PRACTICE-LED FNS REDESIGNING IN EUROPE

D6.4 Syntheses report on FNS pathway-specific drivers, potentials and vulnerabilities

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About TRANSMANGO:

TRANSMANGO is an international research project that aims to explore diverse transition pathways to a sustainable and secure food system. It is funded by the European Commission and runs for four years, from 2014 until 2018. The Transmango consortium consists of 13 partners from nine European countries and Tanzania. For more information, visit our website: http://www.transmango.eu/.

About this Document/Disclaimer:

This synthesis report is part of Work Package 6 of TRANSMANGO which is focussed on 'local' level analysis of FNS pathways in Europe. This report is based upon 'D6.1 Case-study selection and methodological guidelines for local level analysis of FNS Pathways' (transmango.eu), and the 'local level' reports that have been conducted in the 13 partner countries. The guiding research questions for the Work Package 6 'local' level analysis were:

1. To what extent, and how, do the selected FNS practices / pathways reflect novel responses to FNS concerns in specific settings?
2. To what extent are these novel practices / pathways promising and successful?
3. To what extent do the stakeholders involved search up- and out scaling potentials?
4. How do stakeholders characterize their interaction with institutional settings?
5. How relevant is EU level policy making in this interaction with institutional settings?

This report presents the interpretations of the researchers, and does not necessarily reflect the views and nuances of the initiatives and respondents themselves. In total there are nine separate 'local' level analysis reports from ten consortium members that have fed into this 'D6.4 Syntheses report on FNS pathway-specific drivers, potentials and vulnerabilities'.

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List of abbreviations

ARTEA	Regional Agency for Payments for Agriculture and regional fruit producers
BFI	Bia Food Initiative
CAP	Common Agricultural Policy
CFPC	Cork Food Policy Council
CSA	Community Supported Agriculture
DoW	Description of Work
DP	Design Principles
EU	European Commission
FEAD	Fund for European Aid to the Most Deprived
FNS	Food and nutrition security
HEP	Home Emergency Preparedness
ICT	Information and communication technology
MLP	Multi-Level Perspective
reDP	Re-design Principles

SDGs	Sustainable Development Goals
SFCN	Sustainable Food Cities Network
SPT	Social Practice Theory
TP	Transition Pathways
UFI	Urban Food Initiatives
VNV	Vereniging Nederlandse Voedselbanken
WP	Work Package

1. Introduction

Increasing levels of poverty, environmental degradation, resource scarcity and climate change, are indications that Europe's food system is severely stressed and under threat. Food insecurity, obesity, food poverty, increasing food miles and unhealthy food amongst others emerge as major issues. These are broadly shared as concerns. Many social actors (e.g. consumer groups, civil society movements, corporate groups, policy makers) are looking for ways to solve these, for now as well as in the future. It is widely acknowledged that solving these issues requires transformative change in food systems (Clapp 2016; Lang 2010; Van der Ploeg 2010). Besides addressing food and nutritional security (FNS) problems, food systems also provide opportunities to address other challenges such as environmental degradation and social injustice (Wiskerke 2015). Food system related challenges have long been subject to various national and global interventions, programmes and policies. These interventions have in common to be largely production and distribution oriented. It is widely recognized in the literature and in the policy making and practitioners circles that the range of policies and interventions emanating from these have not been able to fully address and solve the development and food related problems (Marsden 2013; Wright and Middendorf 2008). This Work Package sets out to argue that promising, robust practices unfolded over time at the 'local' level enacted by local actors that actively. These practices varyingly address FNS related issues and concerns. These practices are treated here as assemblages. This WP then is dedicated to exploring the diversity of the 'local' assemblages. A comparative analysis of these assemblages may provide insight in how food systems are purposively redesigned or reconfigured.

Our point of departure is that the food system cannot be understood as uniform. The food system is conceptualised as fragmented and constituted by various co-existing and interacting assemblages that represent diverse food practices. These assemblages are locally and place specific, shaped by divergent social values and norms, discourses, available resources as well as by the historical, social, cultural and political contexts. Some of these offer promising and innovative approaches to FNS. Interrogation of innovative FNS assemblages gives insights into how such place-based strategies are shaped and constructed and whether they provide viable alternatives to achieve FNS aims.

This WP6 synthesis report pretends to add to and complement other TRANSMANGO's methodological and analytical approaches; e.g. system thinking and fuzzy cognitive scenario modelling. The report synthesizes the range of 'local' FNS cases that have been identified and selected to unpack Europe's fragmented and heterogeneous food practices. The case studies are purposely selected to highlight the diversity in these food practices. They range from urban food policy initiatives to food assistance and are as such in different ways situated along the continuum of addressing 'entitlement issues' to 'self-reliance issues' and express 'alternative' configurations rather than well-known, main stream FNs solutions primarily driven by corporate interest groups and networks.

This report is composed as follows. Chapter 2 elaborates how overall sample of FNS cases has been conceptualised as assemblages. Section 2.2. explains the analytical shift

from 'pathways' to 'assemblages' in detail, whereas section 2.1. reiterates the selection of cases.

Chapter 3 explores these assemblages through the lens of designing and redesigning. Without profound theoretical aspirations we define re-design principles as alternative, to different degrees mature and promising *practice-led responses* to the manifold FNS problems and vulnerabilities that can be identified empirically as well as characterised and described at a certain level of abstraction. We distinguish and introduce in Chapter 3 three redesign principles: (1) *Re-enforcing food entitlements of traditional and newly emerging vulnerable groups; (2) Re-connecting sustainability and health; and (3) Re-linking food systems to foster urban-rural synergies.*

These re-design principles, we argue in Chapter 4, do not stand on their own and do not exist and evolve in a vacuum but might interact in different ways and to different degrees. This is not just theoretically but also empirically identifiable; the interactions amongst the re-design principles appear not to work out uniformly. The diverse nature of such interaction patterns demonstrates the place and space specificity of emerging FNS assemblages. Chapter 4 elaborates this place-specificity of ongoing practice-led FNS redesigning in detail by categorizing 4 clusters of assemblages that hinge on (1) Food assistance; (2) (Peri-) Urban Land-access movements; (3) Consumer-Citizen Commitment; and (4) Public Procurement & Preparedness.

Chapter 5 summarizes local scenario workshop findings by building on forecasting and back casting tools. As a particular component of overall WP6 methodology this chapter provides, as far as possible, a glance in the future and how and in which ways certain assemblages may evolve and develop.

Chapter 6 takes the analysis of assemblages and processes of assembling a step further by bringing on board two additional redesign principles that are firmly rooted in the FNS literature. A fourth redesign principle refers to the relevance of contemporary co-evolution of contrasting sustainability paradigms; A fifth takes the temporalities of FNS resilience building explicitly into account.

2. Methodological approach

In this section we explain the theoretical and practical rationale behind our multi-layer research methodology. First, we detail the methodological choices related to the 'local' TRANSMANGO case studies—that is, the conceptual underpinning, case selection, sampling, data collection, analysis, and reporting strategies employed by TRANSMANGO partners to develop their 'local' case studies. Secondly, we describe the approach used to analyse and synthesize the findings of 16 'local' European case studies.

2.1 Individual case-study methodology

The TRANSMANGO case studies represent multiple assemblages practices with varied food and nutrition (FNS) security outcomes. Together these practices represent a part of the broader national and European fragmented foodscapes. We conceptualized in the beginning a FNS practice or pathway as referring to new routines, new patterns of connecting and/or reconnecting FNS resources in new ways, leading to new routines and patterns (as well as new social relationships). To cover and explore the richness of the fragmented and heterogeneous nature of our contemporary foodscape, the TRANSMANGO local cases engaged with two FNS practices per partner country. This allowed a better theorisation and empirical underpinning of the fragmented European foodscape.

In this wider understanding of transition pathways we drew from Hargreaves and colleagues (2013) and their proposal to combine a Multi-level Perspective (MLP) with Social Practice Theory (SPT). In their theorizing, everyday practices are not regime specific and it is emphasized that social practices mostly cut across multiple regimes (e.g. the food regime, the transport regime, the energy regime, the policy regime, etcetera). Hence, innovations are perceived as 'regime-crossing systems of practice'. Particularly SPT underlines the relevance of these 'horizontal' relations of novel practices and complements as such the focus on hierarchical and 'vertical' relations by MLP. Thus, MLP and SPT are thought to address different units of analysis, with MLP primarily concerned with transitions in regimes and SPT mainly with transition in practices.

Guiding research questions

The cases were developed around concrete and locally relevant research questions inspired by the following set of overarching guiding enquiries:

1. To what extent, and how, do the selected FNS practices / pathways reflect novel responses to FNS concerns in specific settings?
2. To what extent are these novel practices / pathways promising and successful?
3. To what extent do involved stakeholders search up- and out scaling potentials?
4. How do stakeholders characterize their interaction with institutional settings?
5. How relevant is EU level policy making in this interaction with institutional settings?

The purpose of using this set of guiding research questions to inspire distinct 'local' questions was to facilitate the cross case analysis of overall case-study findings. In

addition to in depth insights in scope, promises, successes and upscale- and out scale potentials, these wider research question address the interaction and interwovenness with institutional settings, including EU-level policy making.

Research design

This research is qualitative in nature and a case study strategy was used for the exploration of FNS practices across the TRANSMANGO partner countries. In this section we detail case study selection, methods of data collection, analysis, and reporting.

Sampling

The selection of cases was carried out using a purposive sampling strategy. The selection below was therefore considered to be the most informative and aligned to the project goals. According to the description of work (DoW) the original task was to develop a set of 10 cases. However, in order to increase our coverage of the breadth of FNS concerns, as depicted in TRANSMANGO national media reports, we opted for eighteen cases. In order to successfully manage the workload implications of this choice, a distinction was made between principal and satellite cases, in which only the former involved additional data collection through scenario workshops. Furthermore, in some instances partners included cases that could partially build upon empirical material from earlier national or European research programs.

Table 1 contains the final selection of cases for each TRANSMANGO partner and the distinction between principle and satellite case. The overall set of case studies illustrates some of the European heterogeneity in FNS practices and transition pathways. At the same time we should note that this set covers predominantly 'counter movements' and more radical FNS transition pathways, whereas more incremental FNS transition pathways driven by corporate FNS actors (agri-business organisations, retailers, etc.) is underrepresented.

This preference for public- and civil-society led FNS transition pathways could be justified from different angles. Firstly, more technology- and corporate business driven pathways (e.g. sustainable intensification, functional foods, vertical farming, and etcetera) are relatively well represented in FNS scenario development and modelling. Secondly, our understanding of FNS practices draws explicit attention to the interrelations with hegemonic FNS practices, so, albeit indirectly, these will certainly appear in the case-study analysis. Thirdly, through the collection of local case studies we aim for deeper insights in 'bottom up' initiatives as potential FNS scenarios, including their diverging interrelations with imaginable EU level scenarios. Fourthly, in line with the governance section of TRANSMANGO's conceptual framework, a choice for primarily civil-society-led initiatives allows to interlink these with the issue of place-based (re-) allocation of responsibilities and entitlements between public, private and civil actors. Put differently, it enabled to approach place-based food governance as a crucial aspect of FNS practices.

Methods

A multi-method data collection strategy was used in the development of the case studies. This approach was aligned to our double aim of first, illustrating how the local level cases underpin the argument that FNS pathways together constitute the 'national' fragmented

foodscape. And second, through the cases we discuss whether and how the FNS practices/pathways that emerge through processes of reassembling stand for new approaches to address FNS. The TRANSMANGO cases used a combination of the following methods: 1) Analysis of secondary data-sources (literature, social media, etcetera); 2) interviews; 3) site-visits and on site participatory observation; and 4) questionnaires.

Table 1. Final selection of TRANSMANGO cases

	Principle Case	Satellite Case
Finland (Silvasti and Tikka 2016)	Home Emergency Preparedness	Public Catering Practices
Ireland (Carroll and O'Connor 2016)	Cork Food Policy Council	BIA Food Initiative
Italy (Arcuri et al. 2016)	Food Assistance in Tuscany	Land access in the metropolitan area of Rome
Belgium (Zwart et al. 2016)	Voedselteams (Consumer Purchasing Groups)	Community Supported Agriculture
Latvia (Grivins et al. 2016)	Healthy Food For Schoolgoers in Latvia	Small Farm Involvement in School Meal Provisioning in Tukums Region
Netherlands (Hebinck and Villarreal 2016)	Dutch Food Bank Practices	Urban Food Practices in the Netherlands
Spain (Cerrada-Serra et al. 2016)	New initiatives of peri-urban agriculture	Food and Nutrition Security in remote rural areas
UK (Moragues-Faus et al. 2016)	Sustainable Food Cities Network	Access to fruit and vegetables in the city
Tanzania (Mhamba 2016)	Urban School Food System	Lunch eaters in Dar es Salaam

In addition to these methods, the nine principal TRANSMANGO cases included additional data gathering through the development of scenario workshops. Through the scenario workshops the local case study researchers facilitated several system mapping and futures methods. Through these methods stakeholders articulated the perceived main drivers of change in the 'local' food system as well as the implications of different future scenarios on their initiative and the local food system.

Given the variety of case study themes and issues of data-availability and -accessibility, tailor-made case-study methodological approaches were paramount. Each team of local TRANSMANGO partners elaborated a methodological approach that addressed the relevant data-collection challenges of their case studies.

- Capturing pathway specific dynamics

- Illustration of pathway specific claims, expectations, hopes, impacts and successes
- Coverage of pathway specific stakeholder configurations and interaction patterns (public private and civil actors)
- Identification of pathway specific critical moments / milestones / breakthroughs / turning points / barriers
- Identification of FNS practices in line with aforementioned definition
- Delineation by more concrete set of research questions (in addition to the more general synthesis guiding research questions)
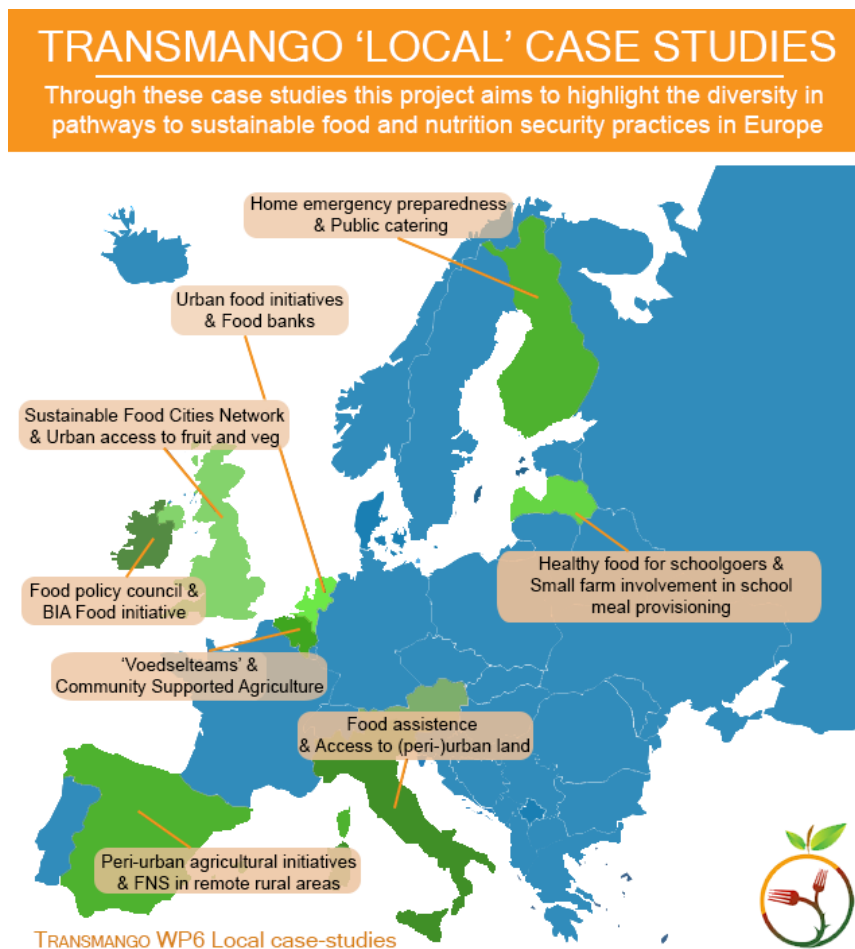

Figure 1 Map of TRANSMANGO case studies in EU

2.2. Case study analysis and overarching synthesis approach

The analysis of both principal and satellite cases was carried out by the local TRANSMANGO partners. The individual case study reports were subject to a peer review round coordinated by WP6 leader Wageningen University. After the case study reports

were reviewed and revised they were submitted to Wageningen for the overall synthesis analysis. The proposed synthesis design was presented in the TRANSMANGO project meeting in Riga (September 2016) and discussed in plenary to ensure consistency and synergy across the different elements of the project.

