, at a larger scale (Chiffolleau and Paturel 2018)? These questions imply that all the dimensions previously mentioned with regard to SI analysis (section 6.1) should be studied with a view toward evolution and change, which are embedded in the SI process. The Urbal tool should have a process approach, considering that SI evolves constantly over time and that the steps identified in the literature do not always correspond to the steps experienced by social innovations.

In addition, a systemic approach rather than a linear evaluation method seems more suitable for the analysis and evaluation of social innovations impact pathway. The Urbal tool should be able to adapt to evolving models (such as SI) and allow making constant movement back and forth between problem and solutions. Furthermore, since SI are very diverse and are acting in different contexts, we

should not provide standardized or generic metrics but rather build them with the involved actors and in relation to the process of each UFIL.

6.3.2 The learning process

Evaluation is a learning and reflection process and participatory approaches are interesting in impact pathways analysis because they allow a balance between the academics needs for specific information and the ability of participants to express their opinions, to get knowledge about their experience, to develop connections, new ideas and practices (Konstantatos et al. 2013). Qualitative methods, including interactive and participatory approaches to study social innovations, can support the needing of an interdisciplinary approach to SI. On the one hand they bring together and foster interactions of the multiple actors involved; on the other they contribute to the empowerment and self-determination of the subjects of research (Konstantatos et al. 2013).

There are no particular methodological implications at this regard, since Urbal already includes a participatory workshop involving different actors. We highlight the importance of the learning process of the tool and the fact that some practice-focused studies related to impacts concluded that in the end, *“a project’s success had less to do with whether measurement systems were developed and more to do with whether the organization was able to create a culture that valued the process of self-evaluation”* (Ebrahim and Rangan 2014, p. 122).

In Urbal case, this is especially relevant for the actors involved in the workshop, that can reciprocally gain knowledge and build a network around urban-driven innovations, impact pathways an food systems sustainability.

Conclusion

This report focused on a broad literature review on social innovation, as demanded in the Urbal internship, and investigated on specific characteristics of social innovation that should be considered in a methodological tool that maps the impact pathway of urban-driven innovations on food system sustainability.

The results showed that, even though in the literature there is no consensus on how to define social innovation, there are some common characteristics that are relevant in order to analyze SI and to understand its conditions of emergence, diffusion and evolution. These characteristics are valuable because they influence the way one should analyze SI and the type of data that should be previously collected. This includes paying attention to the goal that the social innovation has (implicitly or explicitly expressed in terms of social or societal need, or of an opportunity of change), to the actors involved, to the type of organization that supports the SI and to the enabling and constraining elements of the context. All these features should be analyzed all along the process of the SI, seeing if and how they evolve with the time.

As a second result, we focused on impact pathway mapping. The literature showed that it is not always possible to evaluate the impact of social innovations. As a consequence, we propose two methodological adaptations for Urbal: considering contribution rather than attribution and substitute the term 'impact' with the term 'results'. Results refer to the changes or effects caused by an intervention at a short, medium or long term.

Furthermore, besides the results pathway, we stressed on the relevance of analyzing the scaling processes of social innovations along with their potential to contribute to transitions towards sustainability. Since the Urbal tool main target are policymakers, we should provide a broad framework that identify if SIs have to potential to transform the dominant system or if they remain isolated initiatives, and under which conditions, at least at a city scale.

The third result is related to the nature of the tool: it must adopt a systemic approach and integrate the process of social innovation, being able to consider constant movement back and forth between problem and solutions. In addition, the application of the tool should not neglect the importance of the learning process that it could create among participants, creating networks or community of practices and contributing to the empowerment and self-determination of some of the involved individuals.

These characteristics have been partly integrated in the Urbal methodology draft. However, they are only based on social innovation literature review. Since Urbal case studies include not only social innovations but also other type of innovations, these results could be integrated with insights coming from the literature on political and institutional innovations in order to better adapt the tool to all the UFILs. Also, as the main target of the tool are policymakers, a survey exploring their expectations and interests could be conducted in order to better orient the Urbal tool.

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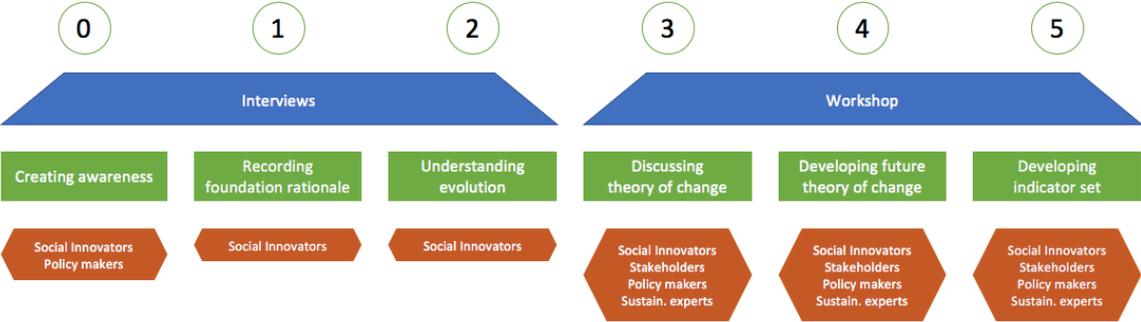
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Appendix A: Urbal methodology draft



The figure illustrates the step-by-step Urbal methodology draft. It is made up by two activities (or methods to collect data): interviews and one participative workshop. The different steps, from 0 to 5, are topic-oriented and define different aims and content.

