THE FOOD SYSTEM IN CITIES

AN EXPLORATION OF SYSTEMIC URBAN FOOD GOVERNANCE: THE CASE OF ALMERE

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ABSTRACT

Nowadays cities are acknowledged as leading actors in food governance. However, governing food in cities does not represent an easy task: it translates into the necessity of embracing a systemic perspective on food. This research enriches the academic debate on how food is governed in cities in a systemic way, creating the concept of "systemic urban food governance" and elaborating a framework to assess it. A snowballing literature review is conducted to present an overview of the strategies that cities are adopting to govern food systemically. A conceptual framework is elaborated by means of a review on academic and grey literature which outlines criteria uncovering systemic urban food governance. This framework is applied and refined in the case study of Almere, a Dutch city characterized by a vibrant food scenario. The analysis of the food governance of Almere, conducted through a systematic municipal outputs content analysis and semi-structured interviews, evidences that the city is governing food in a systemic way, through the commitment of food champions, the presence of partnership programs and networks with an embedded food system thinking approach, the increasing political will to address food issues, and the entrepreneurial driver to organize the food system.

Keywords: *systemic urban food governance, food system, food and cities, urban food strategies, urban food policy.*

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1 Introduction

The world is facing an era of rapid urbanization. More than half of the world's population is currently living in cities and this percentage is projected to rise to 66% by 2050 (United Nations, 2014). With an increased urbanization rate and consequent high population density, cities of both the Global South and the Global North are facing the pressure of how to feed their residents. Unable to produce sufficient food to sustain their inhabitants, cities are heavily dependent upon the globalized, industrial food system - a system where commodity crops are grown in all corners of the globe and transported huge distances from place of production to place of processing, and onward to place of consumption (FAO, 2009; Halliday and Barling, 2018). The wide spectrum of problems associated with the contemporary globalized food system, from environmental degradation to health issues are widely recognized and visible in the context of cities (Sonnino, 2009). As a result, city leaders are facing the challenge to find sustainable solutions to feed their citizens appropriately. Therefore, an era in which food enters the urban agenda has started.

In the face of a rapid urbanization rate, cities are internationally acknowledged as leading actors towards more food sustainability (Halliday and Barling, 2018). The "New Urban Agenda" (NUA), adopted by the UN Habitat III conference in October 2016 to steer the urbanization process over the next two decades, makes explicit commitments for cities to improving food security and nutrition, strengthening food system planning and coordinating integrated food policies (IPES-Food, 2017). Likewise, several Sustainable Development Goals not only specifically aim at making cities more safe, resilient and sustainable, but are also linked in a more direct or indirect way to the food system (SDGs, 2015; United Nations, 2015). Supported by international agreements, several cities around the world are currently taking action to improve their food system (Halliday and Barling, 2018; Mendes, 2008). Belo Horizonte, Rome, Toronto, New York, London and Amsterdam are only some of the increasing number of cities which embraced food priorities in their agenda, as the signature of the Milan Urban Food Policy Pact (MUFPP), done by 184 cities from all over the world, witnesses (MUFPP, 2019).

When including food in the agenda, cities need to consider the complex character of food. Food is not only about health or nutrition, but it touches upon a wide range of spheres, from the environmental (e.g. implications on water use or carbon footprint) to the socio-economic (e.g. employment, tourism, education) (MacRae et al., 2013). This cross-cutting and multidisciplinary nature of food is reflected in the concept of food system, that scholars use to embrace the complexity of food (Ericksen, 2007; Mansfield and Mendes, 2013; Moragues et al., 2013). This concept highlights the interconnected relationships between various activities in the food chain (food production, food processing and food packaging, food distribution and retailing and food consumption); various issues related to food security outcomes (access, availability, utilization); multiple socio-economic and environmental constraints and impacts. It has evolved in a normative concept, guiding policymakers at any level to consider food from a systemic perspective (Termer et al., 2017).

Approaching food from a systemic perspective entails important governance opportunities and challenges, because it translates into the necessity to adopt more holistic forms of governance (Termer et al., 2017). However, governing food systemically does not represent an easy task for municipalities. By their nature, municipal institutions are characterized by fragmented structures and procedures, they have rigid administrative boundaries between sectors and policy domains, and they tend to treat issues in isolation (Mendes, 2008; Sibbing et al., 2018; Sonnino et al., 2018). However, the interrelations between activities and actors involved in the food system put under discussion the traditional governance structures and procedures of municipal governments. Therefore, there is a tension between traditional governance and the need to govern food with a systemic approach.

The present thesis aimed at enriching the academic debate on how food is governed in cities in a systemic way (Mendes, 2007; Mendes, 2008; Mansfield and Mendes, 2013; Sonnino et al., 2018),

studying the relationship between urban food system and governance. In particular, this research aimed at advancing the understanding of systemic food governance in cities, using the case study of Almere, a city in the Netherlands characterized by a vibrant food scenario.

Therefore, the main research questions of this study are:

(1) *What are the ways in which food is governed in a systemic way in cities*?
(2) *What are criteria that uncover how food is governed in a systemic way in cities?*
(3) *How is food governed in the city of Almere in a systemic way?*

The first research question was meant to explore the strategies that cities adopt to govern food in a systemic way, by means of a snowballing literature review. The second research question aimed at building a conceptual framework with criteria that uncover how food is governed in cities in a systemic way, through a snowballing literature review. Finally, the third research question applied the conceptual framework to the case study of Almere, in order to understand how the city is governing food, using a systematic document analysis and semi-structured interviews as methods of investigation.

This dissertation is structured as follows: the second chapter explains the methodology adopted in this research. The third chapter presents the results of both the literature review and of the case study of Almere. The results will be put in a broader perspective and reflected upon in chapter four. The last chapter, chapter five, is the conclusion of this thesis and it will provide an answer to the research questions.

2 Methodology

The following chapter elaborates on the methodological tools used in this research: the study design, the data collection methods and the data analysis procedure. Moreover, insights on the qualitative validity of this research, on the triangulation of data sources and methods and on my positionality as a researcher are provided.

2.1 Study design

Kumar (2014) defines the concept of "study design" as a term "used to describe the type of design a researcher is going to adopt to undertake his study" (p.155).
This thesis adopts an exploratory multiple-methods case study approach design (Kumar, 2014).
Firstly, it is exploratory by nature because it digs into a topic where there is little academic understanding: systemic food governance in urban contexts. Secondly, the execution of this research entails the use of multiple methods of investigation: a literature review, a systematic document analysis and semi-structured interviews. Finally, this thesis is based on a single case study: the city of Almere. As highlighted by Yin (2014), the case study design is a comprehensive research strategy, because it covers the logic of design, data collection methods and specific approaches to data analysis in an inclusive and pluralistic perspective.

2.2 Methods of data collection

2.2.1 Literature review

The first method used to answer to the first research question: "*What are the ways in which food is governed in a systemic way in cities?*" and to the second research question: "*What are criteria that uncover how food is governed in a systemic way in cities?*" has been a literature review. The literature review has been carried out using a snowball approach, therefore with a broader and less-focused approach compared to a systematic literature review.
The execution of this research has started from a literature review because, as pointed out by Bryman (2016), reviewing literature is the first step of research. It allows for the determination of some important elements such as the current state of knowledge about the topic, what methods have been used in the past, and what concepts and theories have been applied to the topic. The literature study has been done by searching both academic and grey literature through search engines such as Google Scholar or the Wageningen University Library. Literature was related to cities belonging to both the Global North and the Global South of the world, studied for their urban food governance.

The aim of the literature review was to create a conceptual framework with criteria that uncover how food is governed in cities in a systemic way. This conceptual framework has been used as a basis to inform the collection of data related to the case study of the city of Almere. In order to answer to the third research question: *"How is food governed in the city of Almere in a systemic way*?" the methods of data collection have been a systematic document analysis and semi-structured interviews. The following paragraphs present a detailed description of the systematic document analysis and semi-structured interviews.

2.2.2 Systematic document analysis: policy outputs selection

A systematic qualitative content analysis of municipal policy outputs from the municipality of Almere has been conducted to understand how food is integrated in the municipal policy documents. This analysis has been carried out in relation to the first criteria of the conceptual framework: "Integration

of food across municipal policy outputs". The procedure used has been inspired by the protocol elaborated by Sibbing et al. (2018).

The document analysis procedure started with a first phase of policy outputs search and selection (phase 1). Documents from the municipality of Almere have been retrieved from the municipal councils' web-based information systems (RIS). In the municipal councils' web-based information systems (RIS), a municipality shows all its publicly available documents, such as adopted policies, press releases, letters or municipal council minutes. However only policy documents formally adopted by the city council of Almere have been considered, such as policies, strategies or programmes, because they can be considered policy outputs, defined as "the direct result of a decision-making process usually in the form of programs, strategies or vision documents" (Knill and Tosun, 2012, p.29). Therefore, press releases, memos, rejected proposals have been excluded, because they cannot be considered policy outputs. Annex 2 (7.2) and 3 (7.3) in the Appendix provide an overview of policy documents retrieved in the municipal councils' web-based information systems (RIS) and an overview of the typologies of included and excluded policy outputs, respectively.

