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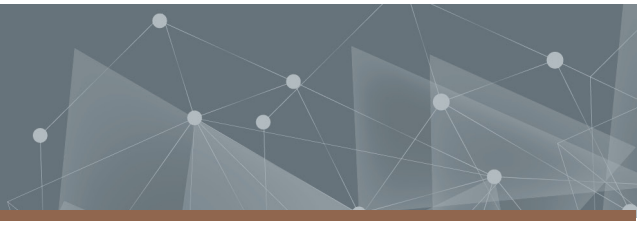

Developing sustainable food systems

An Interview Study of Public Sector Organisations

Master's thesis in Management and Economics of Innovation
Master's thesis in Quality and Operations Management

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Abstract

Public sector organisations can play a critical role in driving the transformation toward sustainable food systems. This thesis explores how municipalities in Sweden and Italy develop sustainable food systems by drawing from the transformative capacity framework developed by Borrás et al. [7]. This study conducted an interview study of nine municipalities and analysed . The thesis identifies two distinct archetypes, Grassroots Innovator and Market Integrator, illustrating different transformative capacity-building approaches. The archetypes help explain how municipalities can combine and balance roles, resources, and abilities to develop sustainable food systems in response to their context. The study contributes to existing theory by nuancing the transformative capacities framework to the food systems context, introducing two municipal archetypes and highlighting how external events impact municipal transformation. Practically, it offers municipalities guidance on context-specific knowledge on how to support sustainable food systems.

Keywords: Abilities, Food system, Municipality, Public sector organisations, Resources, Roles, Transformative capacity.

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Mikael Karlsson and Victor Kvillerud, Gothenburg, June 30, 2025

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1
Introduction

This chapter introduces the background and context of the master's thesis in 1.1. The aim and research question follow in 1.2, and the chapter ends with the scope and delimitations of this study in 1.3.

1.1 Background

Food systems play a dual role in today's global challenges, as they are both a contributor and also vulnerable to environmental, social and economic crises. They contribute to biodiversity loss [85], climate change [2], and public health challenges [22]. At the same time, food systems are under increased pressure from urbanisation [9], environmental degradation [90], and socioeconomic inequalities. This can show in poverty and food insecurity [64]. Consequently, there is a growing need to change towards more sustainable and resilient food systems. Such systems should mitigate different environmental impacts while ensuring food security, equity, and economic viability [66]. Addressing this global challenge requires not only new solutions but also a new type of thinking about how food systems are handled, coordinated, and supported.

Urban food systems are shaped by complex political, social, and environmental networks, making their transformation particularly challenging. These food systems are impacted by larger regional, national, and international structures in addition to being a part of local urban dynamics. Even though many municipalities have implemented localised strategies to promote sustainable food systems, the outcomes differ greatly based on variables like resource availability, stakeholder engagement, and political commitment [16]. Initiatives like the City Region Food Systems (CRFS) and the Milan Urban Food Policy Pact (MUFPP) provide practical guidelines. However, it's still challenging to turn these plans into practical action within public sector organisations (PSOs) [76].

Small-scale initiatives can sometimes meet resistance from different systems that prioritise scale and efficiency in agriculture rather than a localised approach [28]. Despite the efforts to promote food justice and sustainability, these initiatives have met some difficulties. It has included difficulties in gaining recognition from institutions, access to land and funding for that [51]. Moreover, when these movements grow, some questions have arisen regarding whether local food strategies pose risks. They might become exclusionary or also reproduce social inequalities under the guise

of sustainability [51].

PSOs are becoming more and more acknowledged as players who can facilitate changes in the food system [49]. PSOs have a special position that enables them to connect the processes of innovation, governance, and policy across industries. However, according to Borrás et al. [7], fostering systemic change necessitates the development of transformative capacities in addition to institutional engagement. These capabilities can determine a PSO's ability to mobilise, implement long-term strategic governance, and participate in cooperative procedures. All of which promote structural transformation [7]. The concept of transformative capacity has been applied in sectors including both energy [58], transport [78], and broader sustainability transformations [88, 36]. However, it has not yet been applied to food systems.

1.2 Aim and Research Question

Despite increasing interest in sustainability transformations, limited attention has been given to the role of PSO in the development of sustainable food systems. While existing literature has explored transformative capacity in the context of public sector innovation more broadly [3], a gap exists in understanding how PSOs engage with food system transformation through their roles, resources and abilities. Throughout this thesis, the term public sector organisations is used in line with the framework developed by Borrás et al. [7]. However, the empirical focus of the study is specifically on municipal governments. Thus, references to PSOs in this thesis should be understood as referring to municipalities unless otherwise specified.

This study seeks to address that gap by theoretically and practically contributing to the concept of transformative capacity as applied to food system transformation. Specifically, it refines and contextualises the theory by examining how PSOs interact with roles, resources and abilities to pursue food system change. The study explores how PSOs in these contexts have navigated challenges and institutional constraints by analysing several PSOs in Sweden and Italy. To fulfil this aim, the study investigates the following research question:

- How can public sector actors' roles, resources and abilities interact to drive food system change?

1.3 Scope and Delimitations

The scope of the thesis is limited to viewing only the processes and contextual factors that develop municipalities' capacities to drive food system transformation. By looking at multiple municipalities across two countries, the study aims to generate insights and identify different patterns.

There are both methodological and practical constraints that have delimited the research. Empirical data have primarily been received and collected through semi-structured interviews. This has been complemented with secondary data from publicly available municipality documents and reports. This qualitative approach has enabled municipality-specific information and understanding, but it has also possibly limited the generalisability of the findings. However, as Flyvbjerg [24] argues, certain selected example studies can provide both theoretical and practical insights.

The fixed timeline of this master's thesis project has also impacted the research design. The time constraint led to the choice of a focused sample size and data collection period. It also helped prioritise depth of analysis over the width of coverage. These limitations restricted the number of municipalities, but they have also enhanced the possibility of detailed exploration of transformation processes within each municipality.

2
Theory

This chapter goes through the relevant theory for this master's thesis. Starting with the complexities and the concepts of resilience and sustainability in 2.1, continuing with the tensions and barriers in transforming food systems in 2.2. The chapter ends with the introduction of the transformative capacities framework in PSOs in 2.3.

2.1 Framing Food System Transformation

Transforming food systems to become more sustainable is a complex challenge. According to Ruben et al. [66], food systems include the production, distribution, and consumption of food. Food systems also operate on different levels, local and national, each with unique cultural, economic, and environmental contexts [86]. This diversity shows the complexity of designing practical and inclusive sustainable interventions.

2.1.1 Resilience and Sustainability of Food Systems

A sustainable food system is defined as one that ensures food security and nutrition for everyone without compromising the social, economic, and environmental foundations for future generations [86]. However, achieving this vision is very far from straightforward. It requires understanding that food sustainability can not be separated from public health and consumption behaviours. Understanding how everything works together is critical to tailor solutions to each example [86].

Environmental and economic goals must be balanced with adaptive ability to build sustainable food systems. This is where the concept of resilience becomes central. Tendall et al. [81] define food system resilience as the *capacity over time of a food system and its units at multiple levels to provide sufficient, appropriate, and accessible food to all in the face of various and even unforeseen disturbances.* This can include challenges such as climate shocks and geopolitical disruption [81].

Resilience and sustainability are mutually reinforcing, where resilience supports continuity in the short term and sustainability ensures the system can continue delivering its goals in the long term [62, 45]. Understanding this relationship is essential, as it reveals that achieving sustainability isn't only about long-term planning but also requires systems that can cope with volatility along the way [62].

2.1.2 The Need for Transformation and the Role of PSOs

The mixed concepts of resilience and sustainability combine in the idea of transformation, a fundamental shift needed to overcome the limitations of existing food systems. Where a transformation refers to significant changes in a system's structure, function, and direction and also leading to new and improved structures [56]. As Nalau and Handmer [56] note, food system transformation is necessary when faced with complex, uncertain, and unprecedented challenges that span multiple sectors and scales. Responding to such challenges requires more than incremental improvements, it also requires multidisciplinary approaches and bold innovations that challenge the status quo [56, 69].

Transformation requires technological innovation, but it also demands fundamental shifts in behaviours, institutions, and governance systems [43]. Thus, integrating technological, social, and policy changes to achieve systemic impact. In this context, the growing role of PSOs is particularly significant. PSOs, in particular, have emerged as active agents in shaping local food strategies that respond to both global and local food system challenges [49, 21].

The transformation of food systems requires new ideas and the institutional capacity to implement them. Here, PSOs are uniquely positioned to support this transformation by fostering cross-sectoral collaboration, funding experimental initiatives, and crafting adaptive policy frameworks that nurture sustainable food innovation [74]. Their transformative capacity lies in their ability to coordinate long-term, systemic change through governance tools, regulatory levers, and strategic partnerships [7]. This involves using policy instruments, financial resources, and participatory approaches to drive inclusive and durable change in food systems.

PSOs are emerging as key agents of transformation, bridging grassroots innovation with institutional policymaking. PSOs are close to citizens and agile in policy experimentation, which makes them well placed to shape urban food environments through integrated approaches that enhance food security, promote sustainability, and build resilience [39, 23]. Initiatives such as urban agriculture and edible cities illustrate how municipal-led strategies can simultaneously strengthen climate resilience, encourage biodiversity, and improve equitable access to food [31, 63]. These examples highlight that institutional adaptability and multi-level policy coherence are critical enablers of systemic food system change [89, 25].

The growing role of cities as labs of food system transformation is evident in Europe, where municipalities are increasingly adopting food system strategies that align with the principles of resilience and sustainability [21]. Cities such as Bristol [11], Milan [47], and Gothenburg [20] exemplify how local authorities can act towards sustainable food systems. Bristol's "Bristol Good Food 2030" framework engages a broad combination of stakeholders, from civil society to institutions, in co-developing solutions that address food-related challenges in a way that benefits communities, climate, and nature [10]. Milan's comprehensive food policy, launched in 2015, addresses five pillars, including sustainability, education, and waste reduc-

tion, and has catalysed international collaboration through the Milan Urban Food Policy Pact (MUFPP), which was initially signed by over 130 cities globally [47].

Similarly, Gothenburg leverages public-private partnerships and grassroots-led initiatives such as "Stadslandet" and "Stadsbruk" to promote regenerative practices and community empowerment in urban food systems [82]. Together, these initiatives illustrate how PSOs can operationalise the concepts of transformation through concrete policies, participatory processes, and place-based innovation. Yet, despite these conceptual foundations, PSOs continue to face challenges when attempting to drive food system transformation.

2.2 Barriers and Tensions in Transforming Food Systems

Changes in food systems are challenging due to their complex nature. On one hand, there are dominant global food regimes deeply embedded into the logics of the market and technocratic models which prioritise efficiency and profit over environmental and social outcomes [50]. On the other hand, emerging alternative food networks require integration into formal policy frameworks even as they challenge the status quo [46]. As Mount [53] notes, alternative food initiatives often fail to scale or influence the dominant regime due to being absorbed by the current market logic or remaining as an isolated niche.

Michel [46] emphasises that collaborative institutional work is needed to scale up alternatives that often encounter resistance from established power structures. Merkens and Machin [68] argue that change in food systems is not merely a matter of replacing technology but shifting worldviews, power structures, and inter-organisational relations.

Public sector organisations are uniquely positioned to push for transformation by mobilising public resources, providing legitimacy and coordinating across fragmented initiatives [7, 68]. PSOs bridge civil demands with institutional action, which in food systems can refer to values of justice, sustainability and equity in procurement, land use and education policies [51]. PSOs have the potential to serve as effective mediators between diverse actor networks and global market forces [50].

Despite their potential, public sector organisations face considerable internal and external constraints when pursuing systemic change. Bureaucratic inertia, short electoral cycles and an overreliance on project-based interventions can hinder long-term change [68]. Further, this conflicts with the long-term, iterative nature of food system transformation [7]. The lack of reflexive and learning capacities in PSOs makes it difficult to adapt to emergent knowledge or co-produce solutions with civil society actors [68].

2.2.1 Navigating Contradictions and Contestations

PSOs increasingly acknowledge the moral economy of food [51] and the social dimensions of sustainability (e.g. food access, health equity, cultural relevance). This can be seen through the increasing prominence of Food Policy Councils and municipal initiatives suggests a commitment to democratising food policy-making [68, 51]. Local initiatives supported by civic engagement can provide rich context-specific knowledge that benefits policy development [35]. However, Moragues-Faus [49] acknowledges that the inherent rigidity of bureaucratic structures and the need for fiscal accountability may push organisations toward short-term and quantifiable results rather than integration of socio-cultural values.

While there is a desire to advance a social agenda, PSOs are practically being constrained, which dilutes this potential and limits the scope for a truly transformative process [49]. Merkens and Machin [68] argue that knowledge production in food policy spaces is shaped by power relations, where technocratic framings dominate over local, lived knowledge. This further affects what social values are recognised and sometimes leads to the exclusion of grassroots voices from shaping policy agendas.

The tension between the transformative potential of alternative food initiatives and the limitations of PSOs has been recognised in the literature. Michel [46] and Morgan [50] both emphasise the difficulty of reconciling innovation, bottom-up practices with established top-down regulatory frameworks. Mount [53] also explores this conflict, arguing that the alternative food networks face significant hurdles when entering mainstream policy domains. Moragues-Faus [49] and Huber and Lorenzini [38] describe the theoretical conflict as a fundamental discrepancy, the dynamic and emergent nature of food system transformation is at odds with the static and compartmentalised modalities typical of public administration.