During the synthesis process we moved beyond the initial conceptual outline guiding the case studies — that is, the scholarly work on practice theory and transition pathways (see D6.1). There were several reasons. Firstly, establishing which FNS practices represent transition pathways raised relevant questions and contestations within the consortium. This can be illustrated by the debate that emerged on whether or not Food Bank initiatives could be perceived as practice-led transition or, conversely, should be better understood as expressions of lack of public policy responsibility and willingness to face and confront persistent food poverty problems and concerns throughout Europe – and therefore without any legitimate or substantial promise in terms of being transitory. These experiences extended our awareness of the normative component of identifying and selecting 'local' transition pathways and that a focus on alternative, non-routinized practices might hold serious contestation in terms of genuinely addressing systemic stress (Leach et al. 2010; Stirling 2014) and/or representing desirable societal change.

Secondly, during our collaborative WP6 project efforts, it was increasingly agreed upon that transformative capacity of FNS practices is impossible to assess in isolation, as exemplified by TRANSIT's understanding of transformative capacity.[1] In this conceptualization (societal) transformative capacity is the outcome of multi-grades of change with an analytical distinction between social innovation (which also covers our definition of FNS practices), systemic change, game changers and narratives of change (Avelino et al. 2014; Wittmayer et al. 2016). This need for wider conceptualisations to assess and compare the transformative capacity partly motivated broadening of our theoretical focus on practices and transition pathways.

A third reason refers to expectations regarding the manageability or governability of transition pathways. As underpinned from different angles and lenses in TRANSMANGO's overarching conceptual framework (see D2.1), contemporary FNS systems are characterized by complexity, contingency, uncertainty, and vulnerabilities. Therefore, in line with transition theory scholars that question the manageability of transition processes as sometimes assumed and suggested in the strategic niche management literature (Kemp et al. 1998; Raven et al. 2010; Schot and Geels 2008), we explicitly want to avoid overly naïve expectations in the malleability of FNS transitions.

These case-study experiences and accompanying methodological considerations made us decide to draw more explicitly on insights from assemblage theory to surpass unfruitful discussions on how exactly to understand and operationalize transformative capacity and transition processes. In other words, the WP6 cases are understood as assemblages and can be treated without necessarily attributing particular norms and values. Thinking along the lines of assemblage theory provided us a proper theoretical lens to unpack FNS practices as highly dynamic, temporal and fluid interrelations encompassing both the routinized and the novel, the dominant and the alternative, the shared and the

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[1] TRANSIT (Transformative Social Innovation Theory) is an EU-funded (FP7) research project focused on the development of a theory of transformative social innovation. For more information consult: http://www.transitsocialinnovation.eu/

contested, incidental and prolonged commitments, coalitions and partnerships, co-existing and competing ideas and discourses on sustainability, food security, food sovereignty, public health, public, private or civic policy responsibilities, and so on. Assemblage thinking assists us to go beyond thinking in linear and dichotomous categories such as 'good' and 'bad' practices. By exploring assemblages as constructed, driven and practiced by social actors we may escape that. Assemblages bring together not only an array of social actors (farmers, consumers, corporate businesses, policy makers, activists, scientists) but also their objectives, motivations and ideologies (profit, better food, more food efficiency, sustainability, waste prevention). The cases we studied assemble in their own way these diverse elements by forging the connections between them and to assign different sets of meaning to the constituting elements to create "a configuration that works" (Rip and Kemp 1998). Following Li (2007, p. 265) we define the practice of assembling as the 'grafting of new elements and reworking old ones; employing existing discourses to new ends'. They are composed of heterogeneous elements that may be human and non-human, organic and inorganic, technical and natural (Anderson and McFarlane 2011, p. 124). Assemblage theory is an also part of the paradigm shift in social sciences to attempt to go beyond the social per se and to include the material as an object of study and to explore how social actors engage the material. Transition Pathways (TP's) may be understood as assemblages, as practices of continuous reassembling of old and new ideas, as well as resources in many different ways. TP may thus be interpreted, and seen as part of processes of assemblage formation that generate 'new' practices.

To go a step further, we added and complemented the dynamism and fluidity of assemblage theory with the notion of (re)design principles, which are derived from diverse theoretical strands and FNS literature backgrounds. In this way we developed a more broadly acceptable, fruitful and helpful set of analytical tools to unravel, classify and characterize the practises and synthesise the overall case-study findings. The different FNS redesign principles not only cover the overall richness of the collected empirical material, but also enabled a first categorizing and representation of diversifying FNS concerns and practices throughout Europe (Chapter 3). This will be followed by an analytical focus that shifts towards wider assemblages of FNS redesigning with the principle intention to reveal the mutual interrelations, interdependencies, tensions and conflicts between different expressions of on-going meaningful practice-led FNS redesigning (Chapter 4). The WP6 case material enabled us to embed and enrich our understanding of FNS redesigning in the everyday context of the cases or assemblages. The analysis of the FNS assemblages clearly learned that FNS redesigning does not occur linearly and does not unfold in all cases and contexts in similar ways. Revealing the disparate nature of ReDP interrelations we compared the pairwise and threefold reDPs interrelations pairwise (sections 4.2 and 4.3). For this purpose we clustered the FNS assemblages. We identified 4 clusters: a) Food Entitlements; b) Citizen-Consumer commitments; c) Peri-urban land access movements; d) public procurement and preparedness. The clustering was done from the perspective that the cases might share to a fair degree common traits, but simultaneously are characterized by specific FNS (re)designing practices.

The fluidity of such assemblages has been further scrutinized by making local workshops part of overall case-study methodology (see D6.1). Through tailor made combinations of

back casting and fore-casting methods (see D3.2) the local workshops, covering the main case-study of each WP6 partner, revealed, among others, stakeholder translations, interpretations, expectations, hopes, concerns and strategic responses to diverse European FNS scenario's (see D4.3). The specificity of these local workshop approaches, findings and outcomes has been reported in detail elsewhere (see D6.3). In this wider case-study synthesis we focus on following three questions: 1) what types of new ideas emerged throughout the workshops? 2) what are the foreseen implications of the local scenarios for public policy and wider institutional settings that stakeholders identify? and 3) what kind of strategic responses might this induce? Namely, questions about how to progress, which roles should public policy bodies take on in different futures, and how to strategically deal with their accompanying opportunities and barriers.

Although the synthesis of the workshop outcomes certainly contains indications for how practice-led FNS redesigning could evolve under different conditions, it is important to stress that it is free from foresight aspirations. As part of this complementary exploring of imaginable futures, these findings primarily aim to unravel some of their place specificities and to contribute positively to collaborative, inclusive and reflective FNS governance. Partly also motivated by anticipated governance recommendation of TRANSMANGO's WP7, the last section of this synthesis analysis will be dedicated to the significance of overall case-study findings in relation to future FNS governance. For that we will introduce and build upon the notion of boundary spanning as a crucial element of promising FNS governance (Chapter 6).

3. FNS redesign principles

Critical food systems analysists[2] (Clapp 2016; Lang 2010; Lang and Barling 2012; McMichael 2013; Van der Ploeg 2010, 2016) point out that dramatic changes at the level of food systems have occurred roughly since the 1960's. These changes have gradually shaped our food system to one whose emergent properties are such that it increasingly experiences systemic shocks and stresses from which it hardly recovers, in turn enforcing existing vulnerabilities as well as producing new vulnerabilities. The global food riots as a consequence of the food price hikes but also food poverty, food related diseases and food quality issues, particularly during the 2008 food crises, are expressions of this. The transformations that have taken place in the last 50 years and the global nature of the food problematic, raises serious questions about the manageability of the food system and whether and how the current food system can be fixed and re-designed such that these stresses and shocks reduce in size and intensity. The idea and promise that a technological fix can and will save in sustainable ways the world from hunger is pervasive in academic, policy and corporate investment discourse. Technical engineering has emerged as a major solution oriented discourse. A major driver and consequence of such technological or productionist discourse (Marsden 2003) is the agro-industrialisation and globalisation of the food systems (Van der Ploeg 2016). The claim that stresses and shocks can be solved through management and creating positive and productive policy environments is severely questioned in the literature as well as by the food sovereignty social movements. A major element in the critique on contemporary food systems is that solutions are predominantly framed as technical. Such technical framing reduces and narrows the scope to address FNS problems largely to technological engineering only. This stimulated public and corporate investments in food engineering in laboratories and experimental sites. While solutions for food problems are located in sites dominated by corporate interests, alternative spaces or sites of action that situated outside the framing of the classic technical fix are ignored and overlooked. The 'local' TRANSMANGO WP6 case studies cover some of these alternative spaces where other discourses emerged that aim in one or the other way to address some of the pertinent globalising FNS issues. These spaces are actively constructed in varying ways and by various actor configurations driven by a range of ideologies and motivations.

Synthesising the experiences of these spaces is the subject of this synthesis report. Three major problems are addressed in and through these spaces and actor configurations. These are summarised first after which we attempt to elaborate three major avenues or design strategies and principles along which FNS issues are tackled by the cases.

1) *Vulnerable groups in society lose their entitlement to food.* No money or work no food and only depending on charity. Sen (1981) has identified 4 major entitlements to food: through production, trade, transfers, labour. When one or all of these erode, food insecurity and poverty can occur even in conditions of plenty (See also Devereux and Maxwell 2001). Processes of globalisation and neo-liberalisation of the economy evoking particular hotspots of change (incl. loss of entitlements) produce food and nutritional

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[2] see also Geoff Tansey's website: http://www.foodsystemsacademy.org.uk

inequalities across the globe; not just along the North-South divide (Dowler 2008). Globalisation has turned food insecurity and food poverty into a worldwide phenomenon.

2) *Health and sustainability are increasingly disconnected.* The on-going industrialisation of food not just transformed the ecological food print, but also affected the quality of food. Food and food quality is increasingly industrialised: food is processed, is packed and canned, transported. One major implication is that food quality is largely defined by globalising corporate interests as well as by food science. Moreover, the industrialisation of food entails an ever growing distancing from nature making the food system more vulnerable to shocks such as price hikes for energy, transport and processing. Food health and the sustainability of the global food system is jeopardized by processes of agro-industrialisation. Due to the agro-industrialisation and mass-production of food, food has never before been so cheap; yet the quality is increasingly being questioned. Food increasingly has become a commodity challenging the rights and entitlements to food by global citizens.

3) *Disconnecting food production and consumption.* Over the last century, but especially since the 1960s, agri-food systems have been progressively disconnected from the constituting elements on which they had become solidly grounded through long historical processes. Natural resources have been increasingly replaced by artificial growth factors. Nature more broadly, and seeds and animals in particular, are increasingly being subjected to massive modification; these modifications serve to make these natural resources fit into dramatically re-defined (and materially industrialized) forms of primary production. This also applies to the processing, storage and distribution of food. In the process, the rural and the urban have become increasingly disconnected; globalisation is becoming the mainstream driver of development connecting places in particular ways: *the production of food has increasingly become disconnected from the sites of consumption.* This has substantially increased the food miles of the daily food, created to social and cultural distance between sites of production and those of consumption as a result of which the origin of food is increasingly unknown. The combined effect of agro-industrialisation and globalising food systems is the emergence of a squeeze of agriculture (Marsden 2003). The 'squeeze' stands for the narrowing gap between product value and costs, which threatens the sustainability and continuity of the agricultural sector, farm enterprises and the future of farmers' families (Van der Ploeg 2010). The economic sustainability of smallholder, family farming is at stake; new or young farmers find it difficult to enter the agriculture sectors. The squeeze in turn increases the option for a further corporatisation of the agricultural sector which only seeks to enlarge the scale of agricultural operations and creating a further distance between consumption/consumers and production/producers.

3.1. Redesigning food systems

The question now is whether and how food systems can – and are -being redesigned to address the problems and phenomenon that are shortly elaborated above. TRANSMANGO was designed with a view to identify alternative scenarios that take local practices on board. The route we take in this synthesis is that some of the (expected and unexpected outcomes and) aspects of food systems transformations are being tackled by ongoing

FNS practices as we are particularly focussing by practice-led FNS. The critical works on the idea of planned change from the previous century (See Long 2001 for a summary of the argument) teach us that a word of caution and reflexivity is required. Some analysts would argue that food systems only change through action and social struggle, forcing the system to adapt. Win-win situations hardly occur and if they do they are often temporal and hardly long lasting. At this point in time, we distilled from the critical analysis of food systems and our TRANSMANGO case study sample the following practice-led redesign principles:

ReDP 1.   Re-enforcing food entitlements of traditional and newly emerging vulnerable groups

ReDP 2.   Re-connecting sustainability and health

ReDP 3.   Re-linking food systems that foster urban-rural synergies

These three redesign principles are in varying degrees reflected in the TRANSMANGO main and satellite cases. Below we will elaborate shortly on those cases which represent most strongly these principles (see table 2). The cases are taken to be specific social configurations that are varyingly constituted and held together by the wish and drive to address food and nutritional security concerns in various places and spaces of Europe, spanning the urban and the rural as well as sites of consumption and production. In addition, motivations like charity, morality and efficiency and societal and sustainability concerns characterise activities and in turn legitimize their continuity. A key aspect that flows from the redesign principles and the practices manifested in the cases is agency and the degree to which agency is employed by the key actors of the FNS practices. The redesign principles finesse questions of agency (who initiates, what and who holds the configuration together, motivations, etc.). The literature refers to these actors as brokers or active citizens (Baud and Nainan 2008; Cornwall 2002; Koster 2014; Leach et al. 2012). Policy brokers help to mediate between initiatives and the various tiers of government. They make and break the configuration(s) to work on and to achieve the publicly narrated objectives of the need to redesign the current food system.

3.1.1. Re-enforcing food entitlements of traditional and newly emerging vulnerable groups

A number of cases address particularly vulnerable groups' entitlements to food. This goes for the case of Dutch food banks, the Irish food redistribution network and food assistance initiatives like those in Tuscany. These cases show per excellence the dimensions of dealing with eroded food entitlements. Their ability to reinforce entitlements are partly centred on the policy and charity driven criteria that define those that can access food banks and/or receive food aid in other ways. These entitlement criteria are an essential element in their on-going redesigning practices.

The issue of food entitlements might appear rather differently in other cases. In addition and interestingly, the case of FNS in remote areas in Spain identifies that private entrepreneurship and not just food assistance can address the problem of access to food: As food demands among vulnerable groups in remote areas rose, traveling food vendors reinforce food entitlements by improving access to quality food. Moreover we also see how food entitlements might be addressed by focussing on access to land resources.

Cases such as the peri-urban agriculture initiatives in Spain and urban land-access in Rome show that production related entitlements to food might be also a strategy to improve FNS. The focus here lies on strengthening the position of smallholder farmers and improve access to quality food. Or alternatively, the case of Home Emergency Preparedness in Finland shows how specific attention might be paid to the ability of citizens to be self-sufficient in case of emergencies as more temporary manifestations of diminishing entitlements to food.