Documents have been included in the data analysis if they met the following inclusion criteria: (1) they were formally adopted by the municipal councils (therefore they are policy outputs such as policies, strategies and programs); (2) they explicitly address the functioning of the food system; (3) they are dated after the year 2000. Therefore documents prior to the year 2000 have been excluded.
In order to understand if policy outputs explicitly address the functioning of the food system (inclusion criteria 2), the exact query [Voedsel OR Voeding OR Food] on the municipal councils' web-based information systems (RIS) has been used. The first 100 results sorted by relevance in the municipal council's information system have been retrieved. 9 policy outputs have been selected from the 100 municipal documents sorted by relevance from the system, because they met the inclusion criteria. All documents were in Dutch and Google Chrome Translator has been used. The data were collected in December and January 2018. Therefore, documents after the 08-01-2018 have not been considered.
The procedure of content analysis of the selected policy outputs is explained in section 2.3.1.

2.2.3 Semi-structured interviews

The main method used to answer to the third research question *"How is food governed in the city of Almere in a systemic way?"* are interviews. Conducting interviews has been chosen as a research method because it is considered appropriate to investigate complex phenomena and generate in-depth insights (Kumar, 2014). Moreover, the technique used to carry out interviews has been semi-structured. In line with Bryman (2016), the semi-structured interviews have been carried in a dialogical and fluent way. In addition to this, since interviewees were not bounded to fixed questions, new insights could emerge on how food is governed in the city of Almere.
An interview protocol has been developed, with general lines of pre-determined topics intended to be addressed during the conversation (Annex 7 in 7.7). The elaboration of the interview protocol has been informed by the criteria presented in the conceptual framework elaborated to answer to the second research question. Before the execution of each interview, the interview protocol has been adapted to the specific context and role of the interviewee.
13 interviews have been conducted on stakeholders from different fields of expertise in food, such as academics, business actors, municipal representatives or civilians and they lasted between 25 and 90 minutes each. The first 2 scoping interviews were expert consultations done with key informants. They have been carried out to get an initial general understanding of the food governance in Almere and to receive contacts of future interviewees. A list of interviewees is provided in Annex 6 (7.6) in the appendix. Before each interview, a consent form has been given to the interviewees, presented in Annex 5 (7.5) in the appendix. The approach for the selection of interviewees has been snow-balling, starting from the two key informants.

2.3 Data analysis

2.3.1 Systematic document analysis: content analysis

This section explains the procedure of the content analysis of the 9 selected policy outputs (phase 2). The aim of the content analysis phase was to explore the domains (or "focus areas") of the goals that target the functioning of the food system. The selected policy outputs have been uploaded on the program Atlas.ti in order to code the goals that explicitly target the functioning of the food system. To do so, the Atlas search function has been used to look for the key terms [Voedsel OR Voeding OR Food]. For each key term match, the corresponding paragraph has been read and codes have been assigned for the indicator "Goal focus area", where they applied. If a document did not contain any goals targeting the food system, it has been excluded from the analysis. 2 documents out of the 9 have been excluded, because they did not contain any goal explicitly targeting the functioning of the food system. Therefore, the final dataset, which the results of the criteria "integration of food across municipal policy outputs" refer to, consisted of 7 policy outputs. Annex 4 (in 7.4) presents the final dataset of policy outputs subjected to the content analysis. Coding has been done inductively.

2.3.2 Semi-structured interviews

All the 13 interviews carried have been recorded, transcribed and coded. The recording has been performed using a device in the smartphone. The transcription has been carried out with the help of the software Otter.ai. The coding of the transcripts has been done using the software Atlas.ti. The methodology used in the coding phase was the one elaborated by Saldaña (2015). This author conceptualizes codes as "a word or short phrase that symbolically assigns a summative, salient, essence-capturing and/or evocative attribute for a portion of language-based data" (Saldaña, 2015, p.4). The coding process has been done inductively. In line with the method by Saldaña (2015), the codes, after being drawn up, have been grouped in categories. In this way, it has been possible to move from the reality of the data to more abstract theory (Saldaña, 2015). Moreover, the process of grouping the codes into categories has been carried out in several cycles, doing re-coding and re-categorization several times. In the first phase, 332 codes have been drawn up, which have been reduced to 31 categories.

2.4 Qualitative validity, triangulation, positionality

In order to judge the qualitative validity of this research, the framework elaborated by Trochim (2006) has been adopted. The author addresses validity through the following criteria, suited for qualitative research: credibility, transferability, dependability, confirmability. According to Trochim (2006), *credibility* refers to the legitimacy of the participants to judge trustworthiness of the results. Therefore, it involves establishing that participants of the qualitative research consider the results credible and believable (Trochim, 2006). In order to ensure credibility, after conducting the interviews, I often contacted by email several respondents to have more clarifications on the results. Trochim (2006) describes the concept of *transferability* as the degree to which the results from qualitative research are generalizable or transferable to other contexts or settings, thus paralleling external validity in quantitative research (Bryman, 2012). I used one of the strategies suggested to achieve transferability: the description of the research context. For example, when judging the validity of my results from the interviews, I took into consideration the research settings in which interviews have been carried out, for example the time or location, and I took notes of them. According to Trochim (2006), *dependability* refers to the need that the researcher takes into account the ever-changing context within which research occurs (Trochim, 2006). I have been aware of the fact that in the time frame in which this research occurred, the food governance of Almere was evolving, considering the dynamism of the urban food governance. Therefore, I tried to be flexible and sensitive to the shifting contextual situation in the city. For example, I asked some interviewees

working in the municipality as civil servants to keep me informed about eventual changes of the political agenda on food issues (e.g. the Sustainability agenda). Finally, according to Trochim (2006), *confirmability* is the degree to which results can be confirmed or corroborated by others. To ensure confirmability, this methodology chapter presented a detailed description of the data collection and data analysis procedure, so that others can replicate the study.

Two types of triangulation have been considered from the framework elaborated by Patton (2002): data triangulation and methodological triangulation. Data triangulation refers to the use of multiple sources of data in the study of social phenomena (Patton, 2002). To ensure this, I used multiple data sources such as academic papers, websites, reports, participants in the interviews and policy documents. Cross-verification of the data has been performed when believed appropriate. Methodological triangulation refers to the use of different methods of investigation, which in this thesis, have been the literature review, the municipal policy output content analysis and semi-structured interviews.

Concerning my positionality as a researcher, I adopted a constructivist perspective and I conceptualized data as deriving from a dynamic two-way encounter between researcher and researched. Acknowledging that meaning is co-generated in this interaction, my research process has brought into being particular realities and as such it should be understood as a performative act (Phillips and Jørgensen, 2002). In line with Dunn (2015), my choice of carrying out interviews was not meant to generate truth discoveries but to obtain deep insights from participants, who are often experts in the area of interest. Moreover, in order to be aware of the possible research bias, led for example by my passion towards the topic, I tried to adopt an auto-critical and mindful approach towards my subjectivity. For example, when executing interviews, I tried to control the way in which I formulated questions, in order to leave them as neutral as possible, without guiding the interviewee to the answers I expect to obtain.

3 Results

The result chapter consists of two parts: the first (subchapter 3.1) presenting the results from the literature review and the second (subchapter 3.2) outlining the findings from the case study of Almere. Subchapter 3.1 presenting the results from the literature review has been divided in three sections. Section 3.1.1 outlines a literature review on how scholars approach the concept of "governance" an "food system" in cities.
Section 3.1.2 presents an overview of strategies through which food is governed in cities in a systemic way, that answers to the research question: *"What are the ways in which food is governed in a systemic way in cities?".* Section 3.1.3 presents a conceptual framework with criteria that uncover systemic food governance in cities, that answers to the research question: "*What are criteria that uncover how food is governed in a systemic way in cities?".*
Subchapter 3.2 displays the results related to the research question: *"How is food governed in the city of Almere in a systemic way?".* After a brief introduction to the city of Almere, the conceptual framework explained in section 3.1.3 is applied and further refined through the case study of Almere.

3.1 Results from the literature review

3.1.1 "Governance" and "food system" in cities

In order to understand how food is governed in cities systemically, it is relevant to start this research journey addressing the link between the concepts of "food system" and "governance" as they are presented in urban studies.