2.2.2 Project-Based Governance and PSOs as Intermediaries

PSOs increasingly govern through project-based forms of organisation, particularly in areas of innovation, urban development and sustainability transformation [72]. In the context of sustainability and food governance, this has translated into experimental initiatives that seek to deliver localised transformation with limited long-term commitments [46, 51]. This project-based organisation often aligns with political visions emphasising control, predictability and incremental improvement [68]. While such a model allows PSOs to experiment, mobilise cross-sectoral partnerships and access targeted funding, it also presents several pivotal challenges from the perspective of transformative capacities presented by Borrás et al. [7], who argue that transformative capacity requires continuous, reflexive and embedded action.

The compartmentalised nature of project-based approaches has been critiqued by Michel [46] and Moragues-Faus [49] because it tends to overlook the interdependent dimensions of food systems. Moreover, alternative political visions emerging from

grassroots movements advocate for long-term, cross-sectoral strategies that embrace uncertainty and continuously adapt to evolving social and environmental conditions [51]. This underscores the need for public organisations to integrate elements of both approaches if they are to exploit the full spectrum of transformative capacities [7].

PSOs often serve as intermediary institutions that translate societal demands into formal governance strategies, sometimes via Local Food Policy Councils [51]. Their interventions are typically embedded in administrative frameworks, meaning they hold formal authority, possess access to funding streams and can shape regulatory environments [7]. This allows them to scale and leverage policies which grassroots initiatives often lack. Still, their work is also constrained by bureaucratic logics, political cycles and the need for cross-sector legitimacy [46, 27]. In contrast, small-scale civil initiatives are grounded in relational values, local knowledge and often political critiques of the industrial food system [46]. These actors emphasise justice, autonomy, and ecological embeddedness, which make them vital sites for experimentation and normative innovation. However, their scaleability and durability are often limited by informal governance, resource precarity and institutional marginalisation [13].

Tensions often arise when public sector actors attempt to integrate or co-opt these initiatives through formalised processes such as certification or public procurement, and with that possibly diluting their original values and autonomy [68]. Initiatives from large corporations, including innovations in agri-tech, logistics or "sustainable" branding, operate with resource abundance, global reach and technological capacity, often bypassing public deliberation or democratic governance. While these actors may respond to sustainability pressures, their solutions typically reinforce existing industrial food production and consumption structures, aiming for efficiency and market capture rather than systemic justice [50]. From a transformative capacity perspective, these actors hold instrumental power but lack the civic legitimacy or reflexive capacity required for deep transformation [7].

The tensions between these different modes of action are not merely operational but deeply ontological and normative due to the reflection of what a food system should be: from a technocratic and market-driven supply chain to a democratic commons or a managed system of public value.

2.2.3 Crises as Catalysts for Systemic Change

Recent disruptions, such as the COVID-19 pandemic, the Ukraine war and climate-induced extreme weather events, have exposed the fragility of global food systems [1]. Crises have historically functioned as catalysts for reconfiguring socio-technical systems, particularly when they reveal structural failures or injustices. Schumpeterian notions of "creative destruction" suggest that breakdowns in existing systems may accelerate innovation and institutional reordering [70]. Similarly, research in transformation has observed that landscape-level pressures, which are external to

a system but still influential on it, can destabilise entrenched regimes, making it possible for niche alternatives to scale or consolidate [71].

In the context of food systems, COVID-19 catalysed temporary expansions of state support, such as food aid and emergency procurement, and highlighted the importance of localised community-based food networks for basic provisioning [60]. In some cities, this even revived public-civic partnerships and municipal food policy experimentation, suggesting that crises may enhance the visibility and legitimacy of alternative food governance [52]. This aligns with Morgan and Santo's [51] work, that municipal food movements gain traction by filling governance voids during times of national and global inaction. However, not all crisis-induced change is transformative. There's a risk of "resilience-washing", where systems adapt superficially while preserving their underlying vulnerabilities or injustices [14].

While the above-mentioned challenges reveal significant barriers to change, PSOs have been identified as key enablers in food system transformation. The following section introduces the concept of *Transformative capacity*, which offers a structured lens for understanding how PSOs can mobilise change through their evolving roles, resources, and organisational abilities.

2.3 Conceptualising Transformative Capacity in PSOs

Borrás and Edler [6] argue that Public Sector Organisations play a crucial role in food systems change, not only acting as regulators but also as facilitators of innovation by promoting sustainable food practices. Similarly, Wolfram [88] highlights that transformative capacities enable PSOs to integrate sustainability into urban food policies and establish governance structures that foster long-term change. Although transformative capacities have been examined in various fields, their application in food system transformation has not received as much attention. Understanding this concept is essential, as it reveals how effectively cities can plan, develop and sustain changes in local food systems [6], according to Borrás et al. [7], transformative capacity consists of three fundamental elements: Abilities, Resources, and Roles.

2.3.1 Roles

Roles define the specific functions that PSOs undertake in the transformation process alongside various actors. These roles are dynamic and adapt in response to changing actors and contexts [7]. Borrás et al. [7] identify several key roles: promoters, facilitators, mediators, partner-builders, and enablers. While PSOs can serve as the visionaries and promoters of change [15], they can also act as facilitators by actively planning the transformation, defining green local plans [26], and working to overcome regulatory barriers [61]. As partner-builders, PSOs cultivate alliances and ensure collaboration among diverse actors [29, 33]. When tensions arise, PSOs may assume the role of mediators, managing conflicts by engaging with different

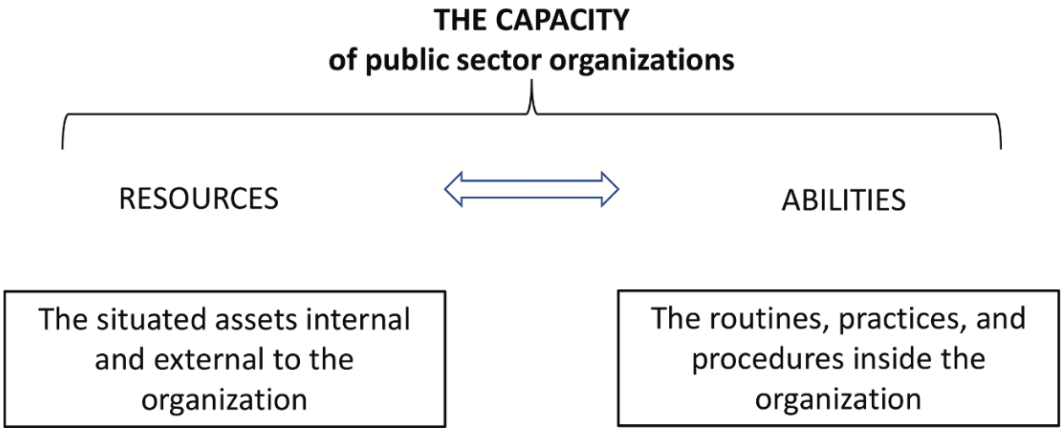

Figure 2.1: The capacity of PSOs as the interaction between situated resources and abilities of the organisation, adapted from Borrás et al. [7].

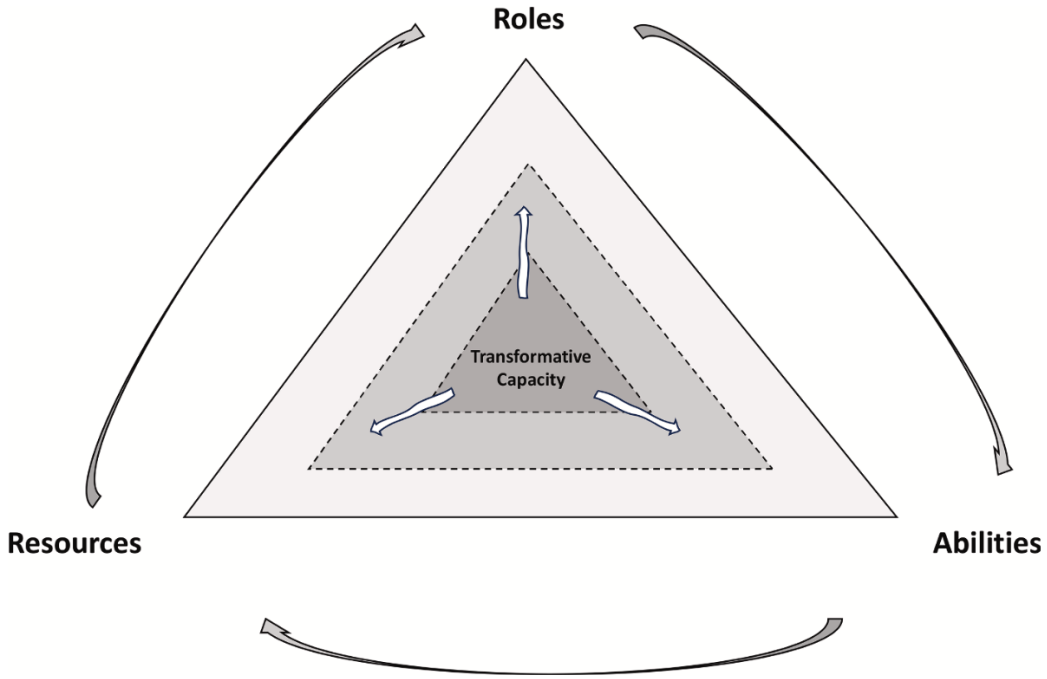

Fig. 3. The three constitutive elements of public sector transformative capacity.

Figure 2.2: The three constitutive elements of public sector transformative capacity, adapted from Borrás et al. [7]

perspectives and addressing value and distributional disputes [41]. The final role identified by Borrás et al. [7] is that of an enabler, which ensures that social actors can actively participate as co-producers of solutions [88, 57]. Borrás et al. [7] highlight that PSOs can simultaneously perform multiple roles, even though much of the existing literature focuses on one or a few specific roles.

2.3.2 Resources

Resources encompass both material and immaterial assets that Public Sector Organisations can leverage to facilitate and drive transformation. These resources can be categorised as internal, such as human and financial resources, or external, including political mandates and legitimacy resources. In their 2024 article, Borras et al. [7]. Identify eight distinct resources: human, financial, data and information, physical, political mandates, network, cultural, and legitimacy resources. Among internal resources, human and financial assets, including personnel, staff, budgets, and funding, are widely regarded as crucial [75]. Furthermore, data and information, alongside physical resources like natural assets and infrastructure, play a significant role in sustainability transformations [67, 15]. External political mandates, such as climate targets or policy strategies, and network resources pertaining to connections with influential decision-makers and private stakeholders are two immaterial resources that can advance sustainability transformation [4, 36]. Additionally, cultural resources that reflect societal sustainability culture and awareness, as well as legitimacy resources that signify the status and trustworthiness of the PSO, are often less emphasised [3, 37]. Borrás et al. [7] also highlight that the significance of these resources can vary, and many PSOs operate under constraints of limited resources. Moreover, a PSO's resources depend on its type of agency, the condition of the relevant municipality, and the availability of resources can fluctuate over time.

2.3.3 Abilities

The third element identified by Borrás et al. [7] relates to the set of abilities within a PSO, which encompasses four distinct types: analytical, operational, coordination, and learning/reflection abilities. Analytical abilities are "the capacity of organisations to produce valuable research and analysis on topics of their choosing" [59]. These abilities involve exploration, study, sense-making, and processing ideas for future visions. Operational abilities, or managerial and administrative skills, pertain to a PSO's capability to deliver results. For instance, a PSO must ensure that opportunities are both identified and acted upon [75] while also monitoring and enforcing legal frameworks [8]. Coordination abilities refer to the PSO's skill in collaborating with various organisations [54] and in encouraging multiple stakeholders to assume responsibility and maintain communication [34]. Learning and reflection abilities encompass a PSO's capacity to reflect on and enhance its practices based on new insights and its actions [48]. Borrás et al. [7] characterise abilities as "the set of routines, practices, and procedures exhibited by the organisation."

2.3.4 Transformative Capacity Relative to the Three Elements

Borrás et al. [7] assert that the three elements, roles, resources, and abilities, are dynamic and evolve through their interaction. Roles define the responsibilities of PSOs, resources determine their capacity to implement initiatives, and abilities enable them to adapt and learn from experience [88]. While resources and skills are indeed necessary, Borrás et al. [7] state that they are sufficient conditions, whereas roles are essential. This is because resources and abilities cannot function effectively without a clear definition of roles directed towards sustainability, even in situations of limited resources, well-defined and executed roles can catalyse change. The capacity for transformation varies among PSOs and is shaped by the unique combination and interaction of roles, resources, and abilities. For instance, a municipal government may assume the roles of initiator, facilitator, and enabler, each demanding specific resources and abilities. As a PSO takes on more transformative roles, there is a greater demand on its resources and abilities [7].

Transformative change occurs through various pathways that differ regarding lead actors, policy mixes, and barriers [65]. The roles, resources, and abilities of a PSO evolve across different phases of a transition. Initially, a PSO may take on a more prominent driving role, however, in pathways driven by societal or market actors, PSOs may adopt a facilitating role to avoid becoming a barrier themselves. Toudal-Paulsen and Borrás [80] describe the role of maritime regulatory agencies as negotiators who define regulatory frameworks before transitioning to an approval and verification position. Nevertheless, Borrás et al. [7] note that transformative change is seldom linear or conflict-free. PSOs may act as negotiators or promoters to mediate tensions and support diverse approaches. These roles demand strong legitimacy, effective communication, and coordination skills. However, at another stage, the same PSO may need to act as a mitigator by compensating affected groups, utilising financial resources and analytical abilities. This co-evolution of transformative capacities within PSOs throughout the different stages of a transition places pressure on these organisations and necessitates the development or enhancement of transformative capacities, as growth in these areas cannot be assumed [7].