Especially in times when neo-liberal policy frameworks dominate, entrepreneurs and 'third sector' are encouraged to solve food insecurity problems and as such entitlement issues. In accordance with neo-policy frameworks, the state is expected to play only a minor role, demanding increased interaction between state, market and third sector. The enforcement of food entitlements often largely hinge on individuals who are professional volunteers (e.g. retirees acting as brokers) that legitimize spending their time on grounds of charity, but increasingly professionalise operations. This is certainly the case in the food assistance field, although there is some variation between and within the cases as to widening the network to include other actors in this field: For instance, some of the food banks in the Netherlands specifically aim to collaborate with urban food projects driven by social movements; while others in the Netherlands remain to have a focus on the corporate food sector. With the variation in extending relationships beyond the original food bank configuration, new discourses emerged in the FNS spaces that food banks occupy. The original corporate focus on preventing food waste combined with charity and professionalism exists next to a more social engineering discourse.

3.1.2. Re-connecting food system sustainability and health

Disturbed interrelations between public health and food system sustainability is an important driver for redesign in the cases that revolve around food procurement, school feeding and place-based food policy design. Food quality concerns drive many initiatives to rethink what food is and what quality is or should be. A predominant characteristic of initiatives in the domain of food procurement via schools or via city based networks is the prevention or struggle with obesity and malnutrition on the one hand, and poor food quality and quantity on the other. In such spaces re-design of health and sustainability involves substantial interactions with the lower tiers of government. But in some cases, as seen in both Belgian cases, consumers take matter in their own hands, through shortening of the supply chain.

Common to the school feeding projects in Latvia and Dar es Salaam and the Flemish consumer-initiative Voedselteams is an emphasis on providing 'good' and healthy food; food qualifying as healthy according to food and human nutrition sciences. Provisioning or procurement of balanced, fresh and nutritional food to school children does not only serve to feed children better and healthier, but also to provide small farmers a market; an outlet for their food. As such, school feeding programmes emerge to create win-win situations for consumers and producers. In practice this manifests in rather different ways and more or less convincingly, as will be illustrated further in chapter four. The consumer initiative Voedselteams also has a specific and strong focus on sustainable and healthy diets as these goals are part of their main focus. Nonetheless this is not uniform among members: they attribute varying levels of importance to sustainability and healthy diets and they can participate for diverse reasons.

Also at the level of policy-practice interventions, there is increasing attention for themes around health and sustainability. The Dutch Urban Food Initiatives, Cork Food Policy Council in Ireland and Sustainable Food City Network in the UK are all attempts to address food quality issues through networking and knowledge dissemination. They share an aim to develop coherent policies at the regional or urban level. These revolve around partnerships between representatives of the community, food sector actors, education, academics, environmental and health sectors, and local authorities. Common in these cases is a 'yes we can' attitude: Good, healthy and nutritious food can be produced and be made available to urban residents. What is needed is a supportive policy framework that further shape on-going practice-led initiatives into configurations that work.

3.3.3. Re-linking food systems to foster urban-rural synergies

A third problem tackled in the cases is the disconnection of sites of production and consumption of food. Re-establishing links between consumers and producers between the urban and rural domain addresses a combination of critical aspects in the current food system. Closing these gaps between sites of consumption and production and between the urban and the rural is a major driver for many FNS actors, as most explicitly visible in our Roman and Valencian cases.

Creating or stimulating new food producer-consumer linkages creates opportunities for new markets and above all shorter market chains, reducing in turn food miles and bringing sites of consumption and production closer to each other. This has certain promises when it comes to societal benefits, such as social cohesion and improved FNS. The Roman cases revolves around establishing urban-agriculture by providing new urban farmers with land and creating direct market channels. Similarly is done in the case of new agriculture initiatives in Valencia, but with an emphasis on attempting to establish collaboration and cooperation among initiatives as is predominantly lacking. In both of these cases social struggle for land and market is an important element in the establishment of agricultural initiatives; institutional embeddedness has been minor but is recently strongly improved since a new regional government is in place.

Fostering of urban-rural synergies is also done within the school feeding programme in Latvia – as it aims to increase small farmer procurement – and to some degree in the Finnish public procurement case. However their potential to connect production and consumption is debateable, considering so far these cases have not had much success. Especially in the case of public procurement in Finland and less so in the case of school feeding in Latvia, it revolves primarily around a different configuration of actors, notably entrepreneurs (e.g. caterers). Common in the cases is that the relinking or reconnecting of food systems produces different and new food- and landscapes with various novel options for the production of added value at the level of the production site.

The Voedselteams and Community Supported Agriculture cases in Flanders specifically aim to re-connect production and consumption through active involvement of consumers in the design of the food provisioning system. This can take the shape of among others sharing risks and through self-harvesting in the case of CSA. In the case of Voedselteams, responsibilities are shared through the active involvement of consumers in the logistics and distribution of food. The extent of consumer involvement tends to vary as practices are differently shaped within the initiatives. Both models are most successful

in urban and peri-urban areas; farmers in remote rural areas seem less successful in connecting directly with the urban and consumers.

Table 2. Representation of redesign principles in the case-study sample

Cases	ReDP 1 Re-enforcing Food Entitlements of traditional and newly emerging vulnerable groups	ReDP2 Re-connecting food system sustainability and public health	ReDP3 Re-linking food systems that foster urban-rural synergies
Dutch Food Banks	Strongly Addressed		
Food Assistance in Tuscany	Strongly Addressed		
Bia Food Initiative in Ireland	Strongly Addressed		
FNS in remote rural areas in Spain	Strongly Addressed		
Dutch Urban Food Initiatives		Strongly Addressed	
Cork Food Policy Council		Strongly Addressed	
Sustainable Food Cities Network UK		Strongly Addressed	
Community Supported Agriculture in Belgium			Strongly Addressed
Voedselteams in Belgium		Strongly Addressed	
Access to fruit and vegetables in the city in the UK			
Land access in the metropolitan area of Rome			Strongly Addressed
New initiatives of peri-urban agriculture in Valencia			Strongly Addressed
Public Catering in Finland			
Home emergency preparedness Finland	Strongly Addressed		
Healthy food for schoolgoers in Latvia		Strongly Addressed	
Small farm involvement in school meal provisioning in Latvia			Strongly Addressed

4. FNS redesigning as assembling processes

4.1. Introduction

In the foregoing section we introduced three overarching FNS redesign principles and depicted the multiple and diverse ways in which these are represented throughout the case-study sample. In this second step of the synthesis we concentrate on the extent to which these three re-design principles are interrelated and interwoven, and whether and how they strengthen each other. We found it less productive to assess and compare re-design principles in isolation; in fact we argue that their interrelatedness is of major importance to get insights in their actual and potential contribution to alleviating and mitigating multifaceted societal FNS concerns. This has been done by a stepwise approach, starting with a pairwise analysis of interrelations.

4.2. Pairwise relations between FNS redesign principles

The analysis starts with a pairwise comparison of interrelations. The findings represent cases in which one design principle (DP) is followed or pursued in direct conjunction with another one, or through another one. The 16 European case-studies have been indicatively classified according to their characteristics with the objective to get better insights in the mutual interlinkages between the three redesign principles (ReDPs) in terms of strength, nature, tensions, conflicts, etc. The first pairwise classification is summarized in Table 3.

Table 3. Pairwise interrelations between FNS redesign principles

	ReDP2 *Re-connecting food system sustainability and public health*	ReDP3 *Re-linking food systems that foster urban-rural synergies*
ReDP1. *Re-enforcing Food Entitlements of vulnerable groups*	• Bia Food Initiative Ireland • Dutch food banks • Small farm involvement in school meal provisioning in Latvia • Voedselteams in Flanders • CSA in Belgium • Land access in the metropolitan area of Rome • Access to fruit and vegetables in the city in the UK	• Sustainable Food Cities Network in the UK • Access to land in Rome • Healthy food for school-goers in Latvia • Public procurement in Finland
ReDP2. *Re-connecting food system sustainability and public health*		• Land access in the metropolitan area of Rome • New initiatives of peri-urban agriculture in Valencia • CSA in Belgium • Voedselteams in Flanders • Access to fruit and vegetables in the city in the UK • Small farm involvement in school meal provisioning in Latvia

It is important to notice that this classification primarily aims to give a first impression of the presence of these interrelations without a priori claims regarding their nature or strength. Table 3 shows that ReDP1–ReDP2 interrelations can be frequently witnessed. The nature of interrelations, however, might differ significantly. Sometimes these are

clearly mutual re-enforcing and promising interaction can be detected. However, such positive relations are neither linear nor common across the various cases, as the ReDPs do not always feature in similar ways, tend to gather and trigger actors in different ways and to generate diverse narratives with more or less outspoken synergies, tensions or conflicts between the three redesign principles.

ReDP1. Re-enforcing food entitlements of vulnerable groups	↔	*ReDP2*. Re-connecting food system sustainability and public health

Active attempts to create reinforcing interactions appear prominently in the Irish "Bia Food initiative", by its incorporation of food entitlement rights in its wider efforts to come to more sustainable and healthy food systems, alleviating the environmental burden of food waste and tangible contributions to reducing carbon emissions. In other cases the same interrelations might appear as fields of attention and points of concern. For example, in the view of the key actors of the Food banks activities in Tuscany, food assistance is not only a matter of providing food and calories to the beneficiaries. For them it is not only a matter of recovery of food surplus (which otherwise would probably turn into waste) for social purposes. Food assistance also provides a chance to supporting recipients in managing budgets correctly (as it happens in the Emporia of Solidarity when purchasing cards are distributed). Strengthen social cohesion and solidarity are important ingredients of its on-going redesign.

Other, more problematic interrelations appear in the Dutch Food Bank case. This might be related to concerns around the nutritional value of the food packages, but also to emerging trade-offs between increased efficiency of the food system (with reduced environmental impact) and future sourcing viability of food assistance programs. Sustainable-oriented developments in the food sector put the food sourcing scheme of the food banks under pressure, as they actually rely on food waste. The Dutch Food Bank report argues that, "the amount of sourced food is already insufficient and the amount of clients is expected to grow, these sustainability efforts in the food industry could turn out to be problematic for the amount of food the VNV can source" (Hebinck and Villarreal 2016, p. 38). The same tension between reducing excess food production and recovery of food for social purposes emerged in the Tuscany case: when retailers decided to sell fresh, about to expire food at lower prices to standard consumers. These retailers decided to compensate the reduction in their food donations to charities with monetary donations.

The difficulty to provide healthy food to those in need appears in the Italian and the Dutch initiatives. Both express explicit concerns regarding the nutritional value of foods donated. One of the critical points relates to the involvement of food industry donors. These often want a reassurance that their food surpluses are handled safely, so their brand name is not affected in case of food safety risk. In Italy this problem has been tackled through the "Good Samaritan Law", which transfers the liability from the charitable actor to the final consumer. In Ireland protocols have been implemented to protect recipient charitable organizations from liability in the case of food safety failures.

The Irish Bia Food Initiative makes no explicit distinction between donations of healthy or unhealthy foods. Somewhat different from food bank and foot assistance initiatives, BFI neither engages in rhetoric around food poverty, which is tackled at the level of more local initiatives. In fact the Irish initiative serves an intermediary logistical function without the direct interaction with food aid end-receivers typical for e.g. the Food Bank in Italy. The Dutch NVVB focusses particularly on reducing food waste to increase system efficiency, as also expressed by a national covenant with the food industry to channel food surpluses to those in need. This goes along with new ways to revalorize 'food waste' and to process peak-surplus food.

Incidentally food assistance is being combined with food education and healthy behaviours. The Emporia circuit, e.g. organizes sessions once recipients are introduced in circuit and tries to encourage people who access Emporia to diversify their food choices by covering different food categories (e.g. staples, meat and dairy, fruits and vegetables) to achieve a more balanced diet. This re-enforcing of food entitlements in parallel with reconnecting sustainable and healthy behaviours, however, turns out to be all but simple. Mostly the absolute priority seems to be on "filling stomachs" without much attention for health and sustainability issues, as if there was a "hierarchical relation" between ReDP1 and ReDP2. The Latvian case of school meals provisioning by smallholding farming brings smallholder farmers and school goers together as two, albeit it rather different, manifestations of FNS vulnerable groups. Its on-going attempts to transform the school food program from a welfare system for the poor into a tool with wider societal objectives goes along with different types of ReDP frictions, to which we will return in section 4.3.

Smallholder farmers as FNS vulnerable groups appear also in the two Belgian cases: the purchasing groups organized by the Voedselteams and the CSA initiative. They both provide opportunity for small farmers to sell their product through channels protected vis-à-vis the mainstream market forces. Therefore, the interrelations between food entitlements, sustainability and health issues in these cases are primarily depending on establishing direct consumer-producer relations with particularly a prominent role for consumers.

Another expression of positive interrelations between food entitlements, healthy diets and sustainability concerns appear in the Italian land access case. Once public land access to young unemployed people is provided, they can start their business and eventually make a living thanks to urban demand for healthy food. The choice made, by almost all these new farmers in favour of organic production and short chains, strengthens the link between their capability to provide a decent income and consumers' attention for healthy and sustainable food habits.

The community food co-ops project described in the Welsh case study combine a focus on the promotion of healthy diets with attention for deprived areas, the poor and migrants. Yet, regarding its promotion of healthy diets, it notices a low concern for food localness and seasonality, as well as certain confusion on what "seasonal food" actually means in a global market and as such an "apparent disinterest in the provenance of food amongst co-op volunteers and customers" (Moragues-Faus et al. 2016, p. 12). As such it also highlights the diffuse and disparate interrelations between food entitlements, healthy diets and wider sustainability concerns in on-going FNS practices.

Tensions between ReDP1 and ReDP2 also appear in the public catering practices described in Finland. These aim to promote sustainable and healthy eating habits. However an important component of these practices, the worksite catering, does not reach all the potentially vulnerable people, as working class people tend to be without catering services. This unequal access to the service is even more discriminating if we considered that on average lunch eaten in working site canteens tends to better match nutrition recommendation vis-à-vis the food consumer at home or elsewhere. It could be argued that ReDP2-related concerns tend to prevail over ReDP1 ones.

Similar tensions can be witnessed in the Latvian case of healthy food for school goers. Its delivery of free meals for students up to a certain age (or according to familiar income) clashes according to some stakeholders with the possibility to improve food quality and healthiness. In the last years the quality standards expected to be observed have raised, but the sum paid by the government for each food remained the same. Eating healthy and sustainable food would be an educational opportunity for students in the sense of getting familiar with "virtuous" consumption patterns in everyday life. However, this need to ensure high quality meals to students is contested in the public debate. School administrations and parents organizations sometimes argue that school core mission is not food education but academic knowledge only.

The interaction between ReDP1 and ReDP2 appears in the Roman land access movement for peri-urban agriculture in another way. The Roman activists and young (or would-be) farmers expressed two complementary visions of their role as urban farmers. Some stress that the battle for land access should be part of a wider political change in the use of land for social purposes, including the issue of food poverty in the city. Addressing traditional and new poverty situations and new vulnerabilities is, in this view, the cornerstone of urban farming once land access has been achieved. Other young farmers, aim primarily at providing high quality and "zero miles" food, promoting a transition towards healthier and sustainable diets among customers and urban dwellers. It shows that ReDP1-ReDP2 relations seems to be approaches in different ways. Stakeholders might emphasize the need for broader definitions of food-entitlement rights for specific vulnerable groups, including access to land resources in urban settings, whereas others primarily underscore its potential benefits in terms of urban accessibility to fresh, high quality food.

Similar attempts to combine sustainability and health concerns with a broadening of food-entitlement definitions are at the core of the Flemish *Voedselteams*. This case is primarily led by consumers that decide to actively engage in establishing direct relations with food producers. As such *Voedselteams* members are expected to invest in more time-consuming food purchasing and preparation activities. These expectations reflect a specific vision of what a healthy and sustainable food provisioning should be. The critical point here is: whether the *Voedselteam* approach enhance the accessibility to healthy and sustainable food and in that way re-enforce food entitlements for large amounts of consumers, or does it reach only most committed consumers?