Firstly, it is important to clarify the concept of "governance". Some scholars in global food studies define the concept of governance as "the management functions of societies - formal and informal - that are generally focused or coordinated around the state or government institutions but include diverse actors, including civil society and the private sector" (Duncan, 2015, p.20). Others clarify the contrast between government and governance, explaining that "governance implies more indirect, softer forms of direction from the state than command and control, and reflects collaborative outcomes, involving a wide range of actors often from the private sector, as well as from government bureaucracy, as much as deliberate interventions by the state (Lang et al., 2009, p.75). In the context of urban sustainability studies, such as climate studies, scholars (Betsill and Bulkeley, 2006; Gibbs, et al., 2002) point out that there is currently a shift from government to governance. In the same line, scholars in urban food studies acknowledge this shift (Mansfield and Mendes, 2013; Sonnino and Spadye, 2014), that resulted in a blurring of previous roles and distinctions between governmental, market and civil society actors.

Secondly, it is relevant to understand the concept of "food system" and related definitions as approached in urban studies. The concept of "food system" originally belongs to the field of global environmental change research. One of the most prominent conceptualizations of "food system" is the one by Ericksen (2007). According to this author, food systems are socio-ecological systems. They are constituted by food system activities (food production, food processing and food packaging, food distribution and retailing and food consumption) and food system outcomes, that contribute to food security, environmental security and social welfare (fig. 1). In this systemic conception, food activities and their outcomes both influence and are influenced by human and biophysical environment relations.

Figure 1 Components of a food system by Ericksen (2007)
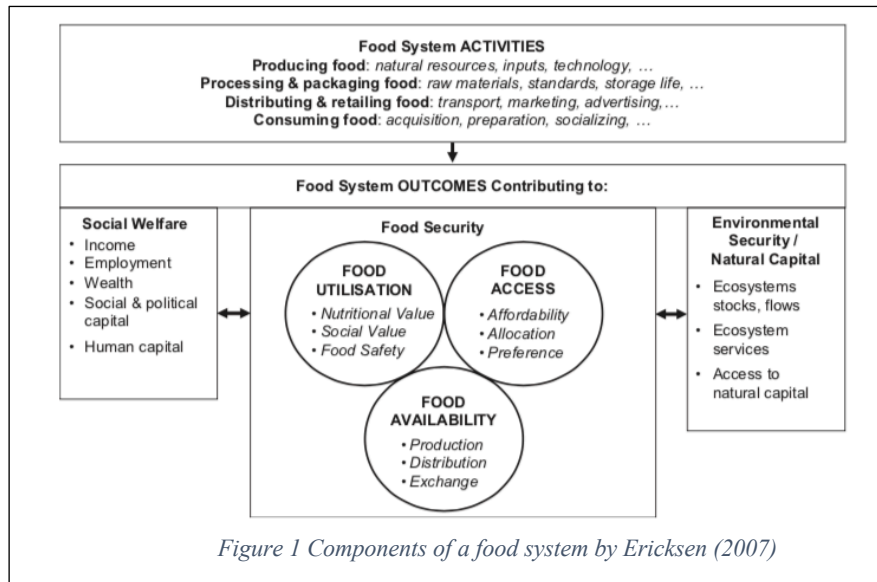
In urban food studies, definitions of "food system" have been found in this literature review mainly in relation to scholars in the field of urban food policies. Some scholars in this line of research use the concept of "systemic approach" to food policy. Mansfield and Mendes (2013) and Mendes (2008) define it as "an overarching, multi-sectoral approach to addressing problems that include the full 'spectrum' of food issues, including production, processing, distribution, access, consumption and recycling of food waste" (Mansfield and Mendes, 2013, p. 57; Mendes, 2008, p.943). This line of literature distinguishes a systemic approach to food policy from the traditional approach to food policy that isolates individual aspects of the food system, such as urban food production or public health. Likewise, Moragues et al. (2013) use the concept of "holistic approach to the food system" (p.6) in relation to food policy making. These authors claim that food policies should consider both the horizontal dimension of the food system, that embrace different policy domains (such as health, environment, economy), and the vertical food system, "that considers all different stages of the food system: food production, processing, storage, transport, retail, consumption and waste" (p.6). Finally, some authors both in the field of urban food policies and planning literature highlight the interconnectedness dimension of the food system, as mirrored in the concept of "food system thinking". According to MacRae and Donahue (2013), food system thinking "reflects an awareness of how actions by one group in the system affect other groups, as well as influencing the environment, the economy, society, and the health of the population and ultimately consumers" (p.2). In the same line, Sonnino, Tegoni and De Cunto (2018), who executed a literature review on the concept of food system thinking, point out that thinking of food systemically implies two aspects:

(1) considering the global environmental and socio-economic dynamics that affect and are affected by the food *activities*, that are food production, food processing, food packaging, food distribution, food retailing and food consumption (Ericksen, 2007). The environmental and socio-economic dynamics to which Sonnino et al. (2018) refer can be linked to the concept of *food outcomes*, elaborated by Ericksen (2007). An example of food outcome is the contribution of an activity to food security or to enhance natural capital (Ericksen, 2007).

(2) Focusing on the relations and connections between all actors involved with activities at different stages of the food system. This means not only the activities of food production and consumption, but also processing, packaging, retailing, distribution, transportation, storage, waste. According to Sonnino et al. (2018), those last activities represent the "missing middle" (p.5) of urban food systems because they are often not addressed.

Sonnino, Tegoni and De Cunto (2018) conclude that thinking in terms of food system "give emphasis to interactions, integrations and relationalities between actors and activities within the food system and between food and other relevant systems" (p. 3).

From this limited literature review on the definitions and concepts related to "food system" as presented in urban food studies, it can be concluded that these conceptual frames give insights on the

fact that the essence of a food system are the interconnected entanglements of dimensions and relations. Moreover, an important observation is that the present literature review has not found definitions in urban food studies that explicitly link the concept of "food system" with "governance" in urban contexts, such as a definition of "systemic urban food governance".

3.1.2 Ways in which food is governed in a systemic way in cities

In order to explore the link between urban food system and governance, a literature review has been conducted, that sheds light on the different modalities that cities are devising to govern food in a systemic way. As a result, despite the lack of clear definitions of a "systemic urban food governance", it is possible to understand how cities are approaching their governance of food from a systemic perspective. Those modalities can be grouped under the category of *urban food strategies*, that represent the process of how cities envision a change in their food system and how they operationalize this change (Moragues et al., 2013). The table below presents an overview of the urban food strategies, conducted through a literature review with a snowball approach, starting from the scholars Moragues et al. (2013) and Sonnino (2009). The appendix presents a second table (Annex 1, 7.1) that exemplifies some measures concretely adopted by municipal authorities as part of their urban food strategies. It is based on the consultation of both academic literature and grey literature.

The following chapter presents a conceptual framework with criteria that uncover systemic urban food governance. Some of the urban food strategies presented in the table below are recalled and expanded in the conceptual framework.

STRATEGY	EXPLANATION	PROS PRESENTED IN LITERATURE	CONS PRESENTED IN LITERATURE	EXAMPLE OF CITIES	REFERENCES
Integrated municipal food policies or strategies	Documents (visions, plans) that integrate food system issues in a single policy framework.	Innovative approach to food policy making, traditionally dominated by "individual" or "stand-alone" policies (Sonnino, 2017). These comprehensive food strategies "take a coordinated approach to the food system as a whole" (Mansfield and Mendes, 2013, p.37).	Scholars in the field of food policy integration warn that food policies can remain on a symbolic or discursive level (Candel and Pereira, 2017, Sibbing et al., 2017).	New York, Toronto, London, Seattle, Bristol, Malmö, Vancouver	Morgan and Sonnino, 2010; Mansfield and Mendes, 2013; Reynolds, 2009; Sonnino, 2017
Creation of food policy councils (FPCs)	Multi-stakeholder platforms of collaboration on food system issues (public sector, civil society and private actors).	Some scholars emphasize that FPCs can be spaces of collaboration and dialogue between civil society and local government (Derkzen and Morgan, 2012; MacRae et al., 2013; Schiff, 2008)	Research shows that limited financial resources, lack of staff support, dependency on charismatic personalities and reliance on voluntary work can characterize food policy councils (Carey, 2013, Pothukuchi and Kaufman, 1999).	Toronto, Bristol	Carey, 2013; Derkzen and Morgan, 2012; Harper et al., 2009; Halliday and Barling, 2018; MacRae et al., 2013; Pothukuchi and Kaufman, 1999; Scherb et al., 2016; Schiff, 2008
Public food procurement	Policies that target institutional purchasing. Cities can (re)localize the purchasing of food or incentivize the consumption of more "quality" food products (healthy, organic, vegetarian or environmental-friendly) in public spaces, such as schools, hospitals or prisons (Morgan and Sonnino, 2010, Wiskerke, 2009).	Some scholars argue that public procurement holds significative integrative potential for the food system, embracing multiple objectives, stages and actors. (Morgan and Sonnino, 2013; Sonnino, Tegoni, De Cunto, 2018)	Not found.	Rome, Malmö	Morgan and Sonnino, 2010; Renting and Wiskerke, 2010; Sonnino, Tegoni, De Cunto, 2018; Wiskerke, 2009
Participation in translocal food policy networks	Relationship of collaboration and best-practice exchange among cities.	A study (Sibbing et al., 2017) conducted on food policy outputs of 31 Dutch municipalities highlights the correlation between the participation of cities in trans-local networks and the integration of food systems goals in municipal policy outputs. According to this study, almost all Dutch municipalities that signed the "City Deal Food on the Urban Agenda" or the "Milan Urban Food Policy Pact" (MUFPP) integrated food challenges across policy sectors to a relatively larger extent compared to not-signatory municipalities.	Not found.	Signatory cities of the Milan Urban Food Policy Pact, Sustainable Food Cities Network in the UK, Dutch City Deal Food on the Urban Agenda (2017).	Moragues-Faus and Sonnino, 2018; Sibbing et al., 2017; Sonnino, Marsden and Moragues-Faus, 2016