Building transformative capacity within Public Sector Organisations is not an automatic process; it requires deliberate efforts to enhance roles, resources, and abilities. This endeavour is ongoing, with PSOs working from within to navigate broader governance and public administration contexts. In this regard, Borrás et al. [7] outline two distinct approaches to capacity building: one as a gradual expansion of its components (roles, resources, and abilities) and the other as a process associated with public leadership. Transformative capacity evolves interactively, with core elements potentially reinforcing one another over time. Importantly, this process is not merely a reaction to external political pressures. It can also serve as a strategic initiative to bolster a PSO's influence within its framework [3]. Given that all organisations have leaders, public leadership plays a vital role in this context. Beyond the interpersonal skills of individual leaders, leadership functions at an organisa-

tional level, fostering alignment among employees toward synergistic actions. The growing recognition of the importance of leadership in sustainability transformation has made it a prominent topic of discussion [42].

Transformative capacities are dynamic rather than static, they evolve in response to various political, financial, and institutional factors. These capacities can be enhanced when public sector organisations receive stable funding, political support, and opportunities for collaborative governance. Conversely, they may diminish due to budget cuts, changes in political leadership, or internal governance difficulties [4]. Understanding these transformative capacities is essential for assessing how PSOs contribute to food system transformation. By examining the interplay between abilities, roles, and resources, this study seeks to deepen the existing understanding of how PSOs facilitate change. The interview studies of several European cities from Italy and Sweden will offer empirical insights into the development and adaptation of transformative capacities over time and their impact on urban food system transformation. As Wolfram [88] emphasises, transformative capacity is influenced not only by governance structures but also by knowledge networks and decision-making capabilities, which ultimately shape the effectiveness of public sector interventions.

2.3.5 Limitations of the Transformative Capacity Framework

The transformative capacity framework by Borrás et al. [7] provides a robust lens for analysing the roles, resources and abilities of PSOs in sustainability transformation, but the framework remains largely endogenous in its orientation. That is, it places its emphasis on what PSOs can do from within, rather than how PSOs are shaped and constrained by broader socio-political contexts and external shocks. In doing so, the framework does not account for how crises and disruptions, such as pandemics or geopolitical conflict, can act as critical moments where inertia is suspended and new policy paths become politically and socially viable [71].

Beyond this, the framework also overlooks the structural implications of project-based governance, which is a prevalent mode in contemporary PSOs [72, 27]. As previously argued, organising transformation through short-term, deliverable-bound projects limits institutional learning and reduces reflexivity. Yet the framework treats abilities such as coordination and learning in abstractions, without exploring how the temporality and fragmentation of project logics constrain these very capacities.

Secondly, the framework gives limited attention to the social agenda and normative values pursued by PSOs in food system transformation. As highlighted by Merkens and Machin [68], the inclusion (or exclusion) of social justice, equity and cultural recognition in food policy processes is not automatic, rather, it must be intentionally enacted and supported. Borrás et al. [7] approach PSOs primarily as agents of functional change rather than as normative actors embedded in specific communities, histories and power relations.

3
Methods

This chapter goes through the methodology for this master's thesis. The chapter will start with the Research Strategy & Design of this thesis in 3.1, followed by the selected municipalities in 3.2. Sections 3.3 and 3.4 will focus on the data collection methods and analysis methods of the thesis. The Methods chapter ends with Ethical Considerations in 3.5.

3.1 Research Strategy & Design

We have applied a qualitative interview study approach to examine the transformative capacities of PSOs in food system transformation. As outlined by Eisenhardt and Graebner [18], a qualitative interview study is practical as it allows for both literature-based analysis and combines qualitative insights. The study focused on interviewing several municipalities, including Karlstad, Malmö, Milan, Skövde, Stockholm, Södertälje, Umeå, Växjö and Örebro, each with distinct but influential approaches to food system transformation.

The study applied the conceptual framework of transformative capacities developed by Borrás et al. to support the analysis [7]. This framework is based on three key elements: roles, resources and abilities. Roles show what function or responsibility the PSO takes to drive food system transformation. Resources include the financial, human capital and institutional assets that PSOs have available to support the transformation. Finally, abilities refer to the knowledge and strategic skills that are required for PSO actors to implement and navigate through the change [7].

3.2 Sampling

The municipalities have shown different initiatives and governance models, which allow the study to conduct meaningful comparisons and analyses. Below is a summary of the motivation for why each municipality has been chosen:

- **Karlstad:** Selected due to their longstanding work towards healthier, more sustainable and more local food. This was through their project, resulting in a cookbook *"Nära mat till många gäster"* and participating in the project *"Ett nytt recept för skolmåltider"* [40].
- **Malmö:** Chosen due to their strong environmental profile and how food policy is integrated into their operations. The municipality has performed concrete

actions to promote more sustainable and healthy food in the public schools through the "SchoolFood4Change" project [44].

- **Milan:** Included as an international reference municipality due to its important role in global food policy. They created the Milan Urban Food Policy Pact in 2015, which is now signed by over 300 municipalities worldwide [55].
- **Skövde:** Selected due to being part of *"Skolmatsakademing"* [73], the project SWITCH [79] and being the home of several of the founders of *"ätbart"* [87].
- **Stockholm:** Chosen for its food strategy aimed at promoting healthy and good food in the municipality's operations. A concrete example is their "God, hälsosam och klimatsmart mat" [77].
- **Södertälje:** Recognised for its work within sustainable food policies within public meals. An example is the "Diet for a green planet policy" [30], which integrates healthy and locally produced food in schools and elderly care.
- **Umeå:** Included for its innovative "Mat & Klimat" initiative, which promotes sustainable food and good eating habits to support the environment [84].
- **Växjö:** Stands out for its strong environmental profile. For instance, the municipality has set a goal to halve food waste by 2025 [83].
- **Örebro** Stands out for being the winner of Ekomatsligan three times in a row, achieving the highest share of ecological food in the public sector [19].

3.3 Data Collection

To ensure that the collected data was rigorous and that the data is triangulated, we relied on two primary sources, including document analysis and interviews. According to Eisenhardt [17], it is important to use a data collection method that can improve the validity of a study with a positivistic approach. Triangulation, meaning using more than one data source to collect information, is, according to Bell et al. [5], a good method of cross-checking findings. By using this method, one cancels out the limitations of one method by using another.

3.3.1 Interviews

We held semi-structured interviews with municipal officials, food systems stakeholders, and policymakers from all of the different municipalities. Semi-structured interviews have enabled depth, but also comparable insights between the municipalities. This has also allowed exploration of more context-specific subjects during the interviews. We have primarily interviewed different stakeholders involved in implementing food system strategies and who have experience in the field.

We have tried reaching out to 30 different municipalities in Sweden, Italy, the UK and Germany. The below mentioned oned municipalities were the ones we conducted interviews with. Unfortunately, some municipalities did not answer, some did not have time or did not want to participate.

Inteview no.	Respondent	Municipality	Role	Duration	Where	Date	Secondary data sources
1	R1	Södertälje	Senior public employee	60 min	Zoom	2025-03-20	Municipality website
2	R2	Malmö	Senior public employee	60 min	Zoom	2025-03-21	Municipality website
3	R3	Växjö	Senior public employee	60 min	Zoom	2025-03-26	Municipality website
3	R4	Växjö	Senior public employee	60 min	Zoom	2025-03-26	Municipality website
4	R5	Södertälje	Senior public employee	60 min	Teams	2025-03-26	Municipality website
5	R6	Milan	Senior public employee	60 min	Zoom	2025-03-27	Policy documents
6	R7	Malmö	Senior public employee	45 min	Teams	2025-03-28	Municipality website
7	R8	Skövde	Senior public employee	60 min	Zoom	2025-04-02	Municipality website
8	R9	Umeå	Senior public employee	60 min	Teams	2025-04-04	Policy documents
9	R10	Umeå	Senior public employee	60 min	Teams	2025-04-04	Policy documents
10	R11	Örebro	Senior public employee	45 min	Teams	2025-04-07	Strategy document
10	R12	Örebro	Senior public employee	45 min	Teams	2025-04-07	Strategy document
11	R13	Karlstad	Senior public employee	45 min	Teams	2025-04-08	Municipality website
12	R14	Stockholm	Senior public employee	60 min	Teams	2025-04-08	Municipality website
13	R15	Karlstad	Senior public employee	45 min	Teams	2025-04-11	Municipality website
14	R16	Skövde	Senior public employee	45 min	Teams	2025-04-24	Municipality website

Figure 3.1: List of respondents.

An interview protocol with a list of questions was constructed before the interviews. The protocol was later adjusted as the interviews progressed to retain relevance and extract the most knowledge from each interview. Subject to consent, each semi-structured interview was also recorded and transcribed to analyse it. The interviews were held on digital platforms such as Zoom and Microsoft Teams.

3.3.2 Literature Review

To complement the interview data, we analysed public sector organisations' food documents, including sustainability reports, policy plans, and governance frameworks. The selection criteria for the documents include policies related to food system transformation, strategic frameworks that describe governance models and resource distribution, and articles from food system organisations that collaborate with the. The chosen approach ensures that the authors receive correct facts, collected from documents and interviews.

3.4 Data Analysis

Thematic analysis, as outlined by Clarke and Braun [12], was chosen in this study due to its flexibility, systematic structure and ability to recognise important patterns in qualitative data. Thematic analysis allows an inductive and deductive approach, making it suitable for analysing various perspectives in food system transformation.

Further, the study followed Clarke and Braun [12] six-phase process. This meant that we first got familiarised with the interview data, by conducting the interviews and reading the transcripts. This step was followed by a systematic coding structure across the entire dataset to capture features relevant to our research question. The codes were then organised into themes by sorting them into potential themes. These themes were reviewed and refined about both the coded extracts and the entire data

set. Each theme was then defined and named to capture the core of the responses. Lastly, the themes were analysed and portrayed with quotes from the data in the final report to ensure transparency and credibility.

Goffin et al. [32] discussed three evaluation criteria to evaluate the richness of qualitative analysis. These criteria include presentation, interpretation and inter-code agreement. The presentation is about presenting data clearly and efficiently, while interpretation is about correctly interpreting the presented results. Interpretative suggests that theorising should be an iterative process that follows the logic from the findings in the data.

3.5 Ethical Considerations

Ethical considerations were rigorously observed throughout the research process. Interviewees received critical information about the objective of each interview and how the content it provides will be used. Transparency in the process ensures that each participant can make an informed decision about whether to participate in the interview.

Each participant will be asked for permission to record, and each participant can remain anonymised in the final report submitted. This approach supports each interview's integrity. GDPR (General Data Protection Regulation) will be complied with throughout the whole report and will have top priority. Personal data will be stored carefully in line with the laws of data privacy and protection.

4
Findings

This chapter goes through the relevant findings for this master's thesis. The chapter will go through the findings related to the three elements presented by Borrás et al. [7], starting with resources in 4.1, abilities in 4.2 and ending with roles in 4.3.

4.1 Resources

This section presents each municipality's resources, how each PSO have developed them, and a detailed summary in figures 4.1 and 4.2. The different resource categories come from the transformative capacities framework by Borras et al. [7], which includes the resources: human, financial, data and information, physical, political, network, cultural, and legitimacy resources.

4.1.1 Human Resources

Human resources refers to the people working within municipalities, such as employees and project leaders. These employees include frontline workers, such as kitchen employees, and strategic personnel involved in development, strategy development, and project execution [7].

Several respondents noted the importance of having both motivated and talented employees and the difference it made. Several municipalities, including Södertälje, Malmö, Växjö and Stockholm, mentioned that long experience and strong relationships between different stakeholders were more critical than having formal strategies. One respondent from Umeå stated, *"Much of our progress depends on individuals who have stayed for years. They know the system, the actors, and how to navigate policy and practice"*.

Milan grew its food policy unit from five to forty employees in three years, which enabled expertise within urban planning and communication. This type of experience often helped employees work across several departments and projects. In Södertälje, the team was used to working between departments and different projects. However, the dependence on individuals also made the systems fragile when employees suddenly left, essential knowledge was lost, and the project could be affected. One food project in Malmö was delayed for several months as one of the leading persons resigned. *"We didn't have a backup. That person had all the contacts, all the documents, and know-how"*. The COVID-19 pandemic made these issues much more

visible. Respondents from Växjö and Örebro mentioned that employees were moved to emergency roles and that food work was put on hold. Växjö reassigned resources for food-related work, but other municipalities could not be as flexible. Växjö mentioned that *"We simply didn't have the people. Everyone was already stretched, and food work wasn't seen as the priority"*.

Skövde made a strategic change when they centralised meal planning within a centralised organisation, enabling expertise and stability.
Another issue was the problem with Short-term projects, which conflicted with the long-term nature of food transformation efforts. Projects were often externally funded in Malmö, and employees were sometimes hired for short periods, making it hard to keep experienced people. One respondent from Malmö mentioned that *"People left when the project ended. We trained them, invested in them, and then we had no way to keep them"*.

Some respondents also mentioned that political targets were sometimes unrealistic given the available resources. A respondent from Karlstad mentioned, *"We were told to cut food waste by half, but no one asked how many people it takes to do that"*.

4.1.2 Financial Resources

Financial resources refer to the funding available to municipalities for developing and implementing food system transformation. These resources can come from internal municipal budgets or external sources such as EU funds and national grants [7].

Financial resources were described as an enabler. Södertälje mentioned that employees had to combine multiple funding sources to support long-term projects. The respondent noted, *"We have a base budget from the municipality, but we also apply for EU funds and regional grants. That mix gives us more flexibility to plan long-term"*. However, that strategy did require the municipality to have project coordination skills and long-term financial planning knowledge, which not all municipalities have. Malmö and Växjö mentioned that they heavily relied on project funding, which made their work tougher as the project ended. One Malmö respondent stated, *"When a project ends, the money ends too. Building something lasting is hard when you don't know if your funding will continue"*.