Finally, attention for the interaction between ReDP1 and ReDP2 interact is also visible in the Finnish home preparedness program. In this case food entitlement concerns particularly address people vulnerable to systemic shocks, including poor with little resources to buy food stocks that prepare for possible emergencies. On-going shift

towards a wider preparedness strategy, less based on stocks and more on training and skills as positive assets, shows how ReDP2 is increasingly used as a trigger to engage disadvantaged groups in home preparedness activities. It permits to better align the program objectives with contemporary consumer concerns and lifestyles, although this turns out to be accompanied with less committed food industry actors in terms of keeping certain amounts of basic foodstuff stocks to guarantee national food supply over the crises.

ReDP1. *Re-enforcing food entitlements of vulnerable groups*	↔	**ReDP3**. *Re-linking food systems that foster urban rural-synergies*

ReDP1–ReDP3 relations address food entitlements of FNS vulnerable groups as part of urban-rural interaction patterns. Obviously, these relations get especially (but certainly not exclusively!) attention within the case-studies that are located in the urban and peri-urban areas. The relation between food entitlements and rural-urban interdependencies, for instance, is getting an increased attention within the Sustainable Food Cities networks in the UK. As a wide-ranging multi-stakeholder initiative it actively promotes food system adaptations that will ensure food access for all. Yet, in its concrete attempts to strengthen regional food supply networks through re-establishing direct connections between urban centres and the surrounding countryside programmes and activities change from city to city. With some urban centres being actively promoting these changes in their agenda (e.g. Stockport) while others prioritise other activities such as holiday hunger programmes (e.g. Cardiff).

Another urban-led example concerns the access to land movement in Rome. On-going attempts of young unemployed people to make a living through peri-urban agriculture is to a large extent based on a reconnection of urban consumers with food production and the urban hinterland. They see the diffusion of small farming not only as a patchwork of single business initiatives, but also as a step in the creation of a network of farming and environmental presidia, visible and accessible by urban consumers. The activists (particularly but not exclusively the so-called "rurals") promote the idea of urban and peri-urban farms as outposts of and icons for more accessible and inclusive land management models. Thus, an empowerment of the economically and socially marginalised people living in (peri-) urban outskirts that is supported by new farming opportunities. Better employment opportunities, local provision of affordable fresh quality food through direct selling, organisation of social events at the neighbourhood level, all are considered to be crucial elements to empower and re-enforce the food entitlements for disadvantaged groups (young farmers included).

In the peri-urban Huerta of Valencia case, this empowerment is primarily associated with regional food sovereignty. Food sovereignty, as emphasized by stakeholders engaged in small farming and short food chains, is about the ability to decide on how to produce and consume food, reversing a trend of gradual decline of local agricultural system and the weakening of the territory's role in terms of providing meeting spaces for food production and consumption. Through a rather diverse set of new agricultural initiatives it is attempt to reconnect these meeting spaces, with alternative, multifunctional farm-development pathways and other manifestations of rural-urban synergies as principle driving forces

and attention fields. Similarly, also the infrastructure created by the Food Coops in Cardiff and its hinterland fights against the risk of rural and urban "food deserts" with highly limited options to purchase fresh and healthy food. It improves communities food choices, as another element of food-entitlements, in this particular case primarily triggered by urban consumers in social environments where these initiatives can develop.

ReDP1-ReDP3 are in other cases less clearly identifiable. For instance, the Home Preparedness Program in Finland presents two solutions (i.e., ensuring the presence of adequate stocks in each household, or improving conservation and cooking skills) which focus on food consumption and utilization. The strengthening of local food networks and urban-rural relationship do not attract explicit attention.

The same goes for the food provisioning dynamics in the remote rural villages of the Spanish Chistau valley. A part for self-consumption, villages dwellers dependent on nearby cities to purchase their food, which leaves disadvantaged people (elders, those who cannot drive for any reason) in need of fresh daily food sources. Travelling retailers meet this need by bringing food to the villages. Hence, it could be argued that these travelling retailers reconnect urban-rural spaces. Yet, their impact in terms of urban-rural synergies, that is mutual beneficial urban-rural relations, is in this case less convincingly present and visible.

The previous shows that ReDP1-ReDP3 relations might take rather diverse forms in practice. The risk that urban-led initiatives might go along with spatial urban-rural justice issues has been explicitly noticed in the UK report It states that the strengthening of food entitlements for urban vulnerable groups may potentially lead to the disregarding of rural needs and criticalities and refers to the development of a food corridor in the city of Liverpool as a positive signal of urban-rural reconnection. Urban-led initiatives which go along with clear ReDP1-ReDP3 might be illustrated by the Markthal in Rotterdam. This covered market place expected to create new opportunities for rural-urban synergies. Yet, such mutual beneficial relations between urban and rural actors were frustrated by the high rents and service costs typical of trendy urban premises made regional fresh food vendors decide to leave the floor to more "stylish" restaurants with food assortments that had little or none relations with Rotterdam's surrounding rural areas.

Similar feeble ReDP1-ReDP3 connections are traceable in the food assistance cases. These primarily urban-actors led initiatives show predominantly little explicit attention for the issue of urban-rural synergies". However some tendencies towards a re-localization of food assistance activities is evidenced in the Tuscany and Dutch cases as other emerging properties of changing urban-rural relations. In the Tuscany region third sector and institutional actors increasingly start to foster direct involvement of regional farmers in food donations. Conversely, als regional farmers (e.g. "Ti Coltivo" practice) might actively search for connections with charitable activities. As fragile connections, these represent interesting experiments in need for more supportive governance arrangements.

ReDP2. *Re-connecting food system sustainability and public health*	↔	**ReDP3.** *Re-linking food systems that foster rural-urban synergies*

Explicit attention for ReDP2- ReDP3 interaction appears again in various cases, particularly those most clearly related to place-based food policy initiatives. The Irish CFPC, for instance, opposes global food supply chains that increasingly distantiate consumers from their food's origins. Alternatively, the CFPC-initiative proposes to combine and integrate as much as possible local food production and diversification with improved access to healthy food and stronger food educational efforts. Thus, an integrated food policy that valorises local food traditions in the Cork area, which re-links health and sustainability concerns through a spatial re-connection between Cork and its rural areas. A same focus on establishing strong ReDP-ReDP3 relations can be witnessed in UK's SFCN case, albeit perhaps with a somewhat less outspoken attention and preference for the spatial proximity of urban-rural relations.

Similar renewed attentions for the prospects of re-localizing urban-rural relations appear—albeit to varying degrees—in the Spanish case of peri-urban agriculture in Valencia, the Welsh food cooperatives and Cardiff's box schemes, smallholder provisioning of school meals in Latvian, UK farmers' marketing strategies based on box schemes, as well as Belgium's CSA and Voedselteams. All foresee and claim to promote healthier diets by making (peri-) urban consumers aware of their environment, including culturally valued traditional rural landscapes. For instance, the peri-urban Valencian farmers see their vegetable shops as a sort of "ambassadors of the Huerta", with visible links between urban dwellers and local producers that will raise consumer awareness through selling local produce.

Blaencamel, a farm-based short chain active in Wales, aims to "reconnect" people with native vegetables and local agriculture, amongst others through schools visits, and to promote healthier and more sustainable diets. Also Roman's land access movement's intentions to adopt and promote organic food production methods and green practices is strongly inspired by its associated with healthy and sustainable food consumption, or, at least, the objective to increase consumers' awareness about these issues. Yet, other UK box schemes turn out to be primarily centred on efficient supply of organic food qualities, which shows that ReDP2-REDP3 relations can differentiate significantly between apparently rather similar practices

Again, it reveals that ReDP relations are not straightforward or univocally. This can be further illustrated by Latvian attempts to involve regional farmers in public and green procurement practices. Its initial intention to re-connect sustainability and health by involving local smallholder farmers in school and worksite canteens turned out to be difficult to put in practice. Different types of problems appeared with regard to the provisioning of expected volumes of produce, ability to meet bureaucratic obligations, etcetera. Moreover, the Latvian experiences further show that internal competition within farmers communities might also impede and frustrate smallholders opportunities to respond more actively to public procurement initiatives as specific ways to strengthen their linkages with nearby urban consumers. Similarly, also other less influential and powerful actors like parents organizations, municipalities, school boards might remain underrepresented vis-à-vis ministries, professional organizations, agri-industrial entrepreneurs, etcetera. The Latvian satellite case describes this range of limitations and barriers in great detail. As a possible way forward it proposes to organize schools visits to smallholder farms and to make consumers more aware of the benefits of local food

consumption. Similarly, also attempts to involve smallholder farming in public catering, that appear in the Huerta of Valencia and the Finnish public catering initiatives, are still facing serious problems. Both promote reforms and plans of action to encourage local farmers' engagement in these initiatives and to improve their capacity to meet quality and quantity standards. In the Valencian region this also involves experiments with collective and participatory forms of organic certification to enlarge regional farmers access to public procurement programs.

Such difficulties to interlink with regional smallholder farming are illustrative for sometimes rather ambiguous ReDP2-ReDP3 relations in our overall case-study sample. Put differently, re-linking health and sustainability is more or less actively pursued by spatially re-connecting urban and rural areas and food might not always by definition deemed to be healthier or more sustainable if produced locally or regionally. This ambiguities also appear in some short chain initiatives. The issue of localness, for instance, is clearly subject of internal discussions in the Belgium Voedelteams. Its participants partly want to maintain the local character of buying groups as a vehicle to support local rural economies, whereas others opinion that extra-regional or even foreign products should be possible to attract larger amounts of customers, which often might be not as committed as the Voedsel teams pioneers. Similar pleas for 'conventionalisation' do also appear in relation to needed efforts for home processing.

The assumed benefits of localness are certainly also subject of debate among participants of the Cardiff Food Coops. It turns out that their volunteers and customers interest in food origin and food miles is not always as strong as perhaps expected. The same can be said with regard to the idea of seasonality, with a certain degree of confusion noticed over the difference between generally "being in season" and being a truly British or Welsh seasonal produce. One volunteer argued "it is a myth that people want local food". According to case-study researchers "a telling, albeit extreme illustration of an apparent disinterest in the provenance of food amongst co-op volunteers and customers" (Moragues-Faus et al. 2016, p. 12). The different visions on adequate food packaging covering issues as healthiness, environmentally friendliness and communication of food provenience, confirm in another way that consumers interest in supporting local rural production and economies is not always dominantly present. These observations are being followed by the recommendations that "policy interventions around local food should consider how quality and particularly the concept of local food is constructed by people with low food budgets" (p.40); including a more critical assessment and communication to the public about why local food should be promoted.

4.3. Threefold interrelations in FNS redesigning

A next step in the analysis concerned the threefold interrelations between our reDP's. All TRANSMANGO case-study teams where requested to classify the representation of the three reDPs in their own cases along the continuum 'strongly-weakly addressed'. That is: an indicative attempt to complement the previous pairwise analysis, revealing the disparate nature of ReDP interrelations in overall case-study material with some indications of the threefold ReDPs interrelations. These are by their very nature even more difficult to grasp, unravel, and classify. Again, table 4 aims to give some impression

of the strength of these interrelations, which will be subsequently explained in more detail below by introducing diversifying clusters of practice-led FNS redesigning.

The distinction and characterization of these clusters makes it possible to further illustrate the complexity and specificity of the interrelations between different expressions of meaningful practice-led FNS redesigning.

Table 4. Threefold interrelations between FNS redesign principles

Clusters	Case	ReDP 1 Re-enforcing Food Entitlements of traditional and newly emerging vulnerable groups	ReDP2 Re-connecting food system sustainability and public health	ReDP3 Re-linking food systems that foster urban-rural synergies
1.Food Entitlements	Dutch Food Banks	*Strongly Addressed*	*Weakly Addressed*	*Weakly Addressed*
	Food Assistance in Tuscany	*Strongly Addressed*	*Addressed*	*Weakly Addressed*
	Bia Food Initiative in Ireland	*Strongly Addressed*	*Weakly Addressed*	*Weakly Addressed*
	FNS in remote rural areas in Spain	*Strongly Addressed*	*Weakly Addressed*	*Weakly Addressed*
2. Citizen-Consumer Commitment	Dutch Urban Food Initiatives	*Weakly Addressed*	*Strongly Addressed*	*Addressed*
	Cork Food Policy Council	*Addressed*	*Strongly Addressed*	*Addressed*
	Sustainable Food Cities Network UK	*Addressed*	*Strongly Addressed*	*Addressed*
	Community Supported Agriculture in Belgium	*Addressed*	*Strongly Addressed*	*Addressed*
	Voedselteams in Belgium	*Addressed (production entitlements)*	*Strongly Addressed*	*Addressed*
	Fresh fruit and vegetable access in the city the UK	*Addressed (production entitlements)*	*Addressed, albeit to different degrees*	*Addressed, albeit to different degrees*
3. Peri-Urban Land Access Movements	Land access in the metropolitan area of Rome	*Addressed (production entitlements)*	*Addressed*	*Strongly Addressed*
	New initiatives of peri-urban agriculture in Valencia	*Addressed (production entitlements)*	*Addressed*	*Strongly Addressed*
4. Public Procurement & Preparedness	Public Catering in Finland	*Addressed*	*Addressed*	*Weakly Addressed*
	Healthy food for school-goers in Latvia	*Addressed*	*Strongly Addressed*	*Weakly Addressed*
	Small farm involvement in school meal provisioning in Latvia	*Addressed (production entitlements)*	*Weakly Addressed*	*Strongly Addressed*
	Home emergency preparedness Finland	*Addressed*	*Addressed*	*Addressed*

4.3.1. Cluster 1: Food Entitlements

This first cluster is represented by 1) *Dutch Food Bank Practices*; 2) *Food Assistance in Tuscany*; 3) *Bia Food Initiative,* and 4) *FNS in remote rural areas in Spain* (Table 4). Food poverty alleviation practices in relatively high income countries are characterized by policy settings dominated and shaped by a relatively prolonged period of neo-liberalism, prolonged periods of public austerity measures, growth in structural unemployment, and in consequence a deepening of social fragmentation and marginalisation. This is partly reinforced by the emergence of new vulnerable groups such as labour and refugee migrants. In these settings food assistance practices turn out to depend primarily on voluntary and charity sectors. These practices are particularly interwoven with food waste initiatives (i.e., in a range of context specific ways), as we will demonstrate with the following short case insights. They also showcase different degrees of and attention for re- connecting sustainability and health concerns in other ways. Finally, we observe active attempts to contribute to fostering urban-rural relations, as illustrated by following (further) case-study characterization.

Dutch Food Bank Practices (Hebinck and Villarreal 2016)

Food Banks in the Netherlands depend on volunteers as guiding actors in food assistance practices. It was primarily active citizens who voluntarily took the initiative to respond to public policy negligence of growing food poverty concerns. They created Food Banks mainly, but not exclusively, in larger and mid-sized urban centres. These individual Food Banks have rather diverse characteristics in terms of political profiling and ambitions, food poverty selection approaches, origin of financial support, etcetera. Their national association (VNV; Vereniging Nederlandse Voedselbanken) interlinks food assistance primarily with food waste management by establishing close retailers and food manufacturers. Its implementation of a logistical system for the re-distribution of collected food surplus aims to align as much as possible with individual Food Bank needs and preferences. Additionally, it develops projects for the processing of surplus food to extend possible periods of use of most perishable products and to better deal with peak surplus flows. Yet, this dependence on surplus food makes national Food Bank's contribution to healthy diets questionable and subject of debate. It might be one of the drivers for local Food Banks to look increasingly for complementary alternatives in the sense of more healthy food sourcing opportunities, including establishing relations with different kinds of urban food initiatives (see also 4.3.2.).