Figure 2 Overview of urban food strategies

3.1.3 Criteria that uncover how food is governed in a systemic way in cities

Several criteria can unfold how food is governed in cities systemically. The criteria presented below have been outlined through the review of literature that addresses the governance of the "food system" (and related definitions) in relation to urban contexts. Specifically, they have been drawn from the analysis of grey and academic literature on urban policies (Blay-Palmer, 2009; Halliday and Barling, 2018; IPES-Food, 2017; MacRae et al., 2013; Mansfield and Mendes, 2013; Mendes, 2008; Reynolds, 2009; Rocha, 2016; Sibbing et al., 2018), from studies on food networks and partnerships (Renting et al., 2012; Wekerle, 2004) and from bodies of literature on food planning (Moragues-Faus and Sonnino, 2018; Morgan, 2015; Santo and Moragues-Faus, 2019; Sonnino, 2017).

Some urban food strategies presented in the section above are recalled and further explored. Criteria have been classified in three macro-categories: "municipal policy", "in and beyond municipal policy" and "beyond municipal policy".

Municipal policy

1.Integration of food across municipal policy outputs

Scholars from urban food studies recognize the importance of integrating food across multiple policy areas in the practice of a systemic approach to food in cities (Mansfield and Mendes, 2013; Moschitz, 2018; Sibbing et al., 2016; Sonnino et al., 2018). This is in line with the positions of scholars from food policy integration studies (Candel and Pereira, 2017), who point out that even if the transition to a more sustainable food system can represent a goal in itself, it is important that policymakers specify and explicit food policy goals. They clarify that the formulation and adoption of food policy goals is not restricted to the presence of overarching food policy documents, but those goals need to be integrated in municipal outputs across policy areas and sectors. However, they recognize that the concept of food policy integration is a new notion, with fuzzy boundaries and without a clear blueprint (Candel and Pereira, 2017).

In the wake of this food policy integration scholarship, a new line of literature is emerging in urban food literature that studies the integration of food across municipal policy outputs (Moschitz, 2018; Sibbing et al., 2018). A study by Moschitz (2018), conducted on official policies of Switzerland, revealed that food was not major topic in most of the potentially relevant local policy documents, indicating that food is not well integrated into municipalities' main local policies (Moschitz, 2018). Correspondingly, Sibbing et al. (2019) conducted a study to assess the integration of food policy goals into municipal legal and policy frameworks from 31 Dutch municipalities. They concluded that the majority of Dutch municipalities integrated food only to a limited extent. According to this study, Dutch municipalities predominantly address health and local food as the main themes in which food is integrated in municipal outputs. Finally, this study by Sibbing et al. (2019) found out that the analyzed Dutch municipal outputs address food security or social justice topics only to a limited extent.

2.Cross-departmental coordination

Urban foods scholars recognize that integrating food system goals across multiple policy areas is an influential factor in the practice of a systemic approach to food policy (Sonnino et al., 2018). At the same time, they argue that it represents a challenge for local governments, because of the traditional "silos" departmental structure of municipalities (Mendes, 2008; Sonnino et al., 2018). In the literature related to policy integration and coordination, scholars point out that an essential condition to tackle cross-cutting topics in an integrated way is the collaboration among governmental departments (Candel and Biesbroek, 2016; Peters, 2018; Sibbing et al., 2018).

Studies on cities that are considering food policy in their municipal agenda suggest that municipalities promote cross-departmental collaboration by adopting a variety of strategies. To stimulate collaboration among departments, some cities create food policy staff positions, such as a Director of

Food System in San Francisco or a Food Policy Coordinator and a Food System Planner in Vancouver (Mansfield and Mendes, 2013, Mendes, 2008). Other cities create interdepartmental teams, that, according to some scholars can lead to a more effective implementation of food system goals (Mansfield and Mendes, 2013). Specifically, Mansfield and Mendes (2013), who studied the factors affecting the implementation of integrated municipal food strategies in London, San Francisco and Toronto, identify the creation of interdepartmental staff teams as a factor that "significantly enable(s) implementation and integration of food into existing policy and regulatory frameworks" (p. 46).
When coordinating multiple departments, municipalities can experience problematic situations, such as turf wars over programme responsibilities and associated budgets, as Rocha (2016) identifies in relation to the case of Belo Horizonte. Local governments can take measures to manage conflicts and ideological differences: for example, they can organize internal cross-departmental trainings or engage outside consultants who create common ground among the actors and mediate internal conflicts (IPES-Food, 2017).

3. Involvement of the mayor in food policy developments

In cities, mayors can exert influence on the food policy developments of the city. They can take political initiative on food policy, for example by creating formal mandates to elaborate municipal food strategies. Wiskerke (2009) points out that the food strategy of Amsterdam "Proeftuin Amsterdam" was "first and foremost a political initiative from the deputy mayor of Amsterdam" (p. 381). In the same line, Reynolds (2009) explains that in London, the launch of the strategy "Healthy and Sustainable Food for London" was an initiative from the Mayor Ken Livingstone. According to the same scholar, this food strategy gained more authority obtaining the status of "mayoral strategy" (p.149). Some scholars in the field of urban food policy studies shed light on the consequences of the involvement of mayors in food policy developments. Halliday and Barling (2018), who studied the influence of mayors on food policy groups in London (the London Food Board) and Bristol (Bristol Food Policy Council), point out that the support of the mayor to food policy groups is not always beneficial. They warn that it can be detrimental, for example when the activities of the food policy groups have to conform to the political agenda of the mayor. Being highlighted as an influential role, the involvement of mayors in food policy development can be considered a relevant criterion when analyzing how food is systemically governed in a city.

4. Dedicated food policy staff positions

In urban food policy literature, the creation of food policy staff positions is mentioned as a strategy adopted by local governments in the implementation of food system goals, such as in the cities of Vancouver, Toronto or San Francisco (Mansfield and Mendes, 2013; Mendes, 2008). Mendes (2008) highlights that in the case of Vancouver, the creation of two food policy staff positions (a Food Policy Coordinator and a Food System Planner) was beneficial in raising the institutional capacity to implement food policy. While research on food policy councils tend to emphasize the benefits of dedicated staff positions (Borron, 2003, as cited by Mendes, 2008), argued to ensure consistent leadership, provide organizational stability, and keep food system goals on the radar of local governments, Mendes (2008) remarks the problems related to the presence of dedicated staff positions. The same study by this scholar reveals that in Vancouver, the problematic reporting structure of the two food policy staff positions created tensions during the implementation phase of the food policy (Mendes, 2008), finding also supported by MacRae et al. (2013).

5. Municipal financial resources for food

Availability of municipal financial resources for food is recognized in urban food studies as a factor influencing the capacity of local governments to address food system issues (Mansfield and Mendes, 2013; Mendes, 2008; Schiff, 2008). Literature highlights the importance that city governments dedicate financial resources to food since it can enhance the political commitment in accomplishing

the food policy agenda and thus exert an influence in the implementation of food system goals (IPES-Food, 2017; MacRae et al., 2013). Moreover, the presence of municipal funds influences the effectiveness of projects around food. A study by MacRae et al. (2013) on 64 food policy initiatives in Canada supports this. Those scholars found out that food policy projects with limited funding from the municipal government struggle more in terms of effectiveness compared to those with more financial supports. Moreover, the provision of funds from external actors can be problematic. It can create dynamics of influence and pressure to local governments (IPES-Food, 2017). To prevent this, the local government of Belo Horizonte has forbidden to food manufacturers to contribute to the Schools Meal Programme, either financially or by providing free products (Rocha, 2016).