Milan had strong external and internal financial support, allowing it to run long-term projects. Skövde, on the other hand, employed a collaborative procurement strategy that involved several neighbouring municipalities. While they did not receive significant funding, this strategy helped them with resource pooling and negotiation power by making them a larger volume purchaser.

One tension described was the difference between the ambitious political goals and the actual financial support provided to achieve those targets. Several municipalities

described ambitious political targets, such as reducing food waste and increasing the share of locally sourced food, but they lacked the financial support to achieve them.

The war in Ukraine and the pandemic also influenced financial decisions. In some municipalities, these global events led to higher food prices and tighter budgets. This affected the ability to source more sustainable and locally produced food. In other municipalities, the crises were used as arguments to justify more investments in the food systems. One respondent from Södertälje mentioned, *"We used the geopolitical uncertainty to argue for more local food sourcing. It became a resilience issue, not just a sustainability one"*. This strategy helped some municipalities to support continued investments in the food system. However, the crisis had the opposite effect on others, especially smaller municipalities with fewer resources.

4.1.3 Data and Information Resources

Data and information resources refer to the data and information that municipalities use to understand and evaluate their food systems. These can include different digital platforms for tracking procurement, databases on food waste, nutrition calculators, and reporting tools [7].

Almost every studied municipality emphasised the importance of having access to reliable data. Data and information can be essential for making informed decisions, for continuous monitoring, and for evaluating outcomes. While some municipalities that were using a project-organisation, such as Södertälje and Umeå, talked about assessing the capacity of the project-group before taking on a new project, as one respondent from Södertälje mentioned, *"Before entering a project-application we asses our current projects and which are to be finished. To make sure that there are always resources (human and financial)*".

Most municipalities used data for monitoring and outcome evaluation. One respondent from Växjö mentioned how the data helped them to achieve their sustainability goals. They explained, *"We track everything from carbon emissions to the share of organic and Swedish products. That data helps us justify our investments and show results"*. However, some municipalities mentioned challenges between data quality and availability. Örebro mentioned the difficulty connecting school waste data with procurement outcomes: *"We had separate systems for nutrition and purchasing. It was hard to get a full picture of what was happening"*.

Milan started its food policy work by conducting a city-wide food system analysis. The food system mapping helped the municipality understand the current food system. They also collaborated with leading universities to track their progress and evaluate alternatives. In contrast, Skövde used more hands-on forms of data, such as monitoring supplier performance and procurement trends. While they did not use system-wide digital tools, data sharing across all municipalities in their network helped guide their decisions.

The pandemic also highlighted how data systems could support or hinder the food-related work. Those with supportive data systems could quickly adjust procurement and logistics, while others struggled to locate key information.

The indicators valued by the municipality also shaped the use of data. Several respondents mentioned that environmental data, such as emissions and organic share, was easier to communicate than social aspects, such as inclusion and cultural fit. The Stockholm respondent mentioned, *"We have good environmental data, but we don't know enough about how food supports wellbeing or inclusion"*. This created tension in how food transformation was shaped. What could be measured became the focus, while other aspects remained invisible in the decision-making process.

4.1.4 Physical Resources

Physical resources refer to the tangible infrastructure and facilities that support municipal food systems. These include kitchen storage and logistics facilities, land for urban agriculture, and food preparation and distribution equipment [7].

The interviews showed that there was a wide variety of available physical resources. Örebro mentioned that they had invested in a central logistics hub, which helped them to source food from more local suppliers. The respondent noted, *"Having a shared logistics centre made it easier to bring in smaller suppliers. Without that, they wouldn't be able to meet the volume or delivery needs"*. Similar logistics hubs were also found in Karlstad and Växjö, while the municipality in Malmö has been looking into this with a similar argument, saying, *"Having a logistics hub would make it a lot easier to coordinate with smaller local wholesalers*".

Skövde did not have a centralised logistics hub, which hindered their ability to source products from some smaller local suppliers. In contrast, some cities struggled with how the supplier situation looked in their municipality. One respondent from Karlstad mentioned that they had problems with few sourcing options and said, *"There are only a few wholesalers, and they control the supply chain. Even if we want to buy locally, the system doesn't support it"*. This contradicts what one respondent from Malmö said, highlighting the power of purchasing large volumes. The respondent said, *"We could impact what types of products the supplier sources, as we are buyers of large volumes"*.

Milan operated a strong physical base through the municipal company Milano Ristorazione, which operated several cooking centres serving schools and elderly care. The system allowed the city to deliver sustainable meals at scale and align with policy goals such as reducing meat and supporting more plant-based meals.
Another issue mentioned in the interviews was the ageing state of physical resources. Malmö, like Växjö, emphasised that some kitchens were outdated and could not adapt to new goals. One Malmö respondent mentioned, *"We'd like to cook more from scratch and reduce waste, but the kitchens are small and not designed for that*

kind of work". Some cities found creative ways to overcome these limitations.

Geopolitical instability puts pressure on the municipal food systems. Disruptions in food supply chains made it hard to deliver food on time, highlighting the need for municipalities to develop more resilient infrastructure. A Växjö respondent mentioned, *"We realised we were too dependent on external deliveries. We started thinking more about local storage and backup plans"*.

However, not all cities had the possibility to do this, due to the lack of land. One respondent from Stockholm mentioned the issue of finding land where you could produce more local food. The respondent explained, *"There is a will to grow more food locally, but finding land within the city is a real barrier"*.

4.1.5 Political Resources

Political resources refer to the policies, strategies, and political support that will guide municipal food system transformation. These resources help municipalities set priorities, secure legitimacy, and choose the direction of their investments [7].

The political engagement in the food system questions varies significantly between the studied municipalities. Respondents from Södertälje mentioned that strong political support for transforming the food system was seen as a superior advantage. Respondents noted how this support helped them secure project legitimacy and allowed the employees to experiment with various strategies: *"When politicians back you up, it makes it easier to get things done and apply for external funding."*.

However, other municipalities, such as Karlstad and Växjö, highlighted how frequent political changes could cause instability. New political majorities could suddenly change priorities, making it hard to pursue long-term plans. One Karlstad respondent mentioned, *"Every four years, everything can change. A new majority might not care about food systems at all"*.

Some respondents also pointed out that some political goals were unrealistic. One respondent from Malmö mentioned that they had adopted a political strategy to purchase more sustainable food but had not provided the right resources for it: *"It looks good on paper, but we don't have the staff or money to make it happen,"* said the respondent.

Milan had strong and consistent political support, which helped it establish the food policy unit. The Milan Urban Food Policy Pact and international recognition helped them give long-term legitimacy and align sustainability goals with food efforts. Skövde approved a new meal policy in 2016, and while it was short, it provided a clear direction and enabled employees to operate independently.
The war in Ukraine influenced the political discussions around food systems. Some municipalities shift focus to short-term emergency responses, while others use the

situation to support the development of local resilient food systems. One respondent from Växjö mentioned, *"The crises helped us push food higher on the political agenda. Suddenly, local food security mattered in a new way"*.

4.1.6 Network Resources

Network resources refer to the relationships and partnerships that municipalities leverage to support their food system targets. These include formal networks, regional or funded partnerships, or informal networks with local producers, schools, and municipalities [7].

All interviews highlighted the importance and value of networks. Cross-sector collaboration was the key to progress for the Matlust project in Södertälje. Employees in Södertälje explained how the relationship with local companies and other municipalities allowed them to reach new goals. One respondent explained that *"We can't do it all ourselves. We've built partnerships across the region and other municipalities"*.

Umeå employees also highlighted how their participation and establishment of local networks enabled them to share knowledge and collaborate with other regional municipalities. One respondent explained, *"We learn a lot from each other, everything from how to design policies, what worked, and what to avoid"*. Milan and Skövde also enabled local communities to collaborate. Skövde's collaboration among several municipalities helped them to improve their market conditions and allow more locally sourced products. While not as big as Milan, the network was practical and enabled them to reach their goals.
However, some municipalities have experienced challenges in building relationships. Respondents from Karlstad mentioned that limited resources made it hard to stay active in different collaborative networks: *"We want to engage more, but when you're short on staff, it's hard to participate in all those meetings and networks"*.

The pandemic also influenced the possibility of collaboration. Meetings moved online, which pushed some cities to connect in new ways. One respondent from Stockholm mentioned, *"A while ago, we rarely met with certain municipalities. Now we're used to working together digitally, which has helped us stay connected.*

4.1.7 Cultural Resources

Cultural resources refer to the shared values, traditions, and norms related to food. These can include health-related attitudes, sustainability, and traditions [7].

Cultural values were connected with the food system goals in Södertälje. Respondents explained how they used values around health and resilience to build support for local food sourcing. One respondent mentioned, *"People understand the value of local food when you connect it to things they care about, such as children's health or*

being prepared for crises".

Malmö and Umeå both highlighted the importance of food as a tool for inclusion and integration in society. The respondents from these cities explained that projects could be linked with and used in schools and communities to promote inclusion. A respondent from Malmö explained that they had cooking meet-ups where families brought their recipes and stories.

However, several cities also mentioned that cultural change is slow due to certain habits. A respondent from Växjö noted, *"Some employees and parents still think in terms of meat and potatoes. Changing that mindset takes time and continuous education".*

Tensions between sustainability goals and consumer expectations were also raised during the interviews. One respondent from Stockholm noted complaints when meals were adjusted to include more plant-based meals, *"We tried reducing red meat, but it wasn't popular. People wanted familiar meals. So we had to find a balance".*

Geopolitical events also affected food culture. Several municipalities reported increased interest in food resilience during times of uncertainty. *"People started talking more about growing their own food or supporting local farmers. It became part of how they understood resilience"* explained one respondent from Umeå.

4.1.8 Legitimacy Resources

Legitimacy resources refer to the trust and credibility a municipality gains from internal actors, such as political leaders, and external ones, such as businesses and civil society. Legitimacy enables the municipality to build support and secure commitment for its long-term food system change goals [7].

The respondents from the studied municipalities explained that legitimacy is built over time, through consistency, transparency and visible results. Respondents from Södertälje mentioned that their food projects have gained strong legitimacy after years of implementation and recognition at a national level. The respondent noted, *"Because we've been doing this for years and people know our work, it's easier to get support. We've built trust across sectors".*
Milan gained legitimacy through the 2015 Expo when it launched the Milan Urban Food Policy Pact. International recognition enabled the city to strengthen credibility and attract funding and partners.
However, legitimacy was not always stable. A respondent from Växjö mentioned that changes in political leadership or poor communication can weaken support for food-related initiatives. *"Sometimes the politicians change, and new ones don't prioritise food. Then all the progress we made loses momentum".*

Different types of resources

	Karlstad	Milan	Malmö	Skövde	Stockholm
Human resources	**Team size:** 5-10 employees. **Knowledge transfer:** Ad-hoc and informal, with limited systematic knowledge sharing across projects and departments.	**Team size:** 40-50 employees. **Knowledge transfer:** Collaboration processses between departments.	**Team size:** 10-20 employees. **Knowledge transfer:** Constrained by bureaucratic processes and siloed departments, which hinder broader organizational learning.	**Team size:** 0-5 employees. **Knowledge transfer:** Occurs informally, relying on personal networks rather than institutional processes.	**Team size:** 20-30 employees. **Knowledge transfer:** Still in early stages, with some efforts to link food policy with broader sustainability work.
Financial resources	**Funding sources:** Primarily relies on internal budget allocations for food-related work, without significant external project funding.	**Funding sources:** Milan benefits from a robust mix of internal resources and external funding, including EU grants and international collaboration mechanisms.	**Funding sources:** Highly dependent on short-term project grants, particularly from EU sources.	**Funding sources:** Lacks major direct funding; instead uses collaborative procurement with neighboring municipalities.	**Funding sources:** Operates under a tight municipal budget with little room for new investments.
Data and information resources	**Data used for:** Evaluate outcome of projects. Data is not part of decision-making.	**Data used for:** Evaluate outcomes of projects and for decision making. Data is also shared with universities to share knowledge.	**Data used for:** Evaluate progress of sustainability goals but not used in decision-making.	**Data used for:** Evaluate outcome. They use digital data for procurement to evaluate what has been purchased and the costs. Data is not part of decision-making.	
Physical resources	**Physical assets**: Local wholesaler supporting local procurement and a local logistics hub.	**Physical assets:** Operates centralised cooking centres via Milano Ristorazione for schools and elderly care.	**Physical assets:** Some kitchens are outdated and too small to support scratch cooking and food waste reduction.		**Physical assets:** Struggles with the availability of land for urban food production.
Political resources	**Explicit mandate:** Old food policy no longer active. No clear or updated political directive. **Implicit mandate:** Reduce the share of meat in public meals and reduce food waste but no conrete target.	**Explicit mandate:** Milan Food Policy Pact, a formal political commitment that has established food policy as a strategic municipal priority. **Implicit mandate:** Reduce the share of meat in public meals and reduce food waste but no conrete target.	**Explicit mandate:** No active policy. **Implicit mandate:** Increae share of organic food bu no firm target.	**Explicit mandate:** Adopted food policy that stretches until 2030. **Implicit mandate:** Reduce food waste and emissions but no firm target.	**Explicit mandate:** No formal policy. Concrete target of emissions per public meal. **Implicit mandate:** Reduce the share of meat in public meals and reduce food waste.
Network resources	**External relations:** Engages with local food-producers, the local wholesaler and regional municipalities, however, network efforts remain informal and project-specific.	**External relations:** Engages actively with the local community and collaborates with regional, national and EU authorities. Education regarding food has been put under the education department, and therefore has an impact on all schools.	**External relations:** Works with universities and research institutes as well as with other municipalities and private wholesalers	**External relations:** Cooperates with neighbouring municipalities to strengthen procurement and service delivery. Built political networks by showcasing concrete cost-savings initiatives.	**External relations:** Extensive collaboration with universities and other research projects. Working on connecting with the region.
Cultural resources	**Bureaucratic culture:** Staff take initiative, but politicians are slow to support new ideas. **Societal sustainability culture:** The society is not very involved in decisions related to food.	**Bureaucratic culture:** Employees collaborate well together across departments. **Societal sustainability culture:** People in Milan care about food and sustainability. Farmers, NGOs, schools, and citizens are all involved.	**Bureaucratic culture:** Employees are creative and tries out new thigs. Slow moving organisation makes it hard to get thing s doene in time. **Societal sustainability culture:** Several integration projects like cooking meet ups helps promote integrationa and particiapation.	**Bureaucratic culture:** Practical and decentralized. They are focusing on improving operations thorugh cost-efficiency instead of innovation. **Societal sustainability culture:** Not a substantial societal involvement in food related culture.	**Bureaucratic culture:** Changing political leadership has made work unstable over time. **Societal sustainability culture:** Mixed in general. Parents were upset with meal changes but education has helped both parents and students understand the reasons behind it.
Legitimacy resources	**External credibility:** Credibility through long-standing networking, social acceptance and authority through collaborations with the local community in schools.	**External credibility:** Highly credible internationally through MUFPP and has been receiving several international awards. Society authority and acceptance through extensive work with the local community, education and including citizens in the decision-making process.	**External credibility:** Credibility through long-standing networking, and work towards more sustainable procurement practices. Achieved credibility and authority from the civil society with Malmö Food Council, a platform where actors can engage.	**External credibility:** Trust through long experience and networking. The PSO has achieved local and national recognition after being noticed in the media. Also social authority by engaging with personal working with food and the society.	**External credibility:** Working with social authority and acceptance by involving the local society, are currently achieving it through a research project engaging civil society, private actors and cultural actors.