Food Assistance in Tuscany (Arcuri et al. 2016)

The unravelling of Food Assistance practices in Tuscany is for various reasons more complex than the Dutch Food Bank case. With a long and strong tradition of charity bodies, these food assistance practices encompass a more diverse set of initiatives, practices and actors. An important component of these diverse practices was the implementation of the so-called Good Samaritan Law in 2003. This law was enacted by the state in order to shift the responsibility of food safety during the stages of conservation, transportation, and storage to charitable organizations, which simplifies donation procedures for private firms. Since that law was introduced, different types of assistance developed, ranging from the traditional 'soup kitchens or canteen'—including variants of smaller scale with high orientation towards social interaction—to the 'Emporia

of solidarity' supermarkets. Access to these small supermarket-like shops is controlled. There people can do their shopping for free. Payment is done through an electronic card which is has been pre-loaded with a certain number of points in accordance to the needs of the individual. Beneficiaries of these free-supermarkets include the 'new poor', selected through means tests by public Counselling Centres, which cover various economic, social and medical criteria with the ambition to provide a safety net for those individuals and families who find themselves into a temporary state of need. Different from the Dutch and Irish food assistance settings (see above and below), the Emporia in Tuscany provide also fresh produce (i.e., fruits and vegetables) thanks to formal and informal arrangements with ARTEA, the Regional Agency for Payments for Agriculture and regional fruit producers. ARTEA financially compensates regional fruit and vegetable producers for surplus production that may be delivered to Caritas. The Emporia of solidarity might further complement their fresh food assortment by purchasing at food markets. Additionally these may offer a range of non-food related services (e.g. social loans, microcredit services, family budget courses, Italian language courses, cooking classes, etcetera).

Bia Food Initiative (Carroll and O'Connor 2016)

The Irish Bia Food Initiative (BFI) is a food redistribution charity operating as an intermediary between food companies and charities which serve disadvantaged communities. As a social enterprise, BFI cooperates closely with retailers (especially Tesco) in optimizing the logistics of food waste redistribution. Of the approximately 50,000 tonnes of recoverable Irish food waste per year, BFI aims to redistribute 10,000 tonnes. The use of technology and online services are key in their operations and also allow for a more tailored distribution of foods as food banks can 'request' foods available in the warehouse. BFI recently won the contract to administer Irelands' wedge of the Fund for European Aid to the Most Deprived (FEAD). However, to qualify for this BFI had to branch out and establish operations in other cities. Although this was done successfully, it has left BFI financially over-extended in the short term. A more recent development and connection to BFI is Food Cloud, a mobile phone app that facilitates surplus food redistribution directly from supermarkets. The Food Cloud initiative was selected as finalist at a national competition for social enterprises. Similar to the Dutch and Italian food assistance setting, BFI does not discriminate between healthy and unhealthy food when accepting donations. Rather its focus is on the environmental burden of food waste—avoiding active engagement in the rhetoric of food poverty.

FNS in remote rural areas in Spain (Cerrada-Serra et al. 2016)

FNS is a key theme for remote small mountain villages. This case studies the area of Chistau Valley where after the 1960s the population decreased by more than half. Now the small villages — inhabited by an increasingly aging population — access food through a combination of self-production, trips to the supermarkets located in larger towns in the valley, and traveling food retailers. The food provisioning practices vary depending on the household profile but there is a significant use of traveling retailers (60-70% for a large family with young members). This case shows that particularly for elderly, less mobile people, travelling retailers play a rather prominent role in their FNS. These travelling retailers comprise larger regional operating food enterprises focusing on food

provisioning in remote mountainous areas. Consumers as well as traveling retailers stress their flexibility in relation to food procurement (i.e., fluctuation of fresh and frozen food). Traveling retailers underline that, in addition to commercial interests, the social role as providers of community services influences the continuity in their practices. Until now the supply model is profitable, however in the future, as the population continues to decline, policy action might be required to ensure FNS outcomes in such localities. This case illustrates the role of the market in operationally contributing to food entitlements of vulnerable groups (e.g. aging population with limited mobility).

The brief description of these case studies reveals some of the ways in which combining food assistance with wider sustainability-health issues and/or active redesign of urban-rural synergies can be problematic. As admitted and stressed by some food assistance practitioners, their initiatives often cannot afford to be critical in terms of nutritional value or food origin. Therefore, food assistance practices are primarily entangled with (or even competing with) food waste reduction initiatives as major contribution to sustainability. Incidentally, as illustrated by the Dutch Food Banks, interlinkages might be established with urban food initiatives to complement available assortments with some fresh produce. The Italian 'Emporia of Solidarity' system seems to have a frontrunner position in this respect. More than the Dutch and Irish food assistance initiatives it succeeds to mobilize surplus provisioning originating from regional producers of fresh fruit and vegetables, which is backed up by CAP related institutional support. With its attempts to develop more tailor-made approaches that acknowledge the diversity in (temporary) food poverty needs of individuals and families, as well as efforts to interlink food assistance more directly with social assistance, Emporia of Solidarity demonstrates how food assistance practices throughout Europe might address the multifaceted nature of FNS in more integrative ways. For other on-going initiatives it is still much more difficult to come to similar positive, mutually re-enforcing interrelations between our three practice-led (re-)design principles.

4.3.2. Cluster 2: Consumer-Citizen Commitment

This third cluster involves the following cases: 1) Dutch Urban Food Initiatives; 2) Cork Food Policy Council; 3) Sustainable Food Cities Network Wales; 4) Community Supported Agriculture in Belgium and 5) Voedselteams also in Belgium. This set of cases is characterized by settings with relatively high incomes, prominently present urbanisation processes, active environmental and food movements (addressing food safety and different types of quality concerns regarding the negative externalities of agri-industrial farming), and neo-liberal and fragmented food policies. In short, settings where active consumer-citizen commitment has increasingly become a regular feature, albeit expressed in different ways. And where processes of change in foodscapes and on-going practice-led FNS redesign are on-going. Again, the specificities of this third assemblage will start with a brief description of relevant cases.

Dutch Urban Food Initiatives (Hebinck and Villarreal 2016)

In the Netherlands we find, for the most part, early-life cycle urban food initiatives (UFI). However, the city of Rotterdam — whose port is an important hub for globalized food supply chains — has a relatively longer history of UFIs (the result of specific historical, cultural, and urban planning features). In contrast, Eindhoven, the birthplace of Phillips

and a high-tech centre in the Netherlands, is characterized by a novel and strongly fragmented UFI landscape. We observe a growing interest in, and commitment to, food issues on the part of Dutch citizen-consumers and the cases show how these place-specificities are expressed in UFI dynamics. This growing interest may be assembled, to varying degrees, with national spatial concentration of negative externalities of strongly industrialised and globalized food provisioning systems. The study of urban food initiatives in Rotterdam and Eindhoven showcases a plethora of urban responses to sustainability, public health, and wider urban quality of life concerns. These responses are approached from rather diverse angles and sustainability perspectives. Urban agriculture — an increasingly common practice and one where consumption and production intersect — is embedded in competing discourses and agendas (i.e., footloose/globalized food systems driven by high-tech solutions, as well as the re-localization of key food supply chains driven by social and technical innovation and mediated by the local landscape) which represents vulnerability in the food movement.

Cork Food Policy Council (Carroll and O'Connor 2016)

Cork City has a reputation as 'Rebel County' in Ireland, which in relation to FNS is associated with a strongly present tradition of 'do it yourself', a spatial clustering of organic farms, a disproportionally high number of small-scale artisanal food producers, and a significant number of non-national food producers. It also hosts a monthly lecture series, film screenings and flash/street feasts. As the alternative food capital of Ireland it further locates a covered English Market and some key personalities for championing high quality local food. Its current position as a foodie hub is further reflected in the Cork Food Policy Council (CFPC) that consists primarily of volunteer food system experts coming from varied backgrounds, such as academics, grocers, food processors, farmers, gardeners, restaurateurs, and so on. Their main objective is to advocate a food system that is more sustainable, healthy and socially just. One element explicitly mentioned is to not get "bogged down with academic discourse" (Carrol and O'Connor 2016, p. 17) and instead search for social engagement as a way to advocate for a food system change. Until now the CFPC has only received ad hoc funding, one of their main challenges, which they attempt to address by raising funds at the supra-national level. At the municipal level there are often competing claims for funding, which increases the financial pressure on the CFPC. A fruitful connection is made with the Sustainable Food Cities Network in the UK (see below) and they hope to make further international connections to strengthen their activities and impact. The activities organised by the CFPC include the construction of planting boxes with citizens, and weekly maintenance and care for plants in the neighbourhood.

Sustainable Food Cities Network in the UK (Moragues-Faus et al. 2016)

This case focuses on the cooperation within the rapidly expanding Sustainable Food Cities Network (SFCN) in the UK. The SFCN, was initiated by the Soil Association, Sustain and Food Matters. These three national civil society organisations promoted the creation of multi-stakeholder partnerships at the city level. The 47 SFCN members work to advance healthy and sustainable food in their localities. The main focus of the network is on networking and knowledge dissemination practices of key food challenges, as well as practical solutions and best practices. Through a SFCN website information, knowledge

and experiences are shared and communicated on how to develop charters, partnerships, action plans, etcetera. Currently the main activities of the network are: 1) providing a communication platform; 2) organizing networking events and campaigns; 3) sharing of experiences and training and 4) the funding of six Sustainable Food City Officers, selected by a national tender system that challenged City administrations to elaborate novel and promising urban food strategies. The Sustainable Food Cities Award is just one illustration of how SFCN thrives to tapping of locus of power within cities and to work on the scaling upon, consolidating and establishing of urban food strategies as novel contributors to and proponents of FNS. While food security is not part of the cities or network's jargon the SFCN (and individual cities) does enhance FNS outcomes—particularly access, utilization, and sustainability dimensions. Within the range of activities carried out by SFCN, there is strong emphasis on health. Health and sustainability are placed at the centre of the networks advice for cities' food efforts and policies. Another visible impact is the reinforcement of food entitlements (reduction of food poverty as framed by the network) of vulnerable groups. The SFCN network also engages with the promotion of better governance practices in order to affect change at the structural level, which complements their work on alleviating expressions of food insecurity. The network is involved with a number of activities that seek to re-connect food production and consumption, however the explicit goal of (re)activating and supporting rural-urban interlinkages and synergies is less present.

Community Supported Agriculture and Voedselteams in Belgium

The case reviews two expressions of Community-led FNS practices in Belgium that while having specific backgrounds share a focus on co-creation and co-learning by means of new ways of food production, distribution and consumption. As part of Belgium's alternative food movement, both initiatives intend to re-shape conventional market functions as 1) buying and selling; 2) storing; 3) transportation; 4) processing; 5) standardization; 6) financing; 7) risk bearing and marketing intelligence. The empirical material shows how this re-shaping of market functions contributes to different degrees in overcoming FNS concerns, although with variations between environmental, social, ethical, and health related aspects as in practice these might be valued rather differently between involved stakeholders. As such Flemish Voedselteams and CSA initiatives exemplify how the emergence of food related social enterprises might entail promises but continue to be simultaneously surrounded by all kinds of challenges. (Zwart et al. 2016)

These case descriptions underpin how FNS redesign practices might be increasingly driven by the commitment, action, expectations, intentions, ambitions, and hopes, of citizen consumers who wish to contribute positively to FNS concerns. As such this third cluster's distinctiveness resides particularly in consumer-led initiatives around the re-connection of sustainability and health. Both Belgian cases demonstrate how citizen-consumer commitment is associated with, on the one hand, sustainable production methods as prerequisite for healthy food consumption, as well as establishing close and direct relations with local smallholder food producers. Dutch Urban Food Initiatives exemplify a plethora of attempts to re-connect sustainability and health concerns by urban actors in their direct environments. The Cork Food Council and especially the Sustainable Food City Network in the UK, show how urban administrations are looking for more proactive roles as change agents with regard to a more integrative and place-based

FNS governance. Still predominantly with the help of food and sustainability movements, but increasingly also with active contributions of corporate and social enterprises. As already mentioned before, these newly emerging urban multi-actor constellations do take food poverty alleviation more or less explicitly into account. In Dutch urban food initiatives, for instance, this remains more at the background than in both UK cases, as part of on-going upscaling and institutional embeddedness. Similarly, we observe that in the two Belgian consumer-led initiatives the issue of food poverty remains largely absent in terms of organisational attention. As a whole, therefore, this set of cases underpins particularly the complexity to restore and/or move forwards towards a place-based integration of our three practice-led redesign principles.

4.3.3. Cluster 3: (Peri-) Urban Land-access movements

This cluster is particularly represented by the 1) *Land access of the Metropolitan area of Rome,* and 2) *New initiatives of peri-urban agriculture in Valencia* cases. These two metropolitan areas are known for their relatively high levels of urban and youth unemployment—a legacy of economic crises. This only partly explains the emerging of urban environmental movements, building in part on younger people - some of them are university graduates - with would-be farmers ambitions. The presence of (semi-)abandoned land resources and/or roots which are still connected to rural life-styles are elements found in an cluster that is primarily characterized by social struggle. This struggle is mostly about access to land in urban and rural areas and much less—certainly in comparison to previous cluster — volunteer and charity sectors. Other typical features may by derived from following brief case-descriptions.

Land access in the Metropolitan area of Rome (Grando et al. 2016)

The 'Eternal City', Rome passed two land access acts (Decree of Liberations and Decree Terre Vive) in the last decade. Although primarily motivated by economic drives, these acts opened up new opportunities for young farmers; they signalled a growing policy awareness of generational rejuvenation of relatively large amounts of publicly owned underused land resources. The presence of these underused land resources partly reflect the Roman municipal masterplan, which prohibits construction in environmental sensitive areas under the condition that compensation areas are provided elsewhere for building companies with construction claims on these land resources. As a consequence, in Rome there are large areas with only residual agricultural activities where landowners are primarily waiting for urbanisation permission. In this publicly owned green space diverse urban food initiatives can be witnessed. These include larger ones by means of new cooperatives initiated by young farmers that successfully applied for formal land entitlements in various tender systems. The dynamics within this would-be farmer movement with (peri-)urban roots demonstrates how land-access, to be understood in part as an expression of production oriented re-enforcement of food entitlements, might be imbued with social struggle by (and within) these newly emerging urban food movements. As shown in the Roman case, social struggle might go along with internally and externally contested claims on how urban land entitlement interventions benefiting young aspiring farmers may contribute to FNS in the Roman metropolitan area.

New initiatives of peri-urban agriculture in Valencia (Cerrada-Serra et al. 2016)

The peri-urban area of the Valencian metropole is characterized by the natural historical region of the Huerta, which comprises complex and unique eco-systems that go back to medieval Muslim irrigation systems (acequias). The Huerta faces several confluent processes that may threaten its future: a decrease of cultivated land, pollution, infrastructural plans, urban sprawl, abandoning of material heritage, etcetera. In the last decade, a proliferation of new agricultural initiatives has emerged in the region. Within this development a prominent place for political struggle in relation to land access by particularly younger inhabitants has been observed. There are no formal collective actors that responding to the needs of these new initiatives, even though the actors themselves are well aware of those needs. However, bilateral informal support relationships are frequently found between them (especially with those farmers who are just starting out). There has been greater formalization of collective action achieved in the case of the local Participatory Guarantee System. The assemblage concerns in this case a diverse group of elements in terms of urban versus rural roots, availability of idle land resources owned by family-members, familiarity with traditional farming practices, as well as available market channels. We also see ideas about sustainable food production and FNS that are strongly inspired by agro-ecology and engagement in political and organisational struggles to preserve and re-valorize the unique Huerta eco-system.

Both cases demonstrate how practice-led FNS redesigning might also hinge on social and political struggle to get access to scarce land resources. To justify social claims of underused or abandoned land-resources, urban young movements aim to re-enforce rural-urban relations and interdependencies by drawing on agri-ecologically inspired principles as well as food production rights (as a crucial component of food entitlements). Both urban-led land-access movements in Valencia and Rome claim that stronger rural-urban relations will positively contribute to healthy dietary behaviour and the wider sustaining of food systems and urban life styles. Thus, this is a cluster of practice-led FNS-redesign rooted in comparatively (to the previous cluster) stronger outspoken claims of integrative FNS and societal transformation. Illustrated by its current manifestation in Roman and Valencian peri-urban settings we also find political struggle and self-reliance as 'leitmotifs', an assemblage of actors, resources, institutional (dis-) embeddedness, as well as narratives of change that seem to still rather vulnerable in terms of putting ideas into practice.