6.Participation in translocal food policy collaborations

In urban food studies, there is a body of literature mainly represented by scholars from the field of food planning that expands the debate on urban food governance. They focus on the dimension of translocal governance (Blay-Palmer et al., 2016; Moragues-Faus and Sonnino, 2018; Santo and Moragues-Faus, 2019; Sonnino, 2017). Scholars from this field highlight that since cities interact, flows of knowledge, materials and people navigate beyond city boundaries. Therefore, the advances in food policies transcend the administrative borders of cities (Moragues-Faus and Sonnino, 2018). As argued by Sonnino et al. (2016), the reordering of the governance of food policy in one city can indirectly prompt cross-overs of learning and reflexivity in other cities. Practice from cities witness this influence that cities exert on each other. For example, Blay-Palmer (2009) points out that the London Food Commission inspired the creation of the Toronto Food Policy Council. The scholar mentions that the organization of a tour where delegates from Toronto explored the food policy developments in the UK contributed to foster interactions between the two cities. This visit resulted in a city-to-city learning partnership between the two cities, since the leader of the London Food Commission was later invited to speak in Toronto (Blay-Palmer, 2009).

These partnerships of city-to-city learning can take the shape of more institutionalized relationships of translocal collaborations (Sonnino, Marsden and Moragues-Faus, 2016; Moragues-Faus and Sonnino, 2018). Networks of collaboration among multiple cities are currently flourishing, such as the Milan Urban Food Policy Pact, the Dutch City Deal Food on the Urban Agenda (2017), the Sustainable Food Cities Network in the UK, FAO's Food for cities global network or EUROCITIES network (Sonnino, 2017). In a study on the Sustainable Food Cities Network in the UK, Moragues-Faus and Sonnino (2018) conclude that this network is actively working to move away from a compartmentalized approach to food policy, and is forging a "integrated, cross-sectoral and participative governance model" (p. 14). Therefore, the participation of cities in translocal networks of food policy cooperation can be seen as a factor influencing systemic urban food governance.

In and beyond municipal policy

7.Sustained commitment across electoral cycles

Urban food policy literature highlights that electoral cycles affect the implementation of municipal food policies, bringing about shifting priorities and budget shortfalls (Mansfield and Mendes, 2013; Sonnino, 2009). Mansfield and Mendes (2013) discuss the impactful consequences of the changes in administration, that threat a sustained commitment of municipalities on food. The two scholars emphasize that the uncertainty that electoral changes bring about is particularly acute for food policy, that requires a high number of departments to work together to achieve implementation. They highlight that this uncertainty "can affect everything from staffing levels to elected official or senior managers' willingness to direct their staff to undertake policy reviews or participate in inter-departmental technical teams on food system issues" (p. 53). Therefore, a sustained commitment across electoral cycles is a relevant criterion when considering how food is governed in a systemic way in cities.

8. *Presence of food champions*

In urban food literature, the role of champions is highlighted for their contribution to the food policy developments of cities (Coulson and Sonnino, 2019; IPES-Food, 2017; MacRae et al., 2013). They are conceptualized as individuals who nourish a personal interest for food, highly motivated to drive food in the policy agenda and they nourish interpersonal relationships to plead their cause. In their analysis of food policies of Canadian municipalities, MacRae et al. (2013) found out that the presence of champions was a common recurring factor of successful food policy initiatives. In particular, in the case of Canadian cities, many champions were "usually in the public health unit, but sometimes in planning or social development" (p.18), with the knowledge to broker deals across the political spectrum. Food champions can be civil servants within the local government, for example working in the planning department. IPES-Food (2017) reports the case of Detroit, where the impetus for developing an urban agriculture ordinance came from a senior planner from the Detroit City Planning Commission. Therefore, the presence of policy champions is an influential factor in the systemic governance of food at the urban level.

9. *Partnerships around food between the municipality and non-governmental actors*

In urban food policy and planning studies, partnerships around food between diverse actors are highlighted as influential factors in urban food system developments (Mendes, 2008; Morgan, 2015). For example, a study by Mendes (2008) identifies the presence of food policy partnerships arrangements, such as joint-actor partnerships with community projects or academic research partnerships as a factor that influenced the capacity of the city of Vancouver to implement food policy.
These relations of collaboration between municipal and non-governmental actors (such as civil society, business, academic world) can take the shape of partnership arrangements, that vary in terms of formality and organization, such as food policy councils, food policy task forces, food policy groups or coalitions (Halliday and Barling, 2018).

In urban food planning studies, Morgan (2015), who explored local food politics in the UK, pointed out that food-focused civil society organizations exerted strong influence on the urban political agenda because they collaborated with local authorities and inspired the design of municipal food strategies. However, the same scholar warns that this shift from a *politics of protest* to a *politics of co-governance* from community groups and non-governmental organizations holds the risk to degenerate into a *politics of co-optation*, if they forfeit their radical voices for the semblance of political influence (Morgan, 2015).

Likewise, studies on community food system initiatives emphasize the importance of the connection with the municipality. In their analysis of neighborhood-based community food initiatives in Toronto, Fridman and Lenter (2013) identify the benefits of the connection between those initiatives and municipal actors, defined as "inter-scalar bridging" (p. 544). Not only communities are seen to benefit in terms of provision of infrastructures or financial resources that enhance their resilience and adaptive capacity, but so too are local authorities, who receive community-level information and can transfer it into the corridors of municipal government. As the mentioned studies witness, these relations of cooperation between the municipality and non-governmental actors that range in levels of formality and organization, represents an element that characterizes how food is governed in cities.

Beyond municipal policy

10. *Civic food networks*

Academic literature on urban food studies (Mansfield and Mendes, 2013; Mendes, 2008; Wekerle, 2004; Renting et al., 2012) suggests that tackling food issues in a systemic way is not a task

accomplished by local governments alone but demands the convergence of efforts from multiple sectors and actors. Therefore, in cities, food networks between a wide variety of actors (such as citizens, civil servants, NGOs, community groups, market actors, universities) are flourishing, reflecting the association of food policy advocacy as an exemplary networked movement (Wekerle, 2004).

Some scholars analyze initiatives of experimentation in cities, that creates spaces of innovation in the contemporary governance of food systems. Renting et al. (2012) define those initiatives under the overarching concept of "civic food networks" (CFNs), referring to a broad variety of initiatives that are spreading in cities and led by citizens, such as networks around community supported agriculture, farmer's market or box schemes.

According to these scholars, civic food networks can introduce alternative practices of food production, food distribution or food consumption. However, what characterizes civic food networks is that they go beyond the simple proposition of alternative ways of food provisioning, because they promote new civically and politically engaged discourses around the food system. Therefore, these networks bear the potential to contribute to the food system reform, "fostering new public awareness around food issues and the introduction of new questions on political agendas" (Renting et al., 2012, p.302).

	CRITERIA FROM THE LITERATURE REVIEW	KEY REFERENCES
Municipal policy	1.Integration of food across municipal policy outputs	Moschitz, 2018; Sibbing et al., 2018
	2.Cross-departmental coordination	Mendes, 2008; Mansfield and Mendes, 2013
	3.Involvement of the mayor in food policy developments	Reynolds, 2009; Halliday and Barling, 2018
	4.Dedicated food policy staff positions	Mansfield and Mendes, 2013; Mendes, 2008
	5.Municipal financial resources for food	MacRae et al., 2013; Mansfield and Mendes, 2013; Mendes, 2008; Sonnino, 2009
	6.Participation in translocal food policy collaborations	Moragues-Faus and Sonnino, 2018; Sonnino, 2017
In and beyond municipal policy	7.Sustained commitment across electoral cycles	Mansfield and Mendes, 2013
	8.Presence of food champions	MacRae et al., 2013; IPES-Food, 2017
	9.Partnerships around food between the municipality and non-governmental actors	Fridman and Lenter, 2013; Mendes, 2008; Morgan, 2015
Beyond municipal policy	10.Civic food networks	Renting et al., 2012

Figure 3 Framework that unfolds systemic urban food governance from literature

3.2 Results from the case study: how food is governed in Almere

3.2.1 Introduction to the case study

Almere is a city of the Netherlands, located on the southern Flevoland polder. The city has a peculiar geographical location, because it has a central position between the green Flevoland province and the population-dense Amsterdam Metropolitan Region (MRA). This means that the city forms a pivotal point between urban and rural areas. Along with its particular position, the city of Almere is an interesting case of a "new city". It has been built in the end of the 1970s on land reclaimed from the sea, with an innovative multi-core design based on the concept of "garden city" from the English urban planner Ebenezer Howard (Remmers, 2011). Almere is not a classical mono-nuclear city with a design centralized to the city center but has a polycentric structure with green areas organically integrated.