Figure 4.1: Resources by municipality

Different types of resources cont

	Södertälje	Umeå	Växjö	Örebro
Human resources	**Team size:** 10-20 employees. **Knowledge transfer:** Well-developed, with strong cross-sector collaboration and partnerships with educational institutions.	**Team size:** 10-20 employees. **Knowledge transfer:** Embedded in practice and routines, though not always documented or formalized.	**Team size/structure:** Food-related staffing is thin and often reactive, especially during crises like COVID-19. **Knowledge transfer:** Weak due to low staffing levels and limited strategic focus on food system work.	**Team size/structure:** Centralized team structure with access to university expertise and students. **Knowledge transfer:** Benefits from academic collaboration but internal communication remains fragmented.
Financial resources	**Funding sources:** Effectively blends internal base budgets with external EU and regional grants.	**Funding sources:** A combination of internal resources and external project-based funding.	**Funding sources:** Strong reliance on short-term project grants, particularly for sustainability programs.	**Funding sources:** Guided by political mandates rather than dedicated food system budgets.
Data and information resources	**Data used for:** Evaluating outcome of projects. They mix digital data such as monitoring procurement and with information through work shops. Also use data for deciosion-making when making new policies.	**Data used for:** Evaluate outcome of projects. They used digital information such as emissions from food procurement and study visits.	**Data used for:** Evaluate outcome. They use digital data for procurement to evaluate what has been purchased and the costs. Data is not part of decision-making. Data used for benchmarking purposes to	**Data used for:** Digital data used o evaluate outcome and for decision making. Evaluate outcome. Digital data is used to track emissions and food costs.
Physical resources	**Physical assets:** Strategic use of kitchens and logistics supports cross-departmental initiatives.	**Physical assets:** Improved kitchens for more decentralised governance	**Explicit mandate:** Several food policies in place. **Implicit mandate:** Increae share of organic food but no firm target.	**Physical assets:** Local logistics hub
Political resources	**Explicit mandate:** Several food policies in place. **Implicit mandate:** Increae share of organic food but no firm target.	**Explicit mandate:** Several food policies in place. **Implicit mandate:** Increae share of organic food but no firm target.	**Explicit mandate:** No firm target. **Implicit mandate:** Aim to reduced climate impact from public meals.	
Network resources	**External relations:** Projects such as MatLust connecting with a broad range of actors, including the local community, private companies, including local producers, the region and the EU. Also connecting with private actors in a broad range of projects both to collaborate and to secure resources.	**External relations:** The broad project group has collected contacts with several actors in the private sector through projects and other municipalities by engaging in regional collaboration networks.	**External relations:** Has actively engaged in different network communities through projects, and from there and personal contacts built relations with several other municipalities.	**Partnerships:** Engaging in different networks with other municipalities in the region. Engaging with both larger wholesalers and, local, smaller wholesalers.
Cultural resources		**Bureaucratic culture:** They try out new ideas and work wit universities and other partners. **Societal sustainability culture:** Citizens are becoming more involced. th apandemic made food resilience more important.		**Bureaucratic culture:** Collaborative culture with good work between departments. **Societal sustainability culture:** Citizens not that involved in food related areas.
Legitimacy resources	**External credibility:** Viewed as a pioneer nationally and internationally, supported by individuals with long-term experience and several projects with a broad range of actors. Working the social society through schools and education for social acceptance and authority.	**External credibility:** Growing recognition through projects and by anchoring sustainable food systems together with energy, environmental and military preparedness issues. Social recognition through a project resulting in a public book.	**External credibility:** Media coverage during COVID increased legitimacy for food security concerns. And regional and national recognition through collaborations and study visits	**External credibility:** Regional recognition through collaboration with the region and social authority by including employees and local suppliers through feedback and dialogue.

Figure 4.2: Resources by municipality cont.

4.2 Abilities

This section outlines the range of abilities municipalities can leverage to facilitate food system transformation. As shown in the transformative capacities framework by Borrás et al. [7], abilities refer to a set of routines, practices, and procedures of a PSO. The study presents the four distinct abilities presented by Borrás et al.[7]. A summary is provided in the figures 4.3 and 4.4.

4.2.1 Analytical Abilities

Analytical abilities refer to a municipality's capacity to explore, study, and understand food system issues. This ability includes collecting, interpreting, and using data, identifying trends and evaluating actual outcomes [7].

Växjö and Södertälje use data analysis and feedback from stakeholders to understand where interventions could be the most effective. Södertälje used knowledge from earlier projects, such as Matlust, and redesigned follow-up projects to optimise the outcome. *"We evaluated what worked in the first project and used that knowledge to improve the next one"* said one respondent from Södertälje.

Växjö conducted carbon emission calculations for different foods to identify high-emission groups and made procurement adjustments based on those calculations. This helped the municipality align menus with their climate targets, and one respondent mentioned that *"We could see which types of food had the highest climate impact. That helped us rethink the menus"*.

Stockholm and Malmö partnered with academic institutions to co-produce knowledge, and in some municipalities, these collaborations also legitimised proposed policy changes.

Still, limitations were apparent, especially for smaller municipalities. Karlstad and Örebro mentioned how analytical work was often performed ad hoc and that time constraints and a lack of good analytical tools made it hard to develop beyond basic monitoring. One respondent mentioned, *"We tried to get data on waste and climate impacts, but it was manual and inconsistent. There's no central system"*.

4.2.2 Operational Abilities

Operational abilities are the capacity to carry out concrete actions, manage projects, and implement plans effectively. These include the ability to turn strategic visions into daily work, organise employees, and solve problems as they occur. Operational ability is an integral part of implementation, often where ambitious political targets become reality.

As noted in 4.1, all municipalities highlighted the importance of networking and

having a strong network. However, there was a difference in how the municipalities used them and for what reasons. Municipalities such as Karlstad, Skövde, Växjö and Örebro highlighted the importance of using networks as an operational tool to solve problems. A respondent from Skövde noted, *"I initiate them* [the meetings]*as well. When it is time for a new* [procurement deal] *it is I who convenes for a meeting. Or the same thing if it is a meeting with a supplier. ... I have huge mandate to roam freely. It's not often, I contact them .... only when there's a problem.* A respondent from Växjö explained why they couldn't buy as many Swedish-produced goods as in another municipality. *Well, then we have to find out. And often, when you do reach out to the right people. They're very approachable and usable for inspiration. You can see what they've done to try and solve the problem.*

Södertälje and Umeå were good examples of how municipalities worked with several externally funded projects. The projects were often funded by the EU or national innovation agencies and came with strong reporting requirements. Municipal employees had to ensure that activities were going as planned, with careful budgeting and a clear overview of deadlines and deliverables. One Södertälje respondent mentioned, *"We handle projects with different rules and timelines. It requires coordination, budgeting, and tracking outcomes over the years".*

Many respondents pointed to tensions between the food goals and strategies and the actual capabilities to implement them. Funds were given through short-term projects, which made it hard to build long-term routines and created uncertainty. When the projects ended, staff were sometimes lost, which weakened the municipality's operational capabilities for progress.

Geopolitical events such as the war in Ukraine led to strong inflation, which impacted food costs and insecure supply chains. Municipalities that did not have strong operational systems had a hard time adapting their procurement and kitchen planning under these new conditions. Others used this event to redesign how food was sourced and stored. They turned it into a learning opportunity.

4.2.3 Coordination Abilities

Coordination abilities involve the capacity to connect, collaborate, and communicate across several departments and sectors. This ability is essential for aligning policies, building trust between different actors, and securing the food necessary for food system transformation. Good coordination enables the municipality to integrate food with other areas, such as education and health, to ensure that the different actors work towards the same common goal[7].

Larger cities such as Milan, Stockholm, Södertälje, Umeå and Malmö were using their networks more towards coordination with larger regional, national or international actors and also through researchers and universities to build long-lasting connections and partnerships. A Södertälje representative noted *"Then we're also*

working with the Interreg-foundation. Which is connected to the Baltic Sea and the countries around there, It is a lot of networking projects, where we exchange experiences and knowledge with each other". Another Söderälje respondent noted that *"We're also working very closely with Södertälje Science Park"* (an organisation for networking and for drive development projects connecting people in public sector, academia and private sector). Further, Milan has coordinated for [the food policy to be] *under the education department .. we say to the teachers and the directors of the schools that the education on food is the same as educating in history or in geography.* This is to connect people with food from the very start, which continues with the local university, *Other crucial partners like the Politecnico of Milan, the Faculty of Engineering, and the School of Management that are still supporting us, as there is a food observatory that is working with us.*

Malmö and Stockholm used coordination as a strategy to connect different actors in society. They collaborated with universities and school departments to co-design pilot indicators and exchange knowledge. The projects helped them build legitimacy and increase their ability to achieve what they wanted. *"We don't work alone. We bring in outside partners to test ideas, gather data, and share findings"* said one respondent from Malmö.

Umeås participation in a northern food and climate network showed the value of collaborating with peers and other municipalities. The actors in the network exchanged knowledge, experiences, and mistakes they had made. *"The network helps us avoid duplication. If another city tried something, we could learn from their results,"* said one respondent from Umeå.

Karlstad coordinated with local producers by actively sending employees to farmers and small suppliers to discuss procurement processes and understand the value of their work. However, they struggled to scale these efforts into actual partnerships as they had limited capacity to achieve that.

The pandemic revealed gaps in internal coordination for Örebro. The teams responsible for food and logistics did not always get essential updates on deliveries and supplies of important food, which was critical during disrupted supply chains. Due to this, they had a hard time collaborating quickly and smoothly when food needed to be delivered to schools and other critical departments.

Växjö describes how the lack of time and continuity often challenges its participation in climate and food networks. Although they were strongly willing to participate, they could not maintain follow-up action after each meeting. *"We sign up for networks, but sometimes nothing really happens after the first meetings"* said a respondent from Växjö.

Several municipalities expressed frustration with the national procurement system, which limited the ability to source products from local suppliers. In Malmö, this became particularly evident during the war in Ukraine when food prices increased

and the municipality was locked into inflexible contracts. However, other municipalities, such as Umeå, developed separate contractual agreements to address these problems. Their newly developed criteria in the contracts enabled them to purchase a higher degree of locally sourced products without being restricted to the same degree as the current contract framework that was in place.

4.2.4 Learning Abilities

Learning abilities refer to a municipality's ability to gain new insights, adapt based on experience, and improve its strategies over time. This ability is essential for building resilience and avoiding repeating the same mistakes. It includes using feedback and experiments to support change [7].

Across all cities, learning was present in both formal and everyday practice. Södertälje is a good example of structured learning. Employees used insights from the Matlust project and other initiatives to redesign procurement processes and improve the coordination between different departments in the municipality. The shift towards supporting more local suppliers was done as geopolitical crises emerged. One Södertälje respondent mentioned, *"We realised we needed more local options. The crisis made that very clear"*.

Malmö also used learning as a continuous part of food-related work. Employees regularly reviewed and made changes based on the project's outcomes. A respondent mentioned how each project ended with a reflection phase, where the team could reflect on its contributing factors and what could be improved. *"We always ask, what did we learn? What should we change next time?"* the respondent explained.

Umeå made learning a collective process by collaborating in local networks, where employees exchanged knowledge and experiences with other municipalities. The exchanges supported new approaches to food logistics and environmentally friendly meals and helped the employees avoid common mistakes.

Stockholm worked closely with academic researchers to evaluate school meals. The collaborations provided legitimacy and good feedback, which helped the municipality build trust and develop updated policies.