4.3.4. Cluster 4: Public Procurement & Preparedness

This fourth cluster is especially represented by the following cases: 1) *Public Catering in Finland*; 2) *Healthy Food for School-goers in Latvia*; 3) *Small Farmer Involvement in School Meal Provisioning in Latvia*; and 4) *Home Emergency Preparedness in Finland*. Thus, Northern European Member States that share a longer history of active food market interventions and relatively strong food import dependencies. This set of cases shows assemblages that are strongly interwoven with and dependent on institutional practices, including specific translations and implementations of recently introduced EU regulations on public procurement. As shown below, in these specific settings actors interested in public procurement might be motivated by different types of FNS concerns and rather different expectations on how public procurement may alleviate these concerns, with, among others, a role for the Russian economic boycott as one of the

intervention triggers in Latvia. Different from the previous clusters, this goes along with a more diffuse pictures in terms of most prominently explored FNS (re)design principles (see Table 4).

Public Catering Finland (Silvasti and Tikka 2016)

Having a longer tradition of school meals, working canteens, and other expressions of public procurement; Finland is characterized by a relatively strong belief and confidence in–as well as experience with, the positive impacts of public procurement on public health on different FNS vulnerable groups (such as pupils, students, lower-income groups, and elderly). More recently a growing number of attempts can be witnessed to interlink public procurement more directly and explicitly also to wider sustainability issues and local economies. Three main practices are highlighted: procurement, food redistribution and health & nutrition education. Due to lack of policy coherence, especially procurement and education are often contested. Case study findings demonstrate that these attempts raise various problems; particularly with respect to how to incorporate elements of food-origin and–therefore– the preservation of smallholder farming into the societal benefits of public procurement. Lastly, promises of public procurement to improve access to food for vulnerable groups are theoretical; currently it targets mostly members of the the working population but also school goers and pensioners.

Small Farmer Involvement in School Meal Provisioning in Latvia (Grivins et al. 2016)

Similarly to Finland, also in Latvia the provisioning of school meals has been traditionally driven by food poverty and public health concerns. Since the new EU regulations for public procurement opened new opportunities to include wider FNS concerns in the provisioning of school food, the definition and delineation of additional food quality criteria have become subject of severe debate among involved public and private stakeholders. National agri-industrial sectoral interests approaches public procurement as an interesting opportunity to create more 'nested' markets, partly also as a reaction to the negative consequences of the Russian Boycott. Yet, this does not reflect or imply serious interests in distinctive food quality in terms of localness or moving beyond prevailing environmental regulations. It was observed that while the 'local' requirement could potentially benefit local small farmers, in practice the procurement process favours larger or collectively organized farmers, as well as wholesalers, over small farmers as it is technically complex, out of sync with the timing of the farmer, and offers no possibility of long term planning. Further, health is an important heading for the municipality and is a vehicle for linking local farmers as suppliers of healthy food for school-goers. It frustrates stakeholders that want to guide national implementation of the new European public food procurement regulations much more to FNS concerns as nutritional value, taste and freshness of school food provisioning and the preservation of smallholder farming in Latvia.

Healthy Food for School-goers in Latvia (Grivins et al. 2016)

The second Latvian case explores the interrelations between the agents that together are responsible for making healthy food available to school-goers in Latvia, and focusses on the negotiations between the local and individual levels, the impact of school meals, and enabling or disabling factors. Again, as in the previous described cases, the potential to

address health and nutritional status of school-goers through school feeding are the main driver in this case. In this case there is also a clear element of enforcing entitlements, as it allows for low-income school-goers to enjoy education. The actors responsible for school feeding work under three policies, that also correspond broadly to the vulnerability dimensions of FNS: Procurement (availability), free meals (accessibility), and food quality (utilization). Challenging is that these are all led by different actors, meaning that school meals have become an arena for contestation, contradictory interests and continuously evolving regulations. Nevertheless, all three policies show signs of trade-offs and a certain level of openness, giving space for improvisation when it comes to the actual school meal provisioning, the external control and negotiations on special arrangements with the municipality.

Home Emergency Preparedness in Finland (Silvasti and Tikka 2016)

It's focus on Home Emergency Preparedness (HEP) as a FNS concern makes the principle Finnish case at first sight a bit of a strange duck in overall case-study sample. Yet, this case builds upon a long history of institutional attention for home emergency preparedness, which is closely interwoven with Finnish geopolitical specificities and interrelated FNS vulnerabilities as a relatively strong dependence on food imports. More recently this institutional interest in home-preparedness is increasingly also motivated by potential hazards in relation to climate change. By definition Home Emergency Preparedness addresses and intends to improve consumer awareness of and resilience to FNS disruptive incidents. As suggested by this case, it may require increasingly tailor made approaches, especially in relation to engaging younger generations, but also most vulnerable FNS groups may be difficult to reach and involve in traditional communication and information campaigns. It is one of the reasons why HEP campaigns are looking for opportunities to interlink with broader FNS related learning and educational activities, targeting both rural and urban actors.

This more diffuse picture of practice-led FNS (re)design interrelations in this fourth cluster may be partly explained by differences in time horizons of involved practices, to which we will return in depth in Chapter 6. Particularly the Finnish experiences reveal that public procurement in (school) canteens may induce positive public health impacts, although they are not always easy to assess and – therefore – subject to political debate and contestation. This somewhat controversial nature partly explains the still rather cautious attempts to deepen current interrelations between public procurement and wider sustainability concerns by strengthening local provisioning by smallholder farming. The Latvian cases, in their turn, show how the implementation of EU regulations for public procurement, in setting where this public procurement has particularly strong roots in food poverty alleviation, might be increasingly 'expropriated' by agro-industrial interests going along with little serious attempts to re-connect sustainability and public health or to foster rural-urban synergies. The second Latvian case sheds light on the diverse nature of the mechanisms that impede and frustrate smallholder involvement in Latvian public procurement practices. Finally, the Finnish Home Emergency Preparedness shows how policy-led public awareness raising around food provisioning hazards and disturbances might be rather difficult to realize without accompanying longer-term FNS educational activities and enactment facilitation (see also Chapter 6).

4.4. In Conclusion

The FNS redesign principles introduced in Chapter 3 turn out be part of wider processes of FNS redesigning, which may be understood as the place and case-specific interrelations, both in terms of nature as well as strength of the mutual interrelations between different expressions of on-going FNS redesign.

The cluster based analysis showed that practice-led FNS redesigning is highly place-specific in terms of leading actors, resource mobilisation, linkages with wider narratives of change, institutional settings, FNS interpretations, -thoughts, -debates, -disputes, etc. Consequently, its integrative and transformative capacity cannot be isolated from these place specificities.

FNS redesigning is in specific ways interwoven with social movements. Sometimes these movements are strongly oriented at social struggle, other times these are primarily seeking for negotiated FNS solutions, as further will be illustrated in next Chapter, where the focus of the analysis shifts towards the outcomes of the foresight and back casting exercises that took place during the local workshops as part of wider WP6 methodology.

In Chapter 6 we will return to the governance features of practice-led FNS redesigning by introducing two complementary redesign principles: *re-balancing socio-technical engineering* and *re-thinking resilience building*. Primarily with the intention to further elaborate on how FNS practices are being accompanied by 1) more or less outspoken, substantial and successful attempts to modify prevailing socio-technological relations and dependencies and 2) to deal with different temporalities in FNS resilience-building.

5. Dialoguing with Futures

5.1. Introduction

As already briefly mentioned in Chapter 2, the WP6 case-study methodology included the development of scenario workshops in which several system mapping and foresight tools were employed as part of overall TRANSMANGO's ambition to apply, combine and integrate multiple theories and methods with the intention to capture and understand as much as possible complex FNS dynamics (see Figure 2).
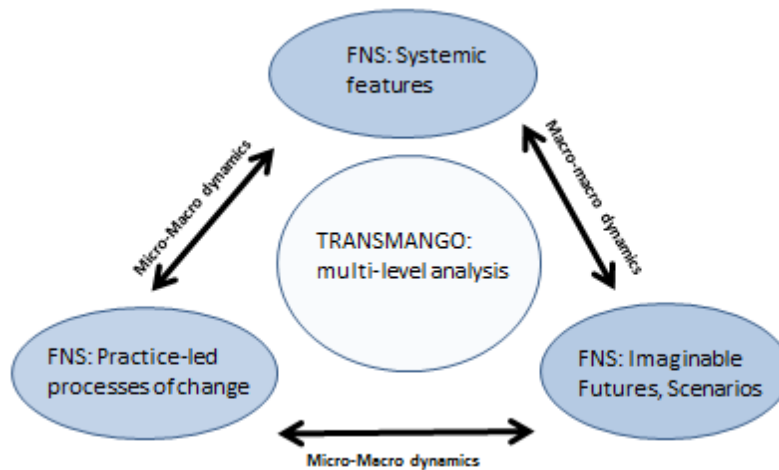

Figure 2 TRANSMANGO's multiple theories and methods

During the local workshop sessions stakeholders were able to first, articulate what they perceived to be drivers of change in the 'local' food system; second, stakeholders tested their existing plans or strategies against different future scenarios; and finally, they were able to reformulate their strategies through visioning and back-casting exercises. As presented in detail in D6.2, this offered a range of opportunities to 'investigate' the future as ideas and plans that stakeholders have about the future(s) of their initiatives, which will partly co-determine present activities. Customizing foresight tools to the specific interest and agendas of case-study actors enabled us to get an impression of how practice-led FNS redesigning might develop under different futures and in specific places. Table 5 gives some impression of this place-specificity by presenting how local scenarios were named by workshop participants during their back- and fore-casting exercises.

The synthesis of the local workshop findings was guided by three key questions. In this fifth Chapter we will present some of the insights drawn from the workshops with a focus on following issues: 1) new ideas that emerged around the imagining of different futures; 2) thoughts about policy and wider institutional impacts of these futures; and 3) potential strategic responses to these futures in relation to contemporary FNS practices, plans, and preferences.

First, we present a general picture of the main findings derived from the synthesizing questions. This will be followed by some additional discussion on how these generic

outcomes relate to FNS redesigning as outlined in Chapter 4 to complement our analysis with insights on stakeholders' perceptions on the future prospects, continuity and fluidity of their on-going practices.

Table 5. Local scenarios per case study[3]

Country	Scenario I	Scenario II	Scenario III
Belgium Voedselteams	The clean health dictate (Het cleane gezondheidsdictaat)	The United States of Flanders (De Verenigde staten van Vlaanderen)	Everything under control (A.O.C. Alles Onder Controle)
Italy (1) Land access in Rome	Esclaves & Enclaves	Power of the earth/land/soil	-
Italy (2) Food Assistance in Tuscany	Tuscany in 3D	It Could Be Better	Solidarity in Half
United Kingdom Sustainable Food Cities network	Wales Wails	It's Wales, Dai, but not as we know it!	Preserving Wales
The Netherlands Urban Food initiatives	Greenport Eindhoven	Fata morgana	From Doom to Bloom
Finland Emergency Home Preparedness	Protein-innovative Finland	Back to the Rural Future	-
Latvia School meals	Victory of Apathy	Local efficiency	Rural development
Ireland Cork Food Policy Council	Business as Usual	Grey Autarky	Slow Progress
Spain New peri-urban agricultural initiatives	And so on and so forth (Suma y sigue)	The Robot Huerta (La Huerta robot)	Forced & transforming de-growth (Decrecimiento forzado y transformador)

5.2. General Findings

Question 1: What new types of ideas, or new elaboration of existing ideas about the initiative typically emerged from the visioning and back-casting activities (or equivalent strategies used in the process)?

A very common theme in the local foresight processes is that in many cases, the diverse actors relevant to a local initiative or challenge had not previously been involved in shared planning processes. The need for more integrated action from a food systems perspective was recognized among these groups, and concrete proposals for new multi-stakeholder action platforms were made, especially in cases where an organizing initiative was not the main focus. In cases that featured a specific initiative as a main

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[3] In the Italian Food Assistance case the workshop resulted in the identification of a fourth '*Do I want to go to live in the countryside?*' local scenario.

focus, plans were made to integrate new stakeholders into the initiative in question. In many cases, plans were also made to connect local cases more to wider social innovation networks and relevant partners. Plans for greater coherence and coordination also included the establishment of local quality brands, and data needs, such as a survey of available land for activities. The coherence theme also included the establishment of neighborhood or local hubs for collaborative action, learning, food distribution, materials, etcetera. Another theme that was identified across a number of cases was the need to integrate education and training across demographic groups into stakeholder initiatives.

In general, case study partners used systemic ideas like the food systems perspective or circular economy in their plans, where these ideas had not been used before.

Question 2: What insights did the scenario-based analysis provide across the case studies about how policy and institutional contexts could change, and how this would affect the feasibility of case study futures?

Uncertainties about local, national and European agendas were worrying. The decrease of government support structures and/or the lack of government actions and leadership appeared as a threat to many local initiative plans or a prerequisite to their success. Alternatively, scenarios that saw active government involvement in food system organization but a lack of inclusivity in terms of societal stakeholders also proved problematic. Similarly, the level of available resources from the EU plays an important local role. In terms of organization, regulatory frameworks need to be aligned from a food systems perspective, while being diverse and tailored to social innovation and new ways to organize the food system. More pressure from environmental policies would make a number of initiatives more competitive because of their sustainability benefits— as long as there is a greater recognition of the positive externalities of the case study initiatives. Public procurement was an important activity in many case studies where massive potential was seen, especially when combined with education.

Other factors:

- Many initiatives are also at the mercy of public interest – changes in the positive or negative in this regard affected the future plans of the initiatives considerably as well.
- The investigation of policy environments in the scenarios also highlighted and identified emergent links between government actors internally and with other actors.
- Trust levels between societal actors are important and can change, which in turn changes public perspectives of food and nutrition security.
- Different future contexts may require different discourses and channels for communication by local initiatives.

Question 3. What new types of ideas emerged through the scenario testing of the initiative plans that had not come up in the back-casting and visioning (or equivalent strategies used)?

When applied to initiative plans, the scenarios highlighted the need for fast action to avoid undesirable futures in which initiative objectives would no longer be achievable –

and urged initiatives to avoid long bureaucratic processes. The scenarios urged initiative organizers to find ways to expand/connect beyond their specific political and socio-economic communities - some of which could have a stigma of elitism (associated with relatively expensive local food channels, for instance) or marginal activity (for example, small-scale urban agriculture) that could become more of a problem in scenario which were not positively inclined to such aspects. More recombination of low-tech and high-tech approaches and a better mix with different socio-economic groups was recommended in several cases. The scenario processes also put emphasis on connecting with the next generation, engaging them and providing them with education and skills to be a part of better food futures related to the initiatives. All of this played into the insight in several cases that initiatives have to become more media-literate, and more politically connected to higher levels of governance, both national and the EU –and to global initiatives like the SDGs. Recommendations were also made to better learn to understand longer-term theories of change (for instance, the development of new gastronomic cultures). Practice-led initiatives were seen as potentially key factors in the re-shaping of local policies and local economy in ways that would be more beneficial to social innovation. An important mission for local food initiatives would be to build societal trust.

5.3. Local Scenarios as part of FNS redesigning

To deepen this general picture of local workshop outcomes some additional analysis was conducted building upon our earlier clustering of FNS redesigning. The outcomes of this additional analysis are summarized in Table 6, containing a list of most typical themes that emerged around the three guiding questions. For further details and background, including the specificities of the local scenarios that have been elaborated during the workshops, we refer to other TRANSMANGO deliverables (D6.2 & D6.3).