Almere is a city which is facing the challenge of a planned increased urbanization. In recent years, due to the high demand for housing in the Metropolitan Region of Amsterdam (MRA), the Dutch government attributed to Almere a strategic role in the urban development of the region (Ilieva, 2016). The city is thus expected to increase from the current 200,000 inhabitants to around 350,000 inhabitants, raising from the 10th to the 5th most populated city of the entire country (Dekking, 2017). The municipality of Almere considered this plan for the expansion of the city as a key opportunity to rethink the city (Ilieva, 2016). Being "green" an intrinsic component of the DNA of the city, the local government has set sustainability as a guiding central theme of this urban development. As a result, it elaborated the Almere Principles, seven starting points that offer inspiration and guidance for the future development of the city until 2030. They are: cultivate diversity, connect place and context, combine city and nature, anticipate change, continue innovation, design healthy systems, empower people to make the city (Almere, 2008).

The future plans of the city also reconfirm the vocation of Almere to sustainability and green development. In 2022, the city of Almere will host the Floriade, a world horticultural exhibition that showcases innovation in the horticultural sector. In the plans of the forthcoming edition, the agenda of the horticultural sector will merge with the ambition of Almere to be a green city, as the main motto "Growing Green cities" with its four themes (Feeding the city, Greening the city, Energyzing the city, Healthying the city) evokes (Floriade, 2019). Floriade has assigned a central role to the theme "Feeding the city"- food production in and around the city - which is fostering dynamism around urban-rural connections and urban agriculture. The commitment of the city to support local food production is also witnessed by its ambition to increase the local food supply in the city up to the 20% of the total amount of food by 2022 (Scrobogna, 2018). Therefore, food represents a tangent point between various issues at stake in the city: urban development, city-countryside reconnections, sustainability. As a result, the case study of Almere provides interesting insights into the governance of food at the urban scale.

3.2.2 Criteria that uncover how food is governed in the city of Almere

In the following sections, the criteria presented in the conceptual framework elaborated through a literature review (section 3.1.3) are applied to the case study of Almere. In this way theoretical and field research converge. The case study of Almere has been instrumental in further refining some criteria of the conceptual framework, namely: "Sustained commitment across electoral cycles", "Partnerships around food between the municipality and non-governmental actors" and "Civic food networks".

The criterion of the conceptual framework "involvement of the mayor in food policy developments" has not been explored.

Municipal policy

1.Integration of food across municipal policy outputs

Figure 4 Focus areas of food goals in policy outputs

In the city of Almere, food goals are integrated across municipal policy outputs, suggesting the relevance that the city gives to the topic of food.

Specifically, the content analysis of the 7 selected policy outputs evidences the presence of eleven domains of food goals that are integrated in the selected policy outputs: *biodiversity, circularity, cities network around food, city marketing, regional economic development, research/education/innovation in food, food safety, food waste partnership, healthy environment, sustainable food production, urban agriculture*. The collected data reveal that the domains in which food goals are predominantly integrated are: research, education and innovation in food and city marketing, because they represent the domains with more frequent recurring codes, as indicated in fig. 3.

An example of a goal related to the domain "research, education and innovation in food" is: "Together with partners (educational institutions, province and business community) work is being done on a gathering place for specific cooperation on research and innovations in the field of food" (Geemente Almere, 2016, document 96 Annex 4). An example of a goal coded in the domain "city marketing" is "Almere grows into a city that produces healthy food, clean energy and pure water, a city where

waste is reused as a building material and cycles are closed, a city that invites a healthy lifestyle, with a wealth of plants and animals" (Geemente Almere, 2015, document 54 Annex 4).

The finding that the analyzed documents predominantly integrated food goals in relation to the domains of research, education and innovation can be linked to the presence of a municipal programme – Flevocampus - aimed at promoting research, innovation on urban food challenges. This witnesses the vocation of the city to invest and promote research and education on urban food issues. The result that municipal documents mention food in terms of "city marketing" can be correlated to the fact that the city of Almere is currently organizing Floriade, a worldwide horticultural exhibition whose central topic is "Feeding the city".

Moreover, this document analysis has not found food system goals on the selected municipal policy outputs contributing to food security and social justice. This result is in line with insights from Sibbing et al. (2018), who studied the integration of food policy goals into municipal legal and policy frameworks among 31 Dutch municipalities and observed that they address food security or social justice topics only to a limited extent. This finding could be related to the fact that in Almere, food security and social justice are two aspects "integrated" and executed in civil society initiatives present in the city, more than in municipal documents. This is the case of Coalition Buitengewoon, an initiative that transforms food surplus into warm meals, distributed to vulnerable citizens. Its activities practically contribute to enhance food security in the city.

2.Cross-departmental coordination

In the city of Almere, the topic of food is present in the municipal agenda, in relation to three main projects: Flevocampus, Oosterwold and Floriade. They are part of the portfolio of different aldermen (interviewee E – expert; interviewee F – political advisor). Flevocampus is a public-funded research programme, in which the municipality of Almere, in partnership with Aeres Hogeschool Almere, the Amsterdam Institute for Advanced Metropolitan Solutions (AMS) and the province of Flevoland, fosters research, education and innovation on urban food solutions (FlevoCampus, 2019). Oosterwold is a project integrated in the planned urban development of the city. The municipality of Almere, together with the one of Zeewolde, Rijksvastgoedbedrif, the province of Flevoland and the Waterschap Zuiderzeeland, develops an area of 4 300 hectares to accommodate about 15.000 dwellings. Representing an example of "do-it-yourself" urbanism and bottom-up planning, the project requires citizens to comply with the rule to dedicate 50% of the land to agricultural production beside the housing construction (Maak Oosterwold, 2019; interviewee L – manager from Oosterwold). Finally, the third food-related project is Floriade, the world horticulture exhibition whose next edition will take place in Almere in 2022. With the main motto of "Growing Green Cities", the centrality of the theme "Feeding the city" witnesses the relevance of food in the essence of the event.

According to some respondents (interviewee E – expert; interviewee O - expert) the division of food across several departmental portfolios leads to an unclear political responsibility on food "since none of these aldermen is the owner of the topic" (interviewee E - expert). Moreover, one interviewee highlighted that aldermen don't cooperate in a structured way on the topic of food, because they don't want to interfere in each other's portfolio (interviewee E - expert).

A lack of structured modalities of cooperation on food among departments found out in this study suggests that cross-departmental coordination is limited. This was apparent for instance in a lack of interdepartmental meetings on the topic of food, as mentioned by a municipal representative (interviewee N – municipal representative). However, this criterion has not been extensively explored, due to some limitations in conducting this research, such as an inaccessibility in interviewing aldermen. Therefore, more research is needed to further explore the presence or absence of dynamics of cooperation on food among the different aldermen.

4.Dedicated food policy staff position

In the municipality of Almere, there are no dedicated food policy staff positions. Some interviewees support the creation of a dedicated policy position on food (interviewee A – Flevofood; interviewee E - expert) to "have one owner of the topic who can put the other people into action" (interviewee E - expert), while others don't advocate for this measure (interviewee F – political advisor). The finding that some interviewees supported the creation of a food policy staff position as a way to enhance the political responsibility on the topic corroborates the insights of scholars who argue that creating food policy staff can be instrumental in keeping food system goals in the spotlight of the municipal agenda (Borron, 2003, as cited by Mendes, 2008). Moreover, respondents often made reference to the city of Ede for its initiative of creating a dedicated municipal food policy position (interviewee E – expert; interviewee F – political advisor).

5.Municipal financial resources for food

The municipality finances programs around food, such as Flevocampus, suggesting an innovative way in which city governments can address urban food questions: funding municipal programs of research on the food system.
Moreover, the municipality provided and provides funds to civil society initiatives around food (interviewee B – Coalition Buitengewoon; interviewee E – expert; interviewee I – Voedsel Loket). However, some of them, such as Coalition Buitengewoon, experienced the interruption of funds from the local government and rely on the self-finance of individuals (interviewee B – Coalition Buitengewoon; interviewee E - expert). The interruption and the limited provision of funds are recognized by interviewees as factors impacting the effectiveness of their projects (interviewee B - Coalition Buitengewoon; interviewee I – Voedsel Loket).
A municipal representative comments this: "You start something, but in the end you have to be self-supporting. Or there must be a structural thing in the policy of the municipality" (interviewee F – political advisor).

6.Participation in translocal food policy collaborations

The municipality of Almere participates in translocal networks around food policy, sign of the strong vocation of the city to actively look beyond its municipal borders to learn and exchange practices around food issues. Besides being one of the first signatories of the Milan Urban Food Policy Pact (MUFPP), the city of Almere is part of the Dutch City Deal Food on the Urban Agenda (in Dutch, "Voedsel op de stedelijke agenda").