Växjö and Örebro engaged in learning more informally. Teams held internal debriefs or adjusted routines based on trial and error. However, they sometimes struggled with keeping knowledge in the organisation, as many essential lessons disappeared when key employees left. *"There's a lot of practical knowledge, but it stays in people's heads. When someone leaves, it disappears"* explained one employee from Örebro.

In Karlstad, learning was often tied to kitchen operations. However, the knowledge was not spread beyond the local team, as there was no existing collaboration across departments.

Different type of abilities.

	Karlstad	Milan	Malmö	Skövde	Stockholm
Analytical abilities	**Studying:** No central system for collecting and comparing results. Most learning is based on individual's experience and is not shared between departments. Data collection is mostly practical such as costs for procuremnent. **Sense-making:** Sharing happens between individual employees who compare results but not across the entire organisation.	**Studying:** Collaborates with external experts and other international municipalities. Data is collected through running EU-projects and from local suppliers. **Sense-making:** They use lessons from erlier projects to adjust plans and develop new ideas. Collaborates closely wit partners to exchange knowedge and what works.	**Studying:** Workes with digital monitoring of environmental data. Municipal department collects data on an ongoing basis and through different projects. **Sense-making:** Shifted from a top-down policy model focused on achieving concrete goals such as share of organic food in publi meals to a more learning approach. Malmö Food Council acts as a forum for sharing knowledge and shape visions for the future.	**Studying:** Centralised digital system that gathers basic data for meal procurement. Data is used for budgeting and more practical needs and is not part of any strategic analysis. **Sense-making:** Sharing happens between individual employees who compare results but not across the entire organisation.	**Studying:** No central system for collecting and comparing results. Data is used for budgeting and more practical needs and is not part of any strategic analysis. Efforts are made to improve dara sharing between departments. **Sense-making:** Insights only shared within departmetn today. Efforts are made to work towards more commoon goals.
Operational abilities	**Managing:** Decentralised operations under different boards pushing for different initiatives and types of execution, enabling responsiveness but limiting centralised coordination and strategic direction. Dynamic procurement deals have been pushed and coordinated, and made possble due to local logistics hub. **New Routines:** New initiatives and routines are tested and implemented locally. Successful initiatives eventually make it to a strategic plan.	**Managing:** Centralised governance setting the direction with external (academic) help for monitoring. Multi-level governance depends on the project and operational group. **New Routines:** Routines and projects are initiated from all levels of the multi-level governance. The centralised governance sets the direction.	**Managing:** Levelled governance, where centralised governance sets direction and monitors. Smaller teams and groups are used for feedback loops and initiatives. **New routines:** Initiatives and projects are tested locally, after approval, and thereafter scaled if deemed successful.	**Managing:** Centralised procurement, together with surrounding municipalities, and monitoring, but decentralised execution. **New routines:** Broader initiatives are taken centrally, but most projects and responsibilities are decentralised.	**Managing:** Decentralised execution and monitoring. The central unit works for cooperation between the departments. **New routines:** Initiatives and projects are taken on in the different departments. However, successful projects fall 'in between' due to a lack of centralised recognition and direction.
Coordination abilities	**External collaboration:** No active collaboration with external stakeholders. Collaboration is mainly internal and dependent on a few employees. **Communication:** Very little external communication. Ideas and knowledge are not spread to external stakeholders.	**External collaboration:** Collaboration with external stakeholders such as schools, farners and networks through the Milan Urban Food Policy Pact. **Communication:** Active with external communication through social media, exhibits and workshops. Their work has made them known internationally for their food policy.	**External collaboration:** Active external colalboration with universities, public meal services, and local businesses through joint projects and food networks such as the Malmö Food Council. **Communication:** Active external communication with other stakeholders through social media and workshops.	**External collaboration:** Active external collaboration with neighboring municipalities through a shared procurement strategy, which enables joint food purchasing and coordination. **Communication:** No active external communication. Knowledge and insights remain shared only within the team.	**External collaboration:** No active external collaboration but they are working to establish new contacts and partnerships. **Communication:** Active external communication thorugh social media and exhibits.
Learming abilities	**Incorporating new understandings:** Little knowledge sharing across different departments. Learnings are only shared within the teams. **Adjusting practices:** Adjustments are rather reactive. They are chanfing approach when they achived a good or bad result rather than doin strategic work to point out future direction.	**Incorporating new understandings:** Systematically gatthers knowledged though different studies and partnerships with universities and networks. **Adjusting practices:** The city redesigned public services based on social needs and logistical lessons. Feedback from pilot projects helped Milan adapt procurement strategies and build stronger farmer dialogues.	**Incorporating new understandings:** Integrates learning through structured project evaluations after each finalised project. **Adjusting prcatices:** Adapts food system based on earlier project failures. Adjustments are generally tied to new project starts.	**Incorporating new understandings:** Learning is mainly practical and internal. Some learning from colalboration with external municipalities related to procurement. **Adjusting practices:** Changes are made incrementally, such as reducing food waste and shifting ingredients.	**Incorporating new understandings:** Learning together with researchers to evaluate food programs. **Adjusting practices:** Learning is still limited. However, they are deveoping processes to imporve this going forward.

Figure 4.3: Abilities by municipality

Different type of abilities cont.

	Södertälje	Umeå	Växjö	Örebro
Analytical abilities	**Studying:** Centralised sytem to gather data. Gathers data from local suppliers and procurement. Data is used to to support everyday operations and long-term strategy decision-making. **Sense-making:** As many employees works across several departments and areas it makes it easier for plannina nd daily operations to learn from experiences but also shre knowledge.	**Studying:** Centralised sytem to gather data. Gathers data from local suppliers and procurement. Data is used to to support everyday operations and long-term strategy decision-making. **Sense-making:** Sharing insights in partnerships and networks		**Studying:** Centralised system which colelcts data. Data is colelcted from procurement systems that track costs and delivered amounts. **Sense-making:** Procurement and logistig managers use the data to adjust sourcing strategies and improve coordination.
Operational abilities	**Managing:** Centralised execution, monitoring and direction. Centralised dual-manager takes on operations and projects to ensure direction in day-to-day operations and projects. Feedback loops are initiated centrally and in local teams. **New routines:** Specialised project group working on projects on local and broader levels, successful projects are implemented into day-to-day routines due to the dual-manager role.	**Managing:** Centralised direction, but execution happens in a specialised project group. **New Routines:** Specialised project group stands for several outcomes that are deemed successful, low coordination with the operative governance has successful projects 'fall in between'. Projects that had practical testing and outcome could easier be integrated into day-to-day routines.	**Managing:** Centralised monitoring and execution. Dynamic procurement deals have been implemented centrally, made possible through coordination and a logistics hub. **New Routines:** Initiaitves and projects are taken on and implemented centrally.	**Managing**: Centralised monitoring and execution. Dynamic procurement deals have been implemented centrally, made possible through coordination and a logistics hub. **Executing:** Initiatives are taken and implemented centrally with limited coordination or with administrative backing.
Coordination abilities	**External collaboration:** Active external collaboration with other regional municipalities and local producers. **Communication:** Active and proactive communication with external parties through social media, eventts and public reports.	**External collaboration:** Active external collabration with regional food and climate networks and co-developed initiatives like “Mat och Klimat i Norr” . **Communication: S**ometimes communicating exte. Primarily communicates through networks with other municipalities **to** share knowledge.	**External collaboration:** Active external collaboration in national food and climate networks and. **Communication:** No active communication with other stakeholders ona regular basis.	**External collaboration:** Active external collaboration in other networks to share knowledge. **Communication:** No active communication with other stakeholders on a regular basis.
Learming abilities	**Incorporating new understandings:** Learning is donw through evaluating past projects like Matlust to inform new initiatives and guide learning. **Adjusting practices:** Constantly adapts and routines and strategies so align with new knowledge from old projects and external geopolitical events.	**Incorporating new understandings:** Engages in EU projects and new pilot projects to make new findings. **Adjusting practices:** Uses learning from pilot projects and to imporve strategies.	**Incorporating new understandings:** Incoporates some new findings when benchmarking against other municipalities. **Adjusting practices:** Mostly practival adjustments to reach reach waste reduction goals and imporve procurement process.	

Figure 4.4: Abilities by municipality cont.

4.3 Roles

This section presents the different roles that municipal actors assume to drive and sustain food system transformation. The transformative capacities framework includes different roles and those are: Promoters and champions of visions, Designers of Green Transformations, mediators in conflicts, partner-builders and enablers of wide societal participation. A summary of the identified roles can be found in the figures 4.5 and 4.6.

4.3.1 Promoters and Champions of Visions

Promoters and champions of visions refer to actors who define and advocate for long-term goals in food system transformation. They play an important role in shaping long-term direction and keeping food policy visible and relevant to politics [7].

Södertälje embrace this role. Employees had a clear long-term vision and used the credibility they had built up to position food policy as very important for health, resilience and sustainability. This was especially good during the pandemic, when they used the crisis narrative to reinforce the importance of food systems. *"We kept reminding everyone that food is not separate, it touches health, education, the environment. That message has to be repeated until it sticks"* mentioned one respondent from Södertälje.

Malmö and Stockholm also took on the role of vision champions, but under somewhat different conditions. The Champions had to push harder to maintain continuity. Employees actively promoted food as an issue that affects many policy areas, including climate and inclusion, even though other departments had other priorities. *"Food isn't just about nutrition, it's about climate and equality too. But not all departments see that, so we have to keep pushing"* one respondent explained.

Stockholm's champions dealt with several political shifts, which required them to constantly justify the value of food policies for the new leaders. *"Each new administration wants to set its agenda. We had to re-explain the food strategy several times"*.

In Umeå and Växjö, employees played the champion role more silently. Instead of speaking loudly about their plans, they used their experience and the trust they had built within the municipality to support food-related initiatives.

In contrast, Karlstad and Örebro had limited capacity to maintain a strong champion role. Due to fewer resources, the employees had to rely on demonstrating the value of good food through everyday practice. *"We don't always have time to talk strategy, but we show what good food means daily"*.

4.3.2 Designers of Green Transformations

Designers play an essential role in translating visions into actual interventions. This includes developing food strategies and creating new procurement models [7].

Södertälje took on the role of designer through its use of test kitchens and living labs. The spaces allowed them to experiment with recipes and menus, which helped them learn and adapt continuously. *"We use our kitchens as test spaces; it's where innovation happens, not just service,"* explained one respondent from Södertälje.

Stockholm also embraced the designer role by collaborating with researchers to redesign school menus and align with sustainability goals. *"We knew the menu had to change, but we wanted to do it in a way that students and staff could support"* said the respondent from Stockholm.

Umeå approached the design by integrating with another climate initiative, such as sustainable transport planning. That systematic thinking became a part of broader city design. Malmö focused instead on gradually shifting menus and practices through measures, steps, and internal coordination. *"We had to balance data with public habits. If the change feels too fast, people push back"* explained one respondent from Malmö.

Växjö played a more data-driven designer role, implementing emissions tracking tools to guide procurement decisions. Karlstad and Örebro engaged in design through operational problem-solving, such as delivery routines or testing new supplier categories. Yet, they lacked the structure to turn the experiments into actual changes. *"We tried some good ideas, but once the funding ended, it was hard to keep going"* said one respondent from Örebro.

The pandemic made the importance of the designer role clear. Södertälje and Stockholm, which had flexible systems, could respond quickly. They changed their menus and suppliers to adjust to the new reality. However, Örebro and Karlstad did not have the flexibility to make quick changes, which meant it took longer for them to adjust to challenges faced by global events.

4.3.3 Mediators in Conflicts

Mediators in conflicts help balance competing interests or expectations in the transformation process. In food systems, examples of this can be between cost and sustainability or between innovation and tradition [7].

Malmö and Örebro took a mediator role where they had to balance policy ambitions with practical realities. Employees in Malmö worked to implement more environmentally friendly food while still not making their customers dissatisfied. To do that, they were forced to gradually adjust menus and explain changes to parents and students. *"We can't just change everything overnight. People need time to ad-*

just, and we have to explain why." one respondent from Malmö explained.

Örebro employees also dealt with fewer resources, forcing them to make compromises that supported kitchen efficiencies and sustainability improvements.

Växjö and Karlstad played the mediator role at the procurement interface, to include more local suppliers and more sustainable products. Employees in Växjö explained how hard it was to align the rules they were forced to follow with their ambitious goals. *"Sometimes we want to buy local, but the system won't allow it. It feels like we're stuck,"* explained the respondent from Växjö.

Södertälje With systems in place, Södertälje was better equipped against internal conflicts, but also had to justify the change towards more local suppliers.
Geopolitical events built up tensions. The Ukraine war led to higher food prices, and thus it became harder to justify the shift towards more expensive and locally produced food. The mediator role became essential at that time to manage the dialogue between departments and political leaders. *"We suddenly couldn't get certain ingredients, so we had to redesign menus fast, but also defend our environmental goals"* explained one respondent from Malmö.

4.3.4 Partner-Builders

Partner-builders are actors who build and sustain relationships between sectors and departments. Their role involves connecting municipalities with education, civil society, and suppliers to align efforts and establish collaboration [7].

Södertälje took on an active role as a partner-builder by establishing partnerships between surrounding municipalities and local suppliers. Their long-term mindset and projects made it a natural hub for them. This helped the municipality attract funding and legitimacy during uncertain political times.
Umeå also embraces this role by building relationships with local universities and suppliers. They collaborate with northern municipalities and use the partnerships for meal and logistics planning. "We worked with others to find solutions; being alone limits what we can achieve," said the respondent from Umeå.