The aim of step 0 is to contact and interview SI holders and policymakers to explain the Urbal project and their role in the UFIL study and gain understanding about their expectations, wishes, demands, and concerns about the analysis. Topics to be addressed include the reasons why Urbal wants to analyze the result pathway of the UFIL, the content of each step of the methodology and the role of each actor.

The aim of step 1 is to characterize the SI at the point of establishment and before to identify the social need or the opportunity, actors involved and their roles, and the context. This step lays out the theory of change in the beginning of the intervention and is important for the comparison with the status quo.

Step 2 shows that we can regard SI as a process. It is therefore crucial to investigate the SI holder’s experiences, departing from the initial theory of change and how the SI has emerged and diffused. While looking at these changes, it is important to observe if and how the social need or opportunity (that influence the operational mission, meaning the concrete activities that the SI settles), the actors, and context have evolved.

Step 3, as part of the participatory workshop, is dedicated to discussing and reflecting on the SI’s theory of change and the SI’s evolvement, which the innovators defined in step 1 and 2. This step is crucial for (1) the confirmation or challenging the logic model, (2) defining, discussing, and potentially eliminating causal linkages between each pathway step, and (3) gaining awareness about the process and elements of a SI (specifically policy makers, who can benefit from this knowledge in order to increase the efficiency of their decision making).

Both practitioners, who are emerged in the field of interest, and sustainability experts, who have more abstract view on linkages and results, can provide a well-balanced analysis.

Step 4 is dedicated to constructing a plan on the SI's future evolution to achieve the most ideal results. This task considers the lessons learned from the previous steps and develops on this basis a common vision of the SI's future pathway.

Step 5 is the last part of the workshop and wishes to establish contextual indicators of sustainability, according to the wishes of SI holders and policymakers, and taking into account the considerations arisen by other participants to the workshop.

Appendix B: Framework for the analysis of urban sustainability transitions

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Table 1. A Preliminary Framework; Forms of Reconfiguration as a Focus of Analysis of Urban Transitions.

Three Common Issues Informing Reconfigurations	
New configurations of multiple socio-technical experiments and existing systems	<p>Focus: how a large number of sustainability innovations compete, coexist and complement [2] within a particular city</p> <p>Analysing reconfiguration: requires understanding analytically what reconfiguration looks like in three areas:</p> <p>Competing—Struggles between new vs new or new vs old socio-technical arrangements</p> <p>Co-existing—Parallel and largely independent socio-technical arrangements</p> <p>Complementary—Productively fused relationships of new and new/old socio-technical arrangements</p> <p>Key research issue: Do experimental processes of embedding sustainable urban infrastructures and schemes provide the potential to reconfigure systems at the city-scale and in what ways? This requires:</p> <p>Conceptual and empirical understanding at the interface of experimental processes and systems</p> <p>City-specific trajectories mean that there is need for typologies of different analytical connections between multiple experimental processes</p>
Shaped by multiple forms of urban governance	<p>Focus: how interactions between multiple forms of urban governance condition and shape urban experimental processes</p> <p>Analysing reconfiguration: a lot of distributed and fragmented governance capacity means there are potentially multiple modes of governance competing, co-existing and complementing in a city and which can be characterised as follows:</p> <p>Competing—Fragmented and mutually hostile/contradictory governance arrangements</p> <p>Co-existing—Fragmented, distinct and either autonomous or loosely coupled governance arrangements</p> <p>Complementary—Symbiotic/mutually reinforcing governance arrangements producing new forms of hybrid governance</p> <p>Key research issue: New fusions and forms of urban governance are emerging that don't fit easily within existing typologies [37]. This requires that research:</p> <p>Engages systematically with developing understanding of how wider global flows and infrastructure 'solutions' are mediated by multi-level governance and institutional architectures in reconfiguring urban forms</p> <p>Requires building dialogue between assessment of complex, new fusion and forms of urban governance, whether these can be understood through existing governance typologies and what implications this has for theories of urban governance</p>
Mediated by multiple understandings of urban sustainability	<p>Focus: what accounts of sustainability become dominant in shaping experimental processes and who is promoting them?</p> <p>Analysing reconfiguration: In any given city, a concern with 'urban sustainability' is likely to be built on multiple, often competing, co-existing and complementary, negotiations and fusions of accounts of what is understood by sustainability, that can be understood as:</p> <p>Competing understandings and orientations for sustainability goals</p> <p>Co-existing—Parallel and largely nonconflictual understandings and orientations</p> <p>Complementary—Mutually reinforcing or comprised through issue linkage between alternative sustainability understandings and orientations</p> <p>Key research issue: To understand how multiple accounts of sustainability are interpreted, negotiated and coordinated (or not) in shaping experiments and reconfiguration. This requires:</p> <p>Understanding the consequences of multiple accounts of urban sustainability in a city for experimental processes and reconfiguration</p> <p>Building comparative understanding of this across cities</p>

Source: Hodson, Geels, and McMeekin 2017, p. 13.