Table 6 findings do allow for some additional remarks. Firstly, the diverse nature of the themes addressed by workshop participants point in another way at the fluidity of FNS redesigning. Secondly, space and support for inclusive, participatory and place-sensitive governance approaches seem to be of major importance for workshop participants when reflecting on the policy and wider institutional consequences of local scenarios. Thirdly, these same participants frequently point at the importance of political leadership and visioning as crucial factors in the further unfolding and shaping of their initiatives, practices, and future plans. Fourthly, policies are expected to be more inclusive, multi-dimensional, and well integrated across policy domains. Workshop participants are generally well aware of the interconnectedness of policy goals and the potential of food policies to contribute to a range of societal needs. Their call for cross-domain policies and 'de-siloing' of policy domains reveals that current government structures and institutions are thought to be overly specialized and /or 'narrow' in approaches. This lack of coherence and cross-departmental efforts to develop consistent and coherent FNS policies appears in many ways as a crucial challenge for future FNS governance. A final remark concerns the surfacing of practical and abstract tensions between public and private participation, individual and communal resilience, different degrees of localization of food systems, contrasting scales and styles of farming, as well as urban and rural

lifestyles. Often participants took these tensions as entry points to a larger discussion on food and nutrition security in their respective communities.

5.4. In Conclusion

The local workshops' foresight- and back-casting exercises enabled to deepen and complement earlier presented insights in FNS redesigning in different ways. First, these exercises provided additional material around stakeholders' ideas on future policy and wider institutional implications of different imaginable local scenarios, as well as possible strategic responses to scenarios that represented more or less beneficial futures. Second, the scenario workshops, in their roles as (temporal) co-constituting elements of collaborative reflection, learning, and strategic thinking and acting around how to progress with FNS redesigning, added valuable additional insights to the fluidity and place-specificity of its accompanying assembling processes.

Table 6. FNS Clusters & Dialoguing with the future

Local Workshop findings[4]	Food Entitlements (Data from: IT)	Urban & Citizen-Consumer Commitment (Data from: NL,IR,UK,BE)	Peri-Urban Land Access Movements (Data from: ES,IT)	Public Procurement and Preparedness (Data from: LV,FI)
New ideas through back- and fore- casting	Better identification of needs by triangulation with relevant actors such as teachers, paediatrician, priests, etc.; Adopt regulation that enables food recovery and simplifies the legal framework on product expiration dates.	Cover age of mental health in Food and Nutritional Education; Need to move towards regenerative food production and consumption systems; Opportunity for more self-sufficiency through localized supply chains; Involvement of non-traditional actors such as tourism boards to boost local food profile; Opportunity to reflect on the meaning of 'local' and its implications for consumer groups; Sports Clubs as potentially interesting Fora for learning about FNS theory and practice.	Making underused land resources better visible; Improve public recognition of positive externalities of agri-ecological practices; Develop Public Procurement as new marketing opportunities; Explore collaborative manufacturing and purchasing opportunities; Create a food origin brand to distinguish products from (peri)urban land.	Increase the decision-making power and engagement of schoolchildren with regard to their school catering; Explore the substitution of the free lunch for all schoolchildren approach by a democratic price level for a school meal; Increasing the attractiveness of schools as business niche for catering companies; Integrating civics and HEP awareness at schools; Opportunity to pilot HEP-friendly communal housing arrangements (e.g., kitchens and housing); Potential of favouring edible landscapes.
Policy and wider institutional implications of the elaborated local scenario's	The relevance of a more robust FNS governance arrangement is highlighted. Opportunity for a diverse and well-coordinated network of actors to enhance regional FNS goals and outcomes. Vulnerability in governance arrangements that fail to address	Importance of political leadership and active participation from all societal sectors. Danger of disconnecting from Grassroots Action; The pitfall of too much Urban-Centred approaches; Vulnerability in terms of dependence on Voluntary Activism and Community	Vulnerability of movement as it is not fully institutionalized; Land access can be hindered by complex administrative procedures; Opportunity to rethink subsidies: recognize farmers as environmental managers and reflect this through fair prices; Need for tailored policy and	Opportunity for a national food policy to support public procurement; Opportunity to tailor tendering processes and demands to smallholder farmers; Opportunity to introduce educational programs on the relationship between food and health. Vulnerability of HEP due to

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[4] The table is populated with ideas and themes emerging from the local workshops. Workshops were developed only for the main case studies, that means that on this table the number and diversity of cases represented under each FNS cluster varies.

emerging marginalized groups (e.g., those without citizenship).	Leadership; Vulnerability in terms of dependence on GO- and Social Enterprise-led politicizing of FNS; Opportunity for tailoring of regulatory frameworks to smallholder farming; Need for more Participatory Guarantee Systems to overcome the exclusion on formal certification systems; Absence of sufficiently restrictive and demanding environmental policies; Reorganization of Food Policy Councils as highly inclusive spaces.	regulations for small farmers and processors; Vulnerability of real estate speculation and lack of visibility of long-term plans. Progress towards more restricting and demanding environmental policies regulating agricultural production; Need to include Participatory Guarantee Systems in public procurement calls and public markets.	urbanization and continuous redefinition of 'preparedness'; Increasing availability of away-from-home meals and/or ready to cook creates vulnerability for HEP awareness and skills; Need of robust, flexible, and coherent institutionalization of HEP (addressing new emergent vulnerable groups).
Strategic Reponses by scenario testing	Develop a prevention approach (to complement current response measures) based on an integrated Food and Nutrition Security action plan; Create regional body (network of actors) to integrate and ensure policy and action coherence across the region; Adopt strategies to raise awareness about resource use/availability and embed the discussion in culturally relevant ways.	Elaboration of a multi-dimensional food systems strategy that is integrated across policy domains (e.g., housing, economic development, public health, environment, etc.); Elaboration and promotion of wider economic assessment methods to grasp the multiple financial benefits of integrative food policies; Creation of an Urban Food Vision document that covers both agri-ecological as well as high-tech urban food perspectives; Facilitate the creation of impactful research to inform the development of food policies; Benchmark exercise on degrees of flexibility and social cohesion of other consumer models.	Re-establish interlinkages between regional agro-ecological movement and regional gastronomic culture and leisure; Create a single urban administrative desk for urban agriculture initiatives; Integrated plan to create conducive conditions for small farmers (e.g., information campaigns, city infrastructure, adapted market hours, etc.); Facilitate research that addresses present and future technical (climate, irrigation, soil, vegetation coverage, etc.) production issues.	Differentiate value added tax for imported and local produce in order to support local producers; Address increasing bureaucratisation of tendering process and enhance the ability of small farmers to participate; Redraw tendering criteria to include/emphasize proximity of local producers; Embed preparedness as part of urban and community planning; Integrate community planning into housing and infrastructure plans; Future-proof public and private infrastructure consistent with HEP priorities; Promote a comprehensive view of HEP (skills, and resources).

6. Governance through Boundary Spanning

6.1. Introduction

In this final Chapter we will reflect upon our overall case-study findings in terms of practice-led FNS redesigning and assembling from a governance lens. Obviously, as specific distributions and allocations of responsibilities between public, private and civil actors, FNS redesigning is imbued with governance ideas, practices and issues. To further unravel and illustrate these governance ideas, practices and issues we will introduce two other redesign principles that may derived from overall case-study material: 1) *re-balancing socio-technological engineering* and 2) *re-thinking resilience building.* The first principle refers to stakeholders ideas, trust, confidence and preferences in relation to the socio-technological component of FNS governance. It takes the significance of multiple European FNS discourses into account (e.g. Vermeer and Bruinsma, 2016) and acknowledges the relevance of its implications in terms of co-evolving contrasting sustainability paradigms (e.g. Marsden and Horlings, 2011). Practice-led FNS (re)designing often involves social engineering by means of safeguarding food entitlements, charity, redistribution of wealth, community building, de-commoditization, etcetera. This attention for social engineering may go along with a certain distancing from predominantly technological 'fixing' inspired FNS hopes and expectations as symbolized by notions as sustainable intensification, vertical farming, tissue meat, functional foods, GMO's, nanotechnology and so on. As will be shown, the case-studies entail a significant diversity in findings new balances between these socio-technological aspects of FNS governance.

The fifth principle, *re-thinking resilience building takes* the presence of differences in temporalities of FNS governance explicitly into account. It builds on systemic scholars that distinguish between episodic (e.g. flood risks) and disruptive pressure (e.g. fossil fuel dependencies, climatic change, obese, food poverty, etc. In their multi-dimensional perspectives the governance of FNS vulnerabilities is analytically unravelled with the help of notions as transformation and resilience (see e.g. Sterling, 20014). In this analysis we relate resilience building especially to temporal differences in stakeholder ambitions and pretensions. Thus, we will make a distinction between resilience-building that primarily aims to address systemic shocks, as exemplified by previous references to episodic pressure, and, conversely, resilience building with the pretention to face and confront the systemic stress inherent to disruptive pressure. This distinction enables to illustrate how resilience building may not just differentiate between our 16 cases but also develop in specific ways within the cases.

6.2. Complementary insights

Again, overall collected case-study material has been indicatively classified along these two complementary redesign principles, based on research-team internal exchange of thoughts and consensus building. Table 7 summarizes overall finding that socio-technical engineering is omnipresent in the cases by means of new coalitions,

new partnerships, new forms of cooperation, new, more socially embedded food markets and relations, new institutional arrangements and new urban-rural relations. Simultaneously, it wants to show that such interventions in prevailing social relations are to different ways interwoven with and facilitated by supportive technological change and innovation.

The novel ICT-applications within the Irish BIA-case, the introduction of personalized electronic food assistance cards in Tuscany, stakeholders imagination of agri-ecological as well as high-tech urban agriculture futures in Eindhoven, strongly ICT-based logistical improvements of short food chain initiatives in Belgium and the UK, active searches for alternative technology in Valencian peri-urban farming, references to technological lock-inns as constraints for home emergency preparedness in Finland, overall case-study material illustrates in many ways how FNS governance is indeed closely interwoven with social-technical engineering and attempts to re-balance socio-technological process of change. Overall case-study diversity in terms of profoundness and successfulness of on-going re-balancing of socio-technological relations may be perceived as another indication of the fluidity of practice-led FNS redesigning.

The same goes for stakeholders orientations with respect to resilience building. Again, differentiating positions can be witnessed. The Finnish Home Emergency Preparedness programme primarily focusses on dealing with systemic shock hazards such as economic boycotts, extreme weather conditions, power cuts, etcetera. Other cases are more systemic stress oriented, that is: these pretend to deliver more substantial change and as such to be more transformative, which goes e.g. for the urban food movements in the UK and the Netherlands, the consumer-led Belgium food movements and the public procurement initiatives in Latvia and Finland. That systemic stress orientedness might be accompanied by debate, controversy, social struggle and uncertainties regarding future expectations and promises is probably most clearly manifested by the Roman and Valencian peri-urban land access movements. Yet, these differences between systemic stress versus shock orientedness turn out to be practice mostly gradual and –moreover- might also change in time. Again, only a few illustrations. After its initial focus on shocks, the Finnish Home preparedness programme increasingly tries to cover systemic stress components such as modern architecture's neglect of the benefits of cellars in houses. Italian and Dutch food entitlement initiatives initially focussed primarily on establishing close relations with food waste reduction, but in time also started to interlink with urban food movements and/or urban-rural synergy development and as such increasingly also active engage in collaborative action with the intention to oppose systemic stress. Conversely, cases with initial foci on urban-rural synergies and sustainability public health issues, and thus relatively strong systemic stress orientations, might develop a growing interest in systemic shock components, as e.g. illustrated by the dynamics in Dutch Urban Food Initiatives, UK's Sustainable Food Networks and Irish Cork's Food Policy Counsel. It shows that FNS (re)designing is also about how stakeholders position and re-think their positioning vis-à-vis different expressions of resilience building, with practices and ideas that modify more or less substantially in time and –therefore- do not permit for simple and permanent classifications.

Table 7. Further cluster-based characterization of FNS redesigning

	Cases	ReDP4: re-balancing Social-Technological Engineering	ReDP5: re-thinking resilience Building
Cluster 1.	Dutch Food Banks	*Addressed*	*Addresses both shock and stress components*
	Food Assistance in Tuscany	*Weakly Addressed*	*Addresses both shock and stress components*
	Bia Food Initiative	*Addressed*	*Addresses primarily shock components*
	FNS in remote rural areas	*Weakly Addressed*	*Addresses primarily shock components*
Cluster 2.	Dutch Urban Food Initiatives	*Addressed*	*Addresses especially stress components*
	Cork Food Policy Council	*Addressed*	*Addresses both shock and stress components*
	Sustainable Food City Network UK	*Addressed*	*Addresses both shock and stress components*
	Community Supported Agriculture in Belgium	*Strongly Addressed*	*Addresses both shock and stress components*
	Voedselteams in Belgium	*Addressed*	*Addresses both shock and stress components*
	Fresh fruit and vegetable access in the UK	*Addressed*	*Addresses both shock and stress components*
Cluster 3.	Land access and Urban Farming initiatives in Rome	*Strongly Addressed*	*Addresses both shock and stress components*
	New Initiatives in peri-urban Valencia	*Strongly Addressed*	*Addresses both shock and stress components*
Cluster 4.	Public Catering in Finland	*Addressed*	*Addresses especially stress components*
	School Food in Latvia	*Addressed*	*Especially stress oriented*
	Small Farmer Involvement in School Food Provisioning in Latvia	*Addressed*	*Addresses both shock and stress components*
	Home emergency preparedness Finland	*Addressed*	*Addresses especially shock components*

6.3. Boundary Spanning

The governance literature makes use of the notion of 'boundary spanning' to highlight the wickedness and complexity of contemporary FNS governance. In this literature boundaries are associated with barriers, obstacles and constrains that entail limits for collaboration and divide groups into insiders and outsiders (Termeer & Bruinsma, 1016). At the same time, however, it is underlined that boundaries also reflect junctures that reveal new opportunities for dealing with wicked issues by connecting varied knowledge, resources and ambitions. In other words, boundaries are thought to separate and unite, to constrain and enable and –as social constructs- to be subject of negotiation, including the decision to be treated as barriers or junctures (ibid, p. 92). This same literature refers to three types of boundaries: *physical boundaries,* which refers to technological or spatial barriers that reduce the chance of encounters between actors, *cognitive*

boundaries, referring to differences in meanings, knowledge and language that complicate collaboration and *social boundaries,* difficulties in relation to building social capital. Subsequently, it is argued that boundary spanning is characterized by cross-cutting interactions between groups of actors, organizations and networks that did not intensively collaborate before. Shortly, boundary spanning as representing and entailing promises for better governance performances.

Hopefully it will be clear that our FNS redesign principles are imbued with boundary spanning practices, intentions, hopes and expectations. Hence, physical boundary spanning is omnipresent in the re-connection of urban and rural spaces; the re-enforcement of food entitlements of traditional and newly emerging vulnerable groups is a clear expression of social boundary spanning and re-linking food system sustainability and public health has obviously a lot in common with cognitive boundary spanning. The fourth and fifth principle, re-balancing socio-technical engineering and the re-thinking of resilience building, introduce some complementary characteristics of boundary spanning by means of establishing stakeholder agreement regarding the normative and temporal aspects of promising FNS governance.

As such overall case-study findings not just confirm but also complement insights on the role, meaning and significance of boundary spanning in relation to FNS governance futures. In its multiple manifestations boundary spanning turns out to be a crucial feature of practice-led FNS redesigning, with the overarching ambition to contribute to the 'better working wholes' (systemic robustness) that will mitigate and alleviate place-specific manifestations of FNS vulnerabilities. The same case-study evidence reveals that practice-led boundary spanning continues to be work in progress. This certainly also includes overall institutional responsiveness, willingness and capacity to embrace, nurture and further explore their prospects in increasingly diverse European foodscapes.