Stockholm and Malmö collaborated with researchers to create pilot projects. The partnerships helped validate the municipal strategies and supported procurement and meal planning innovation.

Karlstad and Växjö built trust with local suppliers. Employees initiated farm visits and discussions with the suppliers to find common solutions. *"We met with farmers and asked what they needed from us. It opened up new conversations,"* said one respondent from Karlstad.

Örebro tried to join the local network and applied for external projects but strug-

gled to maintain the long-term collaborations, particularly during the pandemic when they faced reduced resources and limited personal contact.

4.3.5 Enablers of Wide Societal Participation

Enablers of wide societal participation open up the transformation of the food system in the broader society. Their roles include designing collaborative processes, inviting feedback, and creating space for different opinions. They also mean listening, building trust, and making sure changes are aligned with society as a whole [7].

Stockholm and Södertälje took on the role of creating possibilities for different parts of society to get involved in food-related decisions. Stockholm conducted meal changes through pilot projects that welcomed bot parents and students. The provided feedback was later used to improve the meal and communication around it. *"We invited feedback from staff, kids, and parents. That gave us a better sense of what mattered most"* saint he interviewee from Stockholm.

Södetälje took a more community-wide approach and organised public dialogues that encouraged citizens to discuss food strategies and local production. Those activities helped build awareness and align the food policies with local values and concerns.

Malmö and Umeå also played strong enabling roles by involving citizens. Malmö conducted workshops to gather input, and Umeå included voices from regional networks of local businesses. "We wanted to hear from more people, not just staff. So we opened up and got great ideas we had not considered", said one respondent from Malmö.

Different type of roles.

	Karlstad	Milan	Malmö	Skövde	Stockholm
Promoters and champions of visions		Initiated the Milan Urban Food Policy Pact and positioned themselves as a leader in urban food governance. Their action showed visionary leadership in international terms with their ambitious goals.	Participated in showing possible futures for 2035 and 2050 to show what happens if we do not change our current behaviours.		Strategically working to increase cooperation and coordination between different municipal departments and to align their strategies and visions. Working to put food and sustainable food systems as an importnat topic.
Designers of green transformations	Dietary managers are pushing for initiatives and projects on a small scale. Also pushing for more sustainable and local procurement, which is supported by a local logistics hub.	Cooperation with other stakeholders and actors also includes facilitating direct cooperation, but also setting the direction and planning the green transformation. Have restructured food into all levels of the educational system.			
Mediators in conflicts					Separated departments and structures with different visions, strategies and resources needing a mediating actor to collaborate and actively support each other.
Partner-builders	Coordinating staff to visit local farmers to build trust, and coordinating actions.	A broad focus for the municipality in Milan has been to achieve cooperation with all types of actors on all levels. An international and national cooperation through MUFFP and regional and municipal cooperation with small local farmers, larger private companies and a broad range of municipal instances.	Malmö built partnerships across civil society, academia, and businesses through projects like the Food Council. Actively building networks with other municipalities and actors.	Skövde initiated strong cooperation with ten neighbouring municipalities for joint procurement, improving market influence and fostering dialogue with local suppliers.	
Enablers of wide societal participation	Students were seen as key actors, with ambitions to promote healthier food choices by raising awareness about their own health and the environment.			By actively working with staff, students and others engaging in food with the municipality, Skövde has gained sustainable-driven chefs and actively changed behaviour in e.g. students. Media recognition pushed this further.	Working towards more active societal participation and engagement in sustainable-food relating questions from the civil society.

Figure 4.5: Roles by municipality

Different type of roles.

	Södertälje	Umeå	Växjö	Örebro
Promoters and champions of visions				
Designers of green transformations			Being the facilitator by planning the sustainable transition with centralised food menus, statistics, and a clear procurement goal. Combined with feedback loops and support for local teams.	Using a local logistics hub and dynamic procurement deals to work towards centralised sustainability goals. Centralised units follows up with data and governance.
Mediators in conflicts				Worked intensively on balancing local engagement, regulations and helping small-scale actors to be able to deliver to the municipality. Dynamic procurement deals has secured smaller actors while also demanding more resources and compromises.
Partner-builders	Several projects as built networks and collaboration within the municipality, the civil society, the private sector and regional, national and international. Binding actors throughout the value chain.	Project groups have, over several years built partnerships through different projects. With actors within the municipal organisation and with the civil society, other municipalities, and private actors - locally, regionally and nationally.		
Enablers of wide societal participation	Working towards more active societal participation and engagement from a broad range of actors, and through education.	SchoolFood4Change project has created social partcipation through education in students and employees.	Children and the elderly are actively integrated through local food councils, surveys, and dialogue to activate the civil society.	

Figure 4.6: Roles by municipality cont.

5

Discussion

This chapter analyses how the roles, resources, and abilities of municipalities interact by introducing two archetypes: the Grassroots Innovator and the Market Integrator. The purpose of proposing these archetypes is not to evaluate or rank them against each other in terms of which is best. Instead, it is proposed to demonstrate how two combinations of roles, resources, and abilities, along with their interaction, can drive food system change.

Although both archetypes aim to develop transformative capacities over time, our analysis reveals that they do so in distinct ways. By examining how the elements interact with each other, we aim to understand how municipalities can strengthen their capacities to drive food system transformation.

Municipal archetypes.

Dimension	Grassroots Innovator	Market Integrator
Municipalities	Karlstad, Växjö, Örebro, Skövde and Umeå.	Södertälje, Milan, Stockholm and Malmö.
Roles	Implements small-scale solutions and supports local producers through experimentation. Adopts a hands-on operational role focusing on incremental change rather than a formal policy leadership.	Leadership in long-term food change by aligning visions with daily routines. Acts as a coordinator across departments and an external champion to align diverse stakeholders with the food strategy.
Resources	Operates with a limited number of employees and financial resources. Are often dependent on short-term projects. Uses local infrastructure, such as logistics hubs, to support small-scale sourcing.	Backed by substantial political support and legitimacy. Enjoys dedicated funding and formal mandates (e.g. official food policies) that secure long-term resources and broad authority.
Abilities	Builds transformation capacities by hands-on experience and learning-by-doing at the operational level. Pilots innovations locally and manages scarce resources creatively, but has limited capacity for extensive cross-sector coordination or scaling without external support.	Cross-sector coordination and strategic planning. Aligns initiatives with broader city goals using analytical and collaborative abilities, and sustains programs through institutional routines and policy integration.

Figure 5.1: The two archetypes

Importantly, we do not assume that municipalities choose either archetype. Rather, our analysis suggests that each archetype is shaped by contextual factors, including but not limited to political support, resource availability, and institutional structures. In some cases, a municipality's approach may be intentionally formed, while in others, it may emerge more reactively in response to pressing challenges or emerging opportunities. By presenting these archetypes, our objective is to gain a better

understanding of how different municipalities can engage in food system transformation. These are the two archetypes we have identified in this study, but there might be several other combinations.

Grassroots Innovator

The first archetype we identify is the Grassroots Innovator. This archetype tends to emerge in contexts with limited formal mandates and resources for food system transformation. Therefore, PSOs tend to focus on tangible, local improvements that they can implement directly. This often happens through incremental steps and trial-and-error experimentation. Rather than pursuing broad policy change upfront, these PSOs concentrate on operational problem-solving, e.g. adjusting school meal programs or procurement processes, to show immediate progress within their institutions. The strategic focus is bottom-up innovation, where they support small producers, integrate local suppliers, and redesign aspects of service delivery that are immediately at their disposal to work towards sustainability and health outcomes in the city.

PSOs in this archetype tend to experiment with, for example, adjusted procurement practices to include smaller suppliers. The interviews showed that this was hard, as national rules for public purchasing (LOU) in some ways restrict this. These PSOs, therefore, try to find ways around those rules without breaking them. Interestingly, Örebro's creative way of performing specific strategic clauses in their procurement contracts created more flexibility. While they cannot prioritise local food, they use strategic wording such as particular delivery conditions or site visits. This creative move allowed Örebro to prioritise sustainable, local food in practice, even if not explicitly in policy. Karlstad also worked with local suppliers to adjust product formats and explore ways to include unique, locally sourced items in public meals. Umeå also experimented with this, trying to organise smaller units that would fall outside the standard procurement praxis and enable them to buy more locally.

Another interesting aspect is that three of these PSOs' investments are in a central logistics hub where local producers can deliver goods to one place, after which the PSO distributes them to schools and care homes. While this seems to work for the smaller municipalities, it seems much more complicated for the larger ones. One reason for that seems to be regarding bureaucratic processes. Larger municipalities are often organised across multiple departments, making a single logistics structure more complex. While this is a significant investment for smaller PSOs, often with limited resources, this physical resource can be motivated by a straightforward way of securing more local suppliers and directly engaging with day-to-day operations. This showcases that even smaller PSOs can significantly impact if they invest in the right infrastructure assets.

In addition to developing logistical solutions and creative procurement workarounds, Grassroots Innovators also rely on an experimental, iterative mindset to drive change. Rather than administering large, coordinated programs. These municipalities of-

ten initiate small-scale tests and ideas which are guided by individual staff or departments and then scale if they are deemed successful. This hands-on, trial-and-error approach enables them to respond flexibly within resource constraints and bureaucratic limits. For instance, Umeå and Örebro adapted procurement strategies through experimentation before formalising new procedures.

This approach can face several challenges. Often relying on specific individuals, short-term projects, funding, and political goodwill, its gains and momentum can fall short when one of these ingredients disappears. The work might stall or even cease to exist, as in the example with Malmö falling short on important people and funding. There's also an inherent risk that the changes remain small and local, without mechanisms to spread lessons or institutionalise new practices, ideas and experiments that are deemed successful might not scale to other departments. Respondents from several smaller PSOs noted that frequent political turnover can suddenly change priorities and make it hard to pursue long-term plans in food policy. Thus, while the Grassroots Innovator excels at initiating ideas and actions in transformation, ensuring longevity and diffusion is a continual struggle.

An essential aspect is that meaningful transformation can start with small incremental steps. Municipalities do not always have to wait for sweeping policy reform to begin making a difference. Over time, the accumulation of small changes, tweaks in procurement here, new suppliers here, and so on can shift norms and create a foundation for larger systemic change. The experiences of these municipalities show that a resource-constrained city can still be effective. As one official put it, these municipalities "show what good food means every day" through their practices rather than grand rhetoric.

It should be noted that not all PSOs in this category are identical. Skövde exhibits a variant of this archetype with a twist. As a smaller municipality, Skövde shares the iterative, project-driven mindset of the Grassroots Innovator but compensates for its even more limited local resources by cooperating closely with surrounding PSOs. Lacking the scale to justify its logistics hub or large programs, Skövde leverages its cooperation with the neighbouring municipalities to collaborate in projects such as SWITCH and *Skolmatsakademin*.

Interestingly, our analysis showed that several of the municipalities struggled to develop capacities when facing certain external events such as the pandemic or the war in Ukraine. The municipalities were often reliant on project-based work and certain individuals, which made them particularly vulnerable when the crises hit. Inflation and rising food costs impacted the municipalities and constrained the ambitions of meeting their sustainability targets.

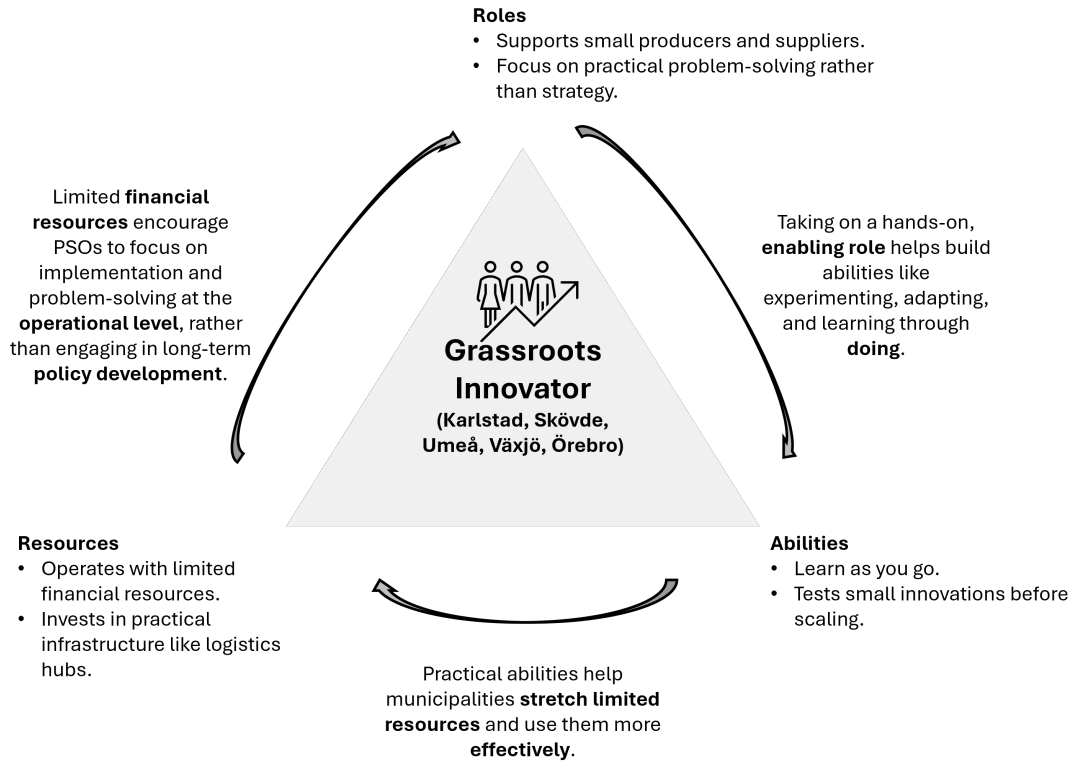

Figure 5.2: Grassroots Innovator

Market Integrator

The next archetype we are investigating is the Market Integrator. This archetype explains municipalities that take an active and strategic leadership role in transforming the local food system. Unlike the Grassroots Innovator, which focuses on small-scale experimentation, the Market Integrator build capacity through policies, political support, long-term funding and collaboration between departments. This is interesting as it shows how municipalities can make long-term changes by using their existing policies and departments instead of relying on individual people or temporary projects that might not last forever.