Appendix C: Differences between traditional evaluation and developmental evaluation

Traditional evaluations...	Complexity-based, Developmental Evaluation...
. Testing models	1. Supporting innovation and adaptation
. Render definitive judgments of success or failure: Does the programme work?	2. Rendering nuanced, disaggregated feedback & generate learnings for adaptation & development: What works for whom in what ways under what conditions?
. INDEPENDENCE evaluator external, independent, objective	3. RELATIONSHIP-FOCUSED, COLLABORATIVE Evaluator a facilitator and learning coach bringing evaluative thinking to the table, supportive of innovator's vision
. CONTROL evaluator determines the design based on the evaluator's perspective about what is important. The evaluator controls the evaluation.	4. OPENNESS & NATURALISTIC INQUIRY Evaluator goes with the flow, watches for what emerges
. CERTAINTY <ul style="list-style-type: none"> ✓ Predetermined outcomes ✓ Fix the design upfront ✓ Predetermined indicators ✓ Fixed questions 	5. FLEXIBILITY <ul style="list-style-type: none"> ✓ Emergent outcomes ✓ Flexible design ✓ Emergent indicators ✓ Dynamic questions
. Linear cause-effect thinking and logic models	6. Systems and complexity thinking with attention to dynamics, permeable boundaries, interdependencies, and emergent interconnections
. Value top-down change based on generalizable findings across time & space	7. Value bottom-up principles that provide direction but have to be adapted to context
. Accountability focused on and directed to external authorities and funders.	8. Accountability centered on the innovators' deep sense of fundamental values and commitments – and learning as accountability
. Being outside the action, above the fray	9. Being part of the action, engaged in the fray
. TRUTH speaking truth to power	10. PERSPECTIVES Facilitating dialogue and engagement with complexity and shifting understandings

Source: Powerpoint slide Patton Note: an elaborate version of this table can be found in Patton 2011, p23-26 (or annex B Kusters et al 2011)

Source: (Guijt et al. 2012, p. 12)

Résumé

Des innovations alimentaires citoyennes ou portées par des gouvernements urbains prospèrent autant dans des villes du nord que du sud et proposent de nouvelles manières de nourrir les villes et de connecter les acteurs des territoires urbains et ruraux autour des questions alimentaires. Cependant, la recherche n'a pas encore fourni d'interprétations claires sur ces innovations et sur leur réelle contribution à la durabilité des systèmes alimentaires. Le projet de recherche Urbal propose de construire et de tester une méthodologie participative d'identification des chemins d'impact d'innovations urbaines sur la durabilité des systèmes alimentaires, avec une attention particulière pour l'innovation sociale.

Ce mémoire s'inscrit dans la construction de l'outil méthodologique Urbal. S'appuyant sur une revue de la littérature sur l'innovation sociale, nous avançons des suggestions afin d'orienter théoriquement et structurer méthodologiquement l'outil Urbal. Les résultats montrent les caractéristiques spécifiques de l'innovation sociale à prendre en compte. Ils portent d'abord sur l'analyse de l'innovation : il faut considérer l'objectif, les acteurs impliqués et les ressources marchandes et non marchandes qu'ils apportent ainsi que les éléments du contexte nécessaires à comprendre les conditions d'émergence et de diffusion de l'innovation. Deuxièmement, il s'agit de structurer l'évaluation des résultats - définis comme les changements ou effets produits par l'innovation sur les différentes dimensions de la durabilité des systèmes alimentaires à court, moyen ou long terme - et d'étudier les modalités de diffusion (*scaling*) de l'innovation. Finalement, l'outil doit pouvoir s'adapter au processus non-linéaire de l'innovation, adoptant une approche systémique et permettant des allers et retours constants entre les problèmes et les solutions. Le recouplement de ces résultats avec un travail sur les outils méthodologiques des chemins d'impact a permis d'élaborer la première version de la méthodologie Urbal, composée par des entretiens et par un workshop participatif, qui sera testée sur 12 innovations.

Mots clés

Innovation sociale – Chemins d'impact – Durabilité – Systèmes alimentaires – Méthode participative

Pour citer cet ouvrage : Bonomelli, Veronica, 2018. Building a participative tool to map the impact pathway of urban driven innovations on food systems sustainability: how to consider specific features of social innovation?. Mémoire de mission professionnelle, Mastère spécialisé® Innovations et politiques pour une alimentation durable, Montpellier SupAgro. 53 p.

Montpellier SupAgro, Institut national d'études supérieures agronomiques de Montpellier, 2 place Pierre Viala, 34060 Montpellier cedex 02. <http://www.supagro.fr>

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