A City Deal is a policy instrument deployed by the Dutch government to tackle new emerging policy areas, around which new hybrid arenas of governance are appearing, "where cities are taking responsibility, but in an area, which was traditionally national or international policy, where they sometimes interfere with the regional policy" (interviewee M - programme manager City Deal). Created in 2017, during the first national Food Summit in The Hague, the Dutch City Deal Food on the Urban Agenda is a national network of 12 cities, three ministries and the province of Gelderland (City Deal Voedsel, 2019). The City Deal Food on the Urban Agenda has been the result of the convergence of two main windows of opportunity. Along with the signature of the MUFPP, the release of the national report "Towards a food policy" in 2016 gave impetus to cities to gather and take action on food policy. This agenda-setting report, in which the Netherlands Scientific Council for Government Policy advised the Dutch government to create a comprehensive food policy, has strongly contributed to foster collective action from cities, wishing to raise their voices to influence it (interviewee M - programme manager City Deal).

The Dutch City Deal Food on the Urban Agenda has three main ambitions. Firstly, it works as a community of practice, where cities can "look into each other's kitchen" and learn from each other

(interviewee M - programme manager City Deal). Similar to the UK's Sustainable Food Cities Network (Moragues-Faus and Sonnino, 2018), the Dutch City Deal Food on the Urban Agenda promotes the cross-pollination of knowledge among its members through both physical and virtual convergence spaces. The network organizes meetings, working groups, laboratories. Moreover, the network's website has a "Recipe book" section, where good practices of local food solutions are showcased - such as the Oosterwold project for the city of Almere (City Deal Voedsel, 2019).

The second ambition of the City Deal is to systematize the best food policy practices. Since there are projects around food that address problems that are not exclusively at stake for one city, the City Deal has the ambition to facilitate the scaling up and replication of those practices (interviewee M - programme manager City Deal). In relation to this ambition, it can be argued that systematizing best practices can help cities to take inspiration from each other on possible modalities to approach food systemically and then replicate those practices. However, as pointed out by Santo and Moragues-Faus (2019), there is the risk that municipalities adopt a toolbox approach to the food system reform, if they simply transfer and replicate practices used by other cities, without adapting them to the local context.

Thirdly, the Dutch City Deal aims at exchanging knowledge and practices also beyond national borders, "to showcase and maybe even export (…) the experience of the Netherlands with urban food systems all over the world and the other way around: also, to learn from experiences elsewhere" (interviewee M - programme manager City Deal).

Assessing the influence of the participation of Almere in the network Dutch City Deal Food on the Urban Agenda on its municipal policy developments was beyond the scope of this research. However, during this research, multiple interviewees, when asked about possible interventions to improve the food governance of Almere, mentioned the municipality of Ede as a model of urban food policy, for its initiative of creating a dedicated municipal food policy position (interviewee M - programme manager City Deal; interviewee F – political advisor). This can be interpreted as a tangible sign of the influence that cities belonging to the network around the Dutch City Deal Food on the Urban Agenda exerts on each other, corroborating the insight from Sonnino et al. (2016), that the restructuring of governance in one city stimulates "reflexivity in other cities' (p.9).

In and beyond municipal policy

7.Sustained commitment across electoral cycles

Changes in administrations after elections represent a factor affecting the commitment of the municipality of Almere to take actions on food. Some interviewees pointed out that election cycles constitute a threat to a sustainable political commitment on food education, since "Every time when there comes a new mayor or a new municipal government, then we have to start again explaining (…) why it is important to do food education" (Interviewee G - Stadsboerderij). Moreover, the change in the political orientation of the municipal administration influences the politics of funding of Almerian civil society initiatives around food. For example, one representative from a civil society food initiative pointed out that after the changes in the political administration of the local government, her organization experienced an interruption of municipal funds and subsidies (interviewee B - Coalition Buitengewoon).

8.Presence of food champions

Food champions are a salient characteristic of the food governance of Almere. As conceptualized in literature, they are individuals who are highly interested in food and nourish interpersonal relations to bring the food cause in the agenda of the municipality. While literature discussed food champions as individuals belonging to the political sphere of the municipality (MacRae et al., 2013), the case study of Almere provided new insights on food champions, suggesting that they can professionally not belong to the political sphere, but they can be farmers or academics.

This research pointed out one case of committed civil servant professionally employed in the municipality (interviewee F - political advisor). He is working as urban planner and he is engaged in the food policy developments of Almere, corroborating the finding from IPES-Food (2017) that the planning department can be the origin of food policy developments from individual initiatives. However, this research has identified food champions mostly in civil society (interviewee B – Coalition Buitengewoon), in the academic (interviewee E - expert) and farming spheres (interviewee G - Stadsboerderij).

They have the characteristics of visionary leaders, borrowing an expression from John and Cole (1999), who studied political leadership roles in urban contexts. Even if not professional politicians, they are visionary leaders because they can anticipate future developments and accomplish visionary agendas, as the following quotation from one farmer evocates: "We also wanted food production to be an item on the municipality agenda. That was for me an important thing. (…) But by that time, I already said: "This is going to change. The world is going to change and within 20 years there must be policies made by the government and also by municipality on food production". That was something that I said 20 years ago and now it starts" (interviewee G - Stadsboerderij).

Moreover, food champions in Almere are engaged in fostering the bonding and the bridging dimensions of social capital, adopting two paradigms used by Nelson et al. (2013) in their study on community food initiatives in Ontario. Food champions in Almere contribute to enhance the bonding social capital, which is the connectivity between like actors, by creating networks of cooperation and knowledge exchange in civil society (Nelson et al. 2013). For example, a city farmer created Almeerse Weelde, a collective of food artisans that promote local food products through educational activities, such as workshops or excursions. As the city farmer who founded it claimed: "At first, we started this movement to get people together - who do already work with products from Almere - and to make them know each other and to inspire each other, to inspire other people, to do product development together. And then try to spread this" (interviewee G - Stadsboerderij). Along the same lines, a researcher, personally committed to the food cause, has been the initiator of several platforms and spaces of knowledge exchange and collaboration, such as community of practices around urban agriculture (interviewee E - expert).

Food champions of Almere enhance the bridging social capital, conceptualized as the linkages with diverse actors, by fostering connections between diverse actors such as municipal institutions (Nelson et al., 2013). For example, some food champions highly committed to the food agenda of the city joined a taskforce on food, in collaboration with other civilian and municipal committed food actors (interviewee E - expert). Food champions of Almere can be aware of the beneficial outcomes resulting from the collaboration between non-governmental actors and municipal officers. This emerges from the following statement of an interviewee, commenting on the initial participation of political actors in the meetings of his network: "the people of the municipality can have their own hands, what problems these initiatives on community gardens and school gardens are facing, what difficulties they experience" (interviewee E - expert).

The presence of food champions raises two important questions. Firstly, it raises questions on the possibility to systematize food champions. If the commitment to address food policy is reliant on individual champions, how can food be "normalized" as a political topic of responsibility in municipal agendas, even in contexts where there are not individuals with a passion and personal interest in it? Secondly, the connection between food champions and municipal actors can raise questions regarding the reinforcing of existing privileges, for example in the case in which key actors cultivate personal relationships with established urban elites for the sake of their interests.

9. Partnerships around food between the municipality and non-governmental actors

The study of food governance in Almere has uncovered an innovative partnership model: Flevocampus. Flevocampus is a partnership between the municipality of Almere, research and

academic institutions (Aeres Hogeschool Almere and the Amsterdam Institute for Advanced Metropolitan Solutions), and the Province of Flevoland. Born in January 2017, Flevocampus brings together researchers, students and businesses under the same umbrella, with the ambition of designing solutions to urban food challenges. By creating the connection between knowledge-demanding entrepreneurs and knowledge suppliers, it builds bridges between education and entrepreneurship in the food system, serving as a knowledge hub (Flevocampus, 2019). As an example, Flevocampus is currently acquiring knowledge on the feasibility that local entrepreneurs from Flevofood network provide local food at the Lowlands festival, one of the biggest music festivals in the Netherlands (interviewee A – Flevofoood; interviewee F – political advisor).

Along with fostering knowledge on urban food issues, Flevocampus supports young entrepreneurs with innovative ideas in the field of food. For example, Flevocampus cooperates with the Urban Greeners, a network of selected 10 young food entrepreneurs, who are given the space to participate in the Floriade exhibition with their innovations (interviewee C - Flevocampus). Moreover, Flevocampus has the ambition to foster the connection between city and countryside. To do so, it cooperates with farmers, such as the City Farm Almere (in Dutch Stadsboerderij Almere), a professional biodynamic farm, in the organization of educational activities like excursions and summer schools for Flevocampus participants (interviewee G - Stadsboerderij).