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Annex 1. Case study Summaries

1.1. Netherlands

Main case: Urban Food Initiatives

The study of urban food initiatives (UFIs) as well as the food policy trajectories of Rotterdam and Eindhoven illustrate that while there is a growing number and diversity of food initiatives, the extent to which they impact FNS outcomes is still small. The articulation of a coherent and stable policy would create the institutional framework required for UFIs to move beyond constraining and ad hoc resource circumstances and ensure continuity to their efforts. In addition, urban agriculture—a common entry point for 'food in the city' debates and policy processes—is embedded in competing discourses and agendas (i.e., footloose/globalized food systems driven by high-tech solutions, as well as the re-localization of key food supply chains driven by social and technical innovation and mediated by the local landscape) which represents vulnerability in the food movement. Also, there is little evidence of substantial inclusion of local vulnerable groups or extensive efforts to counter the underlying processes that create such vulnerabilities and food insecure situations. While diverse, Dutch UFIs often articulate their efforts around the re-connection of sustainability principles and healthy diets through an emphasis on fresh and local. As such some UFIs place explicit attention to the re-localization of urban consumers and peri-urban and rural producers.

Satellite case: Dutch food banks

An exploration of Dutch food banks, shows that there is a diverse range of FNS practices being performed by food banks. These were indicated as being: food sourcing; internal organization; framing and operationalizing poverty; interaction with institutional settings; and complementary FNS collaborations. Overall the organisation, the VNV, can be divided into the national and the local (place-based) level, that all enact these FNS practices in diverse ways. The national level of the VNV focusses mostly on the national scale – dealing with government and larger institutions –and functions as an umbrella organisation. The local level of the VNV is more concerned with the daily operations of the food bank, such as logistics and interaction with the poor. Overall, some processes within the food bank are assumed to hold little transformative capacity, such as the (in)ability of food banks to impact the root causes of food poverty, or the dependency on 'food waste' from retailers and large food industries. Opposite that, processes that are regarded as holding transformative capacity are also performed by some food banks: Such as the alliances some food banks have made with local farm-enterprises or urban food initiatives, or the contribution to the design of new institutional arrangements and public-private partnerships at national and EU level. Although a direct influence on FNS seems to be weak, other practices such as their interaction with and complementing of existing social welfare, have more transformative capacity, albeit indirect.

1.2. Finland

Main case: Home emergency preparedness

The practice of home emergency preparedness (HEP) in its relation to FNS in Finland is the focus of this case study. HEP has evolved since its emergence in the late 1960s. While prospect of military conflict or war were early drivers of HEP, currently the practice is framed as a response to possible disturbances in energy supply, environmental disasters (climate change), disease outbreaks affecting public health, as well as other disruptions in communication and trade. Similarly, the degree of preparation has evolved from self-sufficient survival for a period of two weeks to a period of 72 hours. Finally, the biggest evolution of the practice has to do with the present efforts to position HEP as a practice that goes beyond food reserves but includes skills and knowledge about the collection, handling, preserving and storing of food. In terms of the impact of HEP on FNS outcomes it can be concluded that it is significantly focused on building household resilience towards shocks and to a much lesser degree towards systemic stress. In order for HEP to contribute to stable FNS outcomes in Finland it could redefine its role in terms of the distribution of food entitlements of traditional and newly emerging vulnerable groups. HEP could also contribute to safeguarding and further supporting urban-rural interdependencies and synergies that deliver stable linkages between food production and consumption.

Satellite case: Public catering

This focus in this report lies on the contribution of public catering to FNS in Finland through practices of regime-crossing. Within public catering three categories were formulated: school meals, worksite catering and statutory public sector catering. It has been unrecognized as a FNS practice because of lack of coherent systematic food policy and public debate on food security. When examining regime-crossing interaction patterns it was found that public catering can be conceptualized around three main sub-practices: procurement, food redistribution, and health & nutrition education. Of these sub-practices, procurement and health & nutrition education are well established but, from time to time contested practices. Food redistribution offers an example of a novel practice, emerging mainly from a public outcry concerning food surplus in the catering sector. The success of public catering in delivering FNS can be assessed by examining its impact on the aspects of FNS. In terms of food availability: Public catering intersects with production and trade through procurement. The new legislature concerning procurements should enable caterers to prefer quality over price, but this remains to be seen in practice. There is ample potential to improve food access, as they reach a third of the population daily. However, access to public catering is unequal between various groups, especially within the working population. Lastly, as the foundation of modern public catering is in health and nutrition promotion and education, the impact public catering has on utilization can be seen as significant.

1.3. United Kingdom

Main case: Sustainable Food City Network

This case study examines the degree to which the Sustainable Food Cities Network (SFCN), established in 2013, successfully impacts FNS outcomes across the UK. The SFCN is a network organization connecting public private, and third sector organizations working to advance healthy and sustainable food in their localities. Their main focus is on networking and knowledge dissemination practices of key food challenges, as well as practical solutions and best practices. While food security is not part of the cities or network's jargon the SFCN (and individual cities) does enhance FNS outcomes—particularly access, utilization, and sustainability dimensions. Within the range of activities carried out by SFCN, there is strong emphasis on health. Health and sustainability are placed at the centre of the networks advice for cities' food efforts and policies. Another area of visible impact is the reinforcement of food entitlements (reduction of food poverty as framed by the network) of vulnerable groups. The SFCN network also engages with the promotion of better governance practices in order to affect change at the structural level, which complements their work on alleviating expressions of food insecurity. The network is involved with a number of activities that seek to re-connect food production and consumption, however the explicit goal of (re)activating and supporting rural-urban interlinkages and synergies is less present.

Satellite case: Fresh fruit and vegetable access

In this case food co-ops and box-schemes are assessed against their contribution towards FNS outcomes. The food co-ops under study, which work more like buying groups, significantly impact access to fresh food with a particular focus on vulnerable groups—reinforcing food entitlements. They are also focused on the promotion of healthy diets but not with an explicit concern for sustainability or rural-urban linkages. Through their work they address systemic issues such as unaffordability of fresh food and difficulties regarding its physical access. Box schemes in Cardiff are focused on increasing the availability of fresh food. However, because of the higher prices they do not impact food entitlements of vulnerable consumers. Still through supporting local organic farmers—which would otherwise struggle to find a market—they do increase farmers' general food entitlements. Similar to the food co-ops, box schemes emphasize the theme of healthy diets and in this case they do connect it to the sustainability dimension. While the degree to which they do this is varied, box schemes have an explicit attention to supporting successful rural-urban interdependencies. In fostering these reconnections they aim to build resilience towards long-term systemic stress. Both practices showcase innovation efforts that focus on social practices as opposed to technological aspects.

1.4. Ireland

Main case: Cork Food Policy Council

The key aims of the Cork Food Policy Council (CFPC) are studied to explore the extent to which they address and impact FNS outcomes. The council—a partnership between representatives of the community, food sector actors, education, environmental and

health sectors, and local authorities—was established in 2013 and has until now received only ad hoc funding however it has already engaged with other initiatives to carry out several activities, is currently in the process of formalizing funding from the Health Cities Initiative, and it has worked to articulate several challenges and opportunities for integrated food policy in Cork. Some of the priorities expressed by the CFPC are related to re-enforcing food entitlements to all (with emphasis in disadvantaged groups) through better access and urban food production; also the council advocates for food policy that recognizes the connection between health and sustainability and delivers on both objectives. In addition, the integrated lens through which CFPC articulates food policy goals for Cork indicates positive impact towards resilience building towards episodic shocks as well as systemic stress. Finally, until now the CFPC has not explicitly addressed the interdependencies between rural and urban areas in regards to food production but the focus is not only on Cork which signals that this might become a future area of focus. Finally, there is emphasis on (re)introducing food growing and as such there is indirect attention to social innovation.

Satellite case: Bia Food Initiative[5]

The case around the Bia Food Initiative (BFI) interrogates what contribution their food assistance practices can make to establish better FNS. The BFI functions as an intermediary between food companies and charities. They coordinate with other national agencies, use existing logistics and utilise modern information and communication technology, and draw on the existing support for charitable actions which exists among the Irish populace. BFI emphasizes its role in reducing environmental pressure rather than contributing to addressing food poverty. They describe themselves to function as a "bridge to help serve busy charities and businesses" by addressing the large volume of unused surplus food by food assistance initiatives. In terms of their contribution to FNS, they aim to provide improved access to healthy diets through redistribution of surplus foods. They partly address utilization, by using food otherwise wasted. Availability and stability as dimensions of FNS are not addressed.

1.5. Italy

Main case: Food assistance in Tuscany

The food assistance system in Tuscany was the focus for this case. The aim was to unpack food assistance in terms of what practices are enacted and how they were able (or not) to address vulnerabilities. The findings show that the food assistance system is one of many different levelled entities which perform diverse practices. Some of the most important practices described are soup kitchens, 'spread canteens', food parcels, emporia of solidarity, food banks and the national food drive day. One particularly innovative one is the Emporia, since this offers a supermarket-like model of food assistance in which people can do their own shopping based on a point-system on an electronic card. Food assistance initiatives act as spokesperson of the poor and engage with the government. Moreover, it appears that more food assistance initiatives are re-thinking their role in achieving FNS, and attempt to move towards more structural approaches. It is their

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[5] BFI has recently been re-branded (as of November 9th 2016). It's now known as Food Cloud Hub.

reliance on volunteers and challenges in delivering nutritious food that hamper their transformative potential. Although there are signs of food assistance initiatives re-thinking their objectives, due to the urgency of their daily practices some do not go beyond the 'business as usual'.

Satellite case: Land access and Urban Farming initiatives in Rome

This case explores the access to land in (peri)urban areas of Rome. New urban farmers in Rome aim to impact FNS by creating direct market channels (alternative to industrialised food chains) and improving access to fresh and safe food to disadvantaged groups. It describes the social engagement and feasibility factors involved in successfully accessing and effectively using the land for food production. The case study showcases the need for municipal coordination for food to connect and contribute to a range of issues such as urban agriculture, land planning and social welfare. This case focuses on the reconnection of urban consumers and food production by (re)creating synergies between the city's most central areas and its periphery. Through this closer connection health and sustainability are also re-connected. Through the case we observe how social and technological innovation are combined to maximize the opportunity of urban food growing. Finally the (re)distribution of food production entitlements which benefit producers and their immediate communities shows how accessing land in peri-urban areas impacts the city's resilience both to short term disturbances as well as enduring systemic stress.

1.6. Spain

Main case: New initiatives in peri-urban Valencia

In the last 5 years there has been proliferation of new agricultural initiatives in the horticultural peri-urban space around Valencia, challenging the mainstream practices. This case interrogated these initiatives by looking at their motivations, resources and practices. These initiatives explore new forms of proximity and direct selling pathways with urban consumers and to do so, they adopt agro-ecological farming styles. It was found that many of the farmers were strongly connected to social movements and were motivated to foster a transition towards alternative food systems through their agricultural initiative. Social movements play an important role in the dynamics of these initiatives, as they not only contribute to their motivations, also to their reach and advocacy. Nevertheless, in some cases practices of initiatives ran parallel to wat they considered to be the dominant system. A recurring theme in the findings was the unwillingness to collaborate due to former bad experiences. As such no farmers' cooperatives have been established in the Valencia region, and there is a strong feeling of individualism and competition. Marketing of the produce is mostly done through SFSC's such as box-schemes, consumer groups, online food platforms, food shops and restaurants, and farmers markets. Little of the produce goes to the conventional retailing. What contributes to their transformative potential is the willingness and aspiration of these farmers to create alliances between producers and consumers.

Satellite case: FNS in remote rural areas

FNS is a key theme for remote small mountain villages. This case studies the area of Chistau Valley where after the 1960s the population decreased by more than half. Now the small villages—inhabited by 15-30 people during the winter—access food through a combination of self-production, trips to the supermarkets at the bottom of the valley, and traveling food retailers. The food provisioning practices vary depending on the household profile but there is a significant use of traveling retailers (60-70% for a large family with young members). This case shows the market response to the evolution of food demand in remote small mountain areas. Until now the supply model is profitable, however in the future, as the population continues to decline, perhaps policy action will be required to ensure FNS outcomes in such localities. This case illustrates the role of the market in operationally contributing to food entitlements of vulnerable groups (aging population with limited mobility). For the moment the network of traveling food vendors could also be seen as assets towards the FNS resilience of the area albeit not contributing at a systemic or structural level.

1.7. Latvia

Main case: School food

In the case of school meals in Latvia, agent interrelations were researched and their ability to make healthy food available to school-goers. The report focusses on the negotiations between the local, local, and individual levels, the impact of school meals, and enabling or disabling factors. School meals are constructed and regulated through three policies, that correspond to the major vulnerability dimensions: Procurement (availability); Free meals (accessibility); Food quality (utilization). As all are led by different actors, school meals have become a meeting-point of many contradictory fields and interests. This makes it subject to contested and continuously evolving regulations. However, public procurement is an important tool to reduce food vulnerability; free meals a tool to ensure that low-income family school-goers can participate in the education system; and food quality contributes to the nutritional health of school-goers. Nevertheless, all three regulatory aspects show certain trade-offs, varying at the different levels. To some extent, regulations were also found to allow a certain openness to improvisation – both in actual school meal provision, in carrying out external control, and in negotiating special arrangements with the municipality. School food in Latvia is found to hold considerable transformative capacity, as these practices involve negotiation and alignment of objectives amongst new categories of stakeholders.

Satellite case: Small Farmer Involvement in School Food Provisioning

This case examines the involvement of small local farmers in school meal provisioning through municipal procurement mechanism. The procurement criteria have recently been modified to include a set of environmental and social conditions including the requirement for local (30km) food for schools. It was observed that while the 'local' requirement could potentially benefit local small farmers, in practice the procurement process favours larger or collectively organized farmers as well as wholesalers over small farmers as it is technically complex, out of sync with the timing of the farmer and offers

no possibility of long term planning. The practice focuses on re-linking food production and consumption in order to support and benefit from urban-rural interdependencies and synergies. There is a focus on (re)new(ed) procurement practices to link local farmers to school procurement which has elements of social innovation. As such the practice is building towards food system resilience. Further, health is an important heading for the municipality and is a vehicle for linking local farmers as suppliers of healthy food for school-goers. Finally, the case does not showcase a direct or explicit rhetoric of food entitlements but it connects to this goal indirectly by addressing school meals which are targeted to school-goers—a (potentially) vulnerable group.

1.8. Belgium

Main case: Voedselteams

This case explores the initiative *Voedselteams,* a voluntary-run umbrella organisation with the overall objective to collectively buy local produce and arrange its delivery. As such they aim contribute to societal benefits like social cohesion and sustainable food systems. In this case it was assessed to what extent the initiatives use 'the nine marketing functions' and how their practices are enabled or inhibited by the dominant agro-food regime. Local Voedselteams are initiated by a group of interested households and are mostly driven by increasing their access to healthy and socially just food. Farmers connected to the initiatives varyingly rely on Voedselteams for their livelihoods. An idea central to Voedselteams is paying a fair price to the farmers and as such the farmer sets the price of the produce. Although in general conventional standards are pursued, these are sometimes hard to reach due to factors such as scale and season. Important to the initiative are the website and the depot, as this is where the practices of selling, buying, storing, and transportation come together. One of the main aims of Voedselteams is to enhance social cohesion, however the level of social cohesion varies between localities since this is of varying importance among the groups. Voedselteams offer viable alternatives to dominant FNS practices and some practices are already being taken up by dominant agro-food players.

Satellite case: Community Supported Agriculture

The satellite case in Belgium focused on Community Supported Agriculture (CSA) and interrogated it's transformative potential by assessing 'the nine marketing functions' and their production practices. CSA is defined as a direct partnership in the production of food between consumers and producers and is predominantly found in urban areas. Overall, CSAs are not uniform due to the diversity in approaches to the nine marketing functions and in production. As such, they are better regarded as placed within a continuum of these functions and practices. A large share of the explored CSAs perform the majority of the nine marketing functions, cutting out middlemen and extra costs. This increases the potential for inclusivity and access. Possibly constraining this is the amount of engagement asked from consumers. Further scaling out of this model is possible, due to popularity among consumers and farmers. Although only small plots of land are necessary, a clear obstacle for the CSAs in Belgium remains access to land. This is the first 'barrier' put up for farmers wanting to start a CSA. Secondly, resilience of CSAs is decreased through the lack of security of land. Nonetheless, they are successful niches

that experiment with innovative practices and have the potential to further social cohesion around issues of food system sustainability.