In terms of capacities, the municipalities are particularly good at being the promoter and visionary leader of their food system transformation. Further, they tend to have policies from political and legitimacy resources and more extensive financial resources. This, together with a significant focus on network and networking, builds coordination abilities to communicate across sectors. These capacities enable them to align food initiatives with broader municipal food goals. This can especially be seen in Milan, which has put the food concept under the education department, aligning food and education.

Milan's experience shows how aligning food policy with a broader city agenda can catalyse internal transformation. The city's hosting of *Expo 2015* and the launch of the MUFPP were turning points that positioned Milan as an international leader in

sustainable food governance. Such an external event triggered long-term changes in the municipality itself. Since then, the number of employees has grown from 5 to 40, reflecting a significant increase in human and financial resources. Such growth indicates stable political support and dedicated long-term funding.

Despite its smaller size, Södertälje also shows similar leadership. Their work is anchored in approved policy documents such as a local food supply strategy and a food and meal policy, giving the municipality a clear long-term direction. These approved policies act as a political mandate (*resource*), giving Södertälje legitimacy for food-related initiatives. Södertälje noted that an organisation is constrained to short-term projects and ad-hoc actions without a concrete mandate. In both PSOs, visionary public-sector leaders assumed the role of promoters and champions of a vision.

Malmö and Stockholm, two larger municipalities, have been committed to coordinating between different departments and sectors. With a focus on establishing policies that cross-sector actors can come together and support. Both these municipalities' strategies align agencies from education, environment, and procurement with the private sector. They are the facilitators and promoters of their food system transformation.

A particular strength of this archetype is its coordination abilities across sectors and stakeholders. These municipalities actively align food initiatives with broader city objectives by coordinating across education, procurement, environment, and civil society actors. Milan leveraged its leadership position to convene diverse groups, fostering multiple communities or practices that engaged different actors' networks in ongoing collaboration and learning. This, while Södertälje integrated food strategies across departments through dual leadership models and cross-project loops. Milan and Södertälje illustrate how a visionary city can use its network resources to reach beyond typical governance mechanisms by developing these networks in tandem with formal structures.

However, it is important to note that coordination is not unique to the Market Integrator. Grassroots Innovators also demonstrate strong coordination abilities, though often at a more operational and relational level. Municipalities like Skövde and Umeå use inter-municipal collaboration and peer-to-peer learning to compensate for limited internal resources. The main difference is in how coordination is organised. Market Integrator tends to use formal structures, e.g. policies, leadership roles, to support collaboration across departments. In contrast, Grassroots Innovators often rely on trust, shared experiences, and day-to-day problem-solving to build working relationships. This overlap shows that both types of municipalities value coordination, and combining these approaches could help PSOs become more flexible and more strategic in how they manage food system change.

Södertälje offers a particularly strong example of this kind of blending. While it shares some traits with the Market Integrator, it has also maintained practical,

day-to-day responsiveness typical of Grassroots Innovators. Its approach to coordination combines formal direction with everyday routines. For instance, they use dual leadership in meal operations and development to connect strategic planning with hands-on work, creating feedback loops between innovation and daily practices. We believe this is a key solution to the silo problems that many of those encounter.

However, despite their proactive stance, the Market Integrator faces several challenges that temper their progress. For instance, even with strong political will, södertälje has encountered obstacles in procuring more locally produced food for schools and services. Rigid national procurement regulations and logistical hurdles have made it difficult. Södertälje's response has been to include procurement officers from the start of every new initiative to ensure compliance considerations are addressed up front. Milan and Södertälje have shown that a clear vision must be coupled with pragmatic adjustments and cross-sector collaboration to yield results.

The Market Integrator archetype shows what is possible when political resources, legitimacy and coordination are aligned. We can see that it is not only about having a vision but also about having the proper political support and making that vision an actual reality. The PSOs do so through strategic planning, establishment of long-term partnerships, efficient use of resources and formal documents and policies. Crucially, when a municipality takes on a clear leadership role in this way, it can become a focal point that galvanises others. Milan's leadership, for example, not only transformed its internal capacities but also inspired over 200 municipalities worldwide to follow its example by signing onto the Urban Food Policy Pact. Likewise, Södertälje's pioneering work in Sweden has made it a reference point for other municipalities seeking to integrate food and sustainability.

However, this archetype is not easy to replicate. To do that, one must have the proper political mandate, institutional memory and alignment across the whole organisation, which is not always easy. Struggles with political turnover, resource constraints or siloed administrations impede such alignment. Although the archetype provides some valuable lessons, it shows that it is possible to integrate food system transformation into municipal governance processes. We also think it shows that when municipalities take on leadership roles, others tend to be willing to follow them.

These two archetypes that we have identified, Grassroots Innovator and Market Integrator, exemplify different ways that PSOs combine their elements. These patterns show that when a PSO can align its roles with appropriate resources and abilities, it enacts transformative agency, as stated by Borrás et al. [7]. Likewise, our interviewed municipalities showcase the link between resilience and sustainability, where resilience-building initiatives were explicitly embedded within a long-term sustainability agenda. Consistent with these two concepts are mutually reinforcing, as discussed earlier, to enable transformation. Interviews have encountered familiar barriers discussed earlier, with institutional inertia and conflicting mandates, for example which underscores that food-system change is embedded within complex systems and multi-dimensional barriers that have to be navigated.

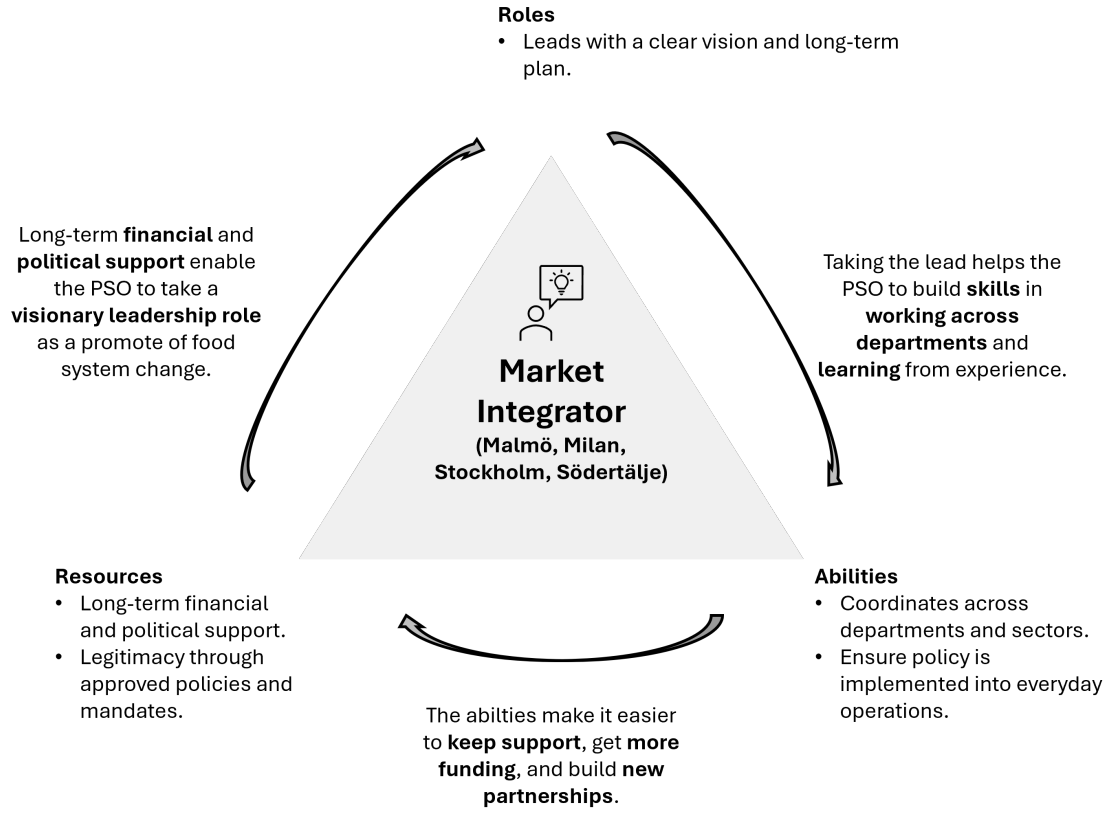

Figure 5.3: Market Integrator

6
Conclusion

This master's thesis has explored how PSOs, specifically municipalities, interact with their roles, resources and abilities to drive food system transformation. Using the framework developed by Borras et al. [7], we conducted a qualitative interview study of several Swedish and one Italian municipality to analyse how roles, resources and abilities interact in this context.

The study makes two key theoretical contributions. First, it introduces two municipal approaches to food system transformation, the Grassroots Innovator and Market Integrator. The Grassroots Innovator is driven by bottom-up experimentation and operational focus. However, it tends to work with external legitimacy and scaling projects. In contrast, the Market Integrator uses external partnerships and policy alignment. However, they may face challenges with internal coordination. These archetypes show that food system transformation change is not a uniform process aligned with the literature [65]. But rather, it depends on how a municipality combines and balances its roles, resources and abilities in response to its context. Different compositions of the three elements can lead to different kinds of capacity. In this way, we apply the transformative capacity framework to the context of sustainable food systems. Showing how the framework by Borrás et al. [7] can be applied and nuanced in a new empirical context.

Second, the findings nuance the original transformative capacities framework by Borrás et al. [7] by showing that external events, such as the COVID-19 pandemic or the war in Ukraine, can act as catalysts for transformation. The events exposed weaknesses and created opportunities for local innovation. By showing how external events impact internal capacity development, this study nuances the framework's original inward focus and aligns with literature from Scoones et al. [71].

Additionally, the study shows the implications of project-based organisation. Especially among Grassroots Innovators, many initiatives are launched and maintained within the scope of temporary projects, dependent on external funding, individual champions or short-term political support. This way of working allowed the municipality to try new things and act quickly. However, it risked losing valuable knowledge and initiatives when the project ended. This reflects what researchers have said about the risks of relying on short-term projects in the public sector. More specifically, it can break it up into separate but disconnected actions [72].

Practically, the archetypes offer the municipalities a reflective tool to evaluate their

capacities. The approach enables them to recognise strengths and limitations that are connected with their approach. The archetypes help them make smarter decisions that suit their context. For example, Grassroot Inovators might benefit from building legitimacy while Market Integrators might benefit from strengthening internal coherence.

In conclusion, developing sustainable food systems in public sector organisations is both complex and highly dependent on context. This study identifies two archetypes, Market Integrator and Grassroots Innovator, which show two different approaches to drive change. Moreover, the study explores how project-based organisations and external events, such as the pandemic and the war in Ukraine, shape the development. This gives a better understanding of how PSOs are key players in the transformation. These insights provide a refined theoretical perspective and practical guidance for building transformative capacity in complex, real-world settings.

6.1 Future Research

Future research could investigate whether the archetypes we identified in this study can be found outside Sweden and Italy in other parts of the world. Analysing how municipalities with, for instance, different political systems or economic conditions would help to understand how PSOs develop the transformative capacities to drive food system change in various parts of the world. This would help show if the archetypes found in this study are unique to the local contexts examined in this study or if they reflect a broader pattern that can be relevant globally.

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A

Appendix 1

A.1 Interview guide

The purpose of this study is to investigate how public sector organizations (PSOs) build and maintain the capacities needed to support and transform food systems. We are particularly interested in how roles, resources, and abilities interact within and across departments, and how different actors collaborate over time to strengthen local food strategies and initiatives. To prepare for the interview, we have structured it into three parts, each introduced briefly below. Please read the descriptions and reflect on your experience in relation to your municipality's work with food systems.

Background

In this section we would like to get to know you better. What role do you have within the municipality and how has the role developed over time? This section will provide us important context and helps us understand the connection between you and the municipality's food-related work. It also allows us to learn how your involvement has evolved, which is important for understanding the long-term engagement.

Building and Maintaining Transformative Capacities

Here, we want to understand what your municipality has done to support and sustain work around the food system. We are especially interested in practical examples of how you've developed roles, secured resources, and built up skills and internal processes to support long-term change.

Future for the Municipality

In this final section, we'd like you to reflect on what lies ahead. What are the next steps in your food system work? What would help you move forward—and what advice would you give to others?

Interview Questions:

Background

- Can you tell me about your role at your municipality?
- How has you role developed over time?

Building and Maintaining Transformative Capacities

- Can you tell me about how your municipality is working with efforts related to the food system?
- How did the municipality begin developing its food policies and strategies?
- Who are the key partners that the municipality have worked with, and how did it develop those relationships?
- Could you comment on any tensions or conflicts which have emerged as part of your municipality and how did you dealt with them? Either internally and/or externally.
- How did the municipality secure resources for these initiatives?
- What skills or knowledge have been most valuable for the municipality? Can you think of a time when learning a particular skill made a big difference?
- From your experience, what has been the most important factor in making progress in the municipality's food system?

Future for the Municipality

- What do you think your municipality needs to develop the local food system further, and how would you suggest other municipalities can develop the capacity needed to transform their local food system?

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