In addition to cooperating with entrepreneurs and farmers, Flevocampus exerts political influence on the local governments, lobbying for addressing food in the political agenda of the municipality (interviewee O – expert; interviewee N - municipal representative). As expressed by a municipal representative, Flevocampus: "gives us a *challenge* and that actually is the purpose of the program: it puts food issues on the map. It makes it more practical and it challenges us on the subject" (interviewee N - municipal representative). For example, in March 2018, on the verge of elections, Flevocampus organized a think tank, where students elaborated a Municipal Food Manifesto and presented it to local politicians. This document, which sets precise food-related goals for the following political administration, even if not officially adopted by the municipality, has contributed to trigger a political discussion on the importance of considering food in the political agenda (interviewee C – Flevocampus; interviewee E - expert).

In conclusion, it can be observed that the analysis of Flevocampus has provided novel insights on the nature of partnership arrangements around food in cities. In particular, it has shed light on the presence of a particular type of partnership: the one between municipal and academic institutions. Flevocampus represents an innovative strategy that city governments can adopt in governing food: fostering research on the food system. Moreover, the analysis of the programme Flevocampus enables to further understand the concept of integrated policy. Characteristics of Flevocampus match some criteria of the ecological model of integrated policy by MacRae (1999, as cited in Mansfield and Mendes, 2013). According to this author, institutional processes and structures should mimic the diversity and complexity of ecosystem problems in order to achieve a successful integrated food policy. The author (MacRae, 1999) specifies that in order to achieve an integrated food policy it is important that institutions create an "environment" of open-ended networks of allies that build connections inside and outside the organization in the common effort to build collaborative solutions. The creation of Flevocampus can be read as the sign of the willingness of municipal actors to have an open-ended network in the city, to find solutions to urban challenges, together with academics, students and entrepreneurs. Therefore, Flevocampus can be interpreted as a tangible sign that the municipality of Almere is pursuing an integrated approach to food policy.

Along with the analysis of Flevocampus, the research in Almere has investigated the presence of institutional multi-stakeholder platforms of collaboration, such as food policy councils, highlighted in literature as models of partnership between the municipality and non-governmental actors.
In the municipality of Almere, there is currently not an institutional local food policy council. However, there has been a past attempt of the municipality of Almere to create a task force on food,

constituted by a municipal officer and committed civil society actors already involved in private and civil society initiatives on food (interviewee E – expert; interviewee F – political advisor). However, this taskforce, intended to serve as a food policy council, stopped after few meetings (interviewee E - expert). While some interviewees recognized the importance of creating a local food policy council, to institutionalize cooperation among initiatives around food (interviewee E – political advisor), other respondents (interviewee G - Stadsboerderij) warned about the risk of creating in a top-down manner an institutional platform which doesn't respond to the societal needs, as the following quotation exemplifies: "The things should grow organically, and you should not say: "now we are going to make a network" when the people don't need it, so it won't work. So especially with networks, they should originate from the necessity which people *feel* for that. (…) Otherwise you'll make a network and when there is no money anymore, then it stops" (interviewee G - Stadsboerderij).

Moreover, Almere is part of the platform Voedsel Verbindt of the Metropolitan Region of Amsterdam, constituted by diverse actors (governmental actors, banks, academics) from different scales (regional, provincial, local). Therefore, Almere is institutionalizing cooperation from a regional scale, that, as highlighted by one interviewee, can result in a more effective collaboration compared to a local platform (interviewee F – political advisor).

Beyond municipal policy

10.Civic food networks

Two civic food networks have been explored in Almere: Coalition Buitengewoon and Flevofood.

Coalition Buitengewoon (in English "Extraordinary") is a partnership between various organizations in Almere, whose mission is to process food surpluses from local suppliers and retailers into healthy meals for low-income inhabitants. It was born from the assignment given by the municipality of Almere to one committed civilian – today the project manager – to design a project tackling two major issues: food waste and self-sufficiency of vulnerable groups (interviewee B – Coalition Buitengewoon). Coalition Buitengewoon contributes both to the circular economy agenda, by reducing food waste and to enhance food security, as the following quotation expresses:

"On the one hand, we try to make the food waste less. So, it also has the effect of less CO2. On the other hand, we try to give to really poor people better food so that their self-reliance can become bigger, so that they can have more energy for their family" (interviewee B - Coalition Buitengewoon). The model relies on the commitment of local volunteers, that every day collect fresh food from local supermarkets and restaurants, carry it to preparation locations, where it is transformed into hot meals. Then, the prepared food is packaged and transported to distribution points located in different districts all over the city (Almere Haven, Almere-Buiten, Almere-Stad, Almere-Poort) (BuitengewoonAlmere, 2019). Finally, the meals are periodically shared between the volunteers and the users.

Another organized food network encountered in this research is Flevofood. Born in 2018 from the initiative of the province and committed individuals, Flevofood is a network association of entrepreneurs that organizes the different stages of the local food chain, with the ambition of shortening the supply chain and promoting the local food from Flevoland (interviewee A - Flevofood). One of the drivers of the creation of this network has been the Floriade, which brought about the necessity to organize local food actors (interviewee E - expert). By representing a collective of diverse entrepreneurs Flevofood gathers under the same umbrella representatives of multiple stages of the food system, including the processing, distribution, logistics and retailing sides of the food chain (interviewee A - Flevofood). Flevofood has been established from the awareness that "you need to first organize the whole chain and make it available in retail, through markets (…) and then it actually should be reachable by customers" (interviewee A - Flevofood). One of the multiple goals of Flevofood, which is still in the process of definition, is to create a brand (named FlevoStreekMerk) in order to reach consumers through supermarkets and big retailers, also in the perspective of providing local food from Flevoland to an international market (interviewee A - Flevofood). Finally,

Flevofood fosters knowledge acquisition and cooperation around sustainability and food policy issues, organizing events, food tours and information gatherings with keynote speakers and political representatives (interviewee A - Flevofood).

Both Coalition Buitengewoon and Flevofood can be interpreted under the theoretical lens of "civic food networks" (CFNs), elaborated by Renting et al. (2012). Coalition Buitengewoon proposes an alternative way of food provisioning because it introduces an innovative model of food distribution, where the food surplus, after being collected from retailers and processed into meals, is distributed in dedicated points spread in the city. At the same time, Coalition Buitengewoon intrinsically represents a civic engaged initiative, because the prevention of food waste and the enhancement of food security of vulnerable groups are goals incorporated in its mission. Along the same lines, Flevofood, even if cannot be appropriately defined as a "civic" food network, being constituted by entrepreneurs, shares the same characteristics. Flevofood suggests an "alternative" way of food provisioning, because it has the mission of re-organizing the food chain with the ambition to promote a local food supply. Moreover, Flevofood contributes in shaping a civic awareness on food issues, for example organizing lectures, meetings or multistakeholders gatherings, joined also by political representatives.

3.2.2.1   Refinements of criteria

The following section presents refinements of some criteria of the conceptual framework. These refinements are the result of insights deriving from the application of the conceptual framework to the case study of Almere. Specifically, three criteria of the conceptual framework are the subject of refinements: "Sustained commitment across electoral changes", "Partnerships around food between the municipality and non-governmental actors" and "Civic food networks".

Criterion 7: Sustained commitment across electoral cycles

The criterion "sustained commitment across electoral cycles" is refined in "*political will*".
Political will is the result of elections - democratic processes of decision making through which society can influence municipal decision-making. Therefore, political will does not only relate to politicians, but it is co-created by political institutions and citizens outside the city hall. It reflects a public will, for example a general sentiment of the local population to address some topics, such as sustainability and food.
Examples of what influences political will are activities promoted by Flevocampus: the initiative to present to local politicians on the verge of elections a Municipal Food Manifesto contributed to foster a political debate on food. Along the same lines, the societal debate in Almere around sustainability has influenced the results of the last elections, leading to the political will to create in the new administration an alderman especially dedicated to the topic of sustainability (interviewee N – municipal representative).
Moreover, the new administration of the city, born after the municipal elections of March 2018, gives signs of a political will to consider the topic of food in the political agenda: the inclusion of food under the sustainability portfolio is currently under the political process of decision-making (interviewee A – Flevofood).
Therefore, the criterion "political will", by mirroring also a societal influence, appears as a more nuanced and richer concept compared to "sustained commitment across electoral changes".

Criterion 9: Partnerships around food between the municipality and non-governmental actors

The case study of Almere enables to give more specific connotations to the criterion "Partnerships around food between the municipality and non-governmental actors". It can be declined into "*partnerships around food between the municipality and non-governmental actors with food system thinking embedded*". Literature on urban food governance acknowledges the presence in cities of partnerships, collaborations and networks between a variegated diversity of actors (Mendes, 2008;

Morgan, 2015; Renting et al., 2012). However urban food scholarship has not been found to give enough attention to the presence in cities of programs of partnerships that intrinsically reflect a food system thinking approach. This is the contribution that the case study of Almere has provided.

The analysis of Flevocampus suggests that food system thinking is embedded in this partnership programme. Applying the conceptualization of food system thinking by Sonnino, Tegoni, de Cunto (2018), which has been already explained in section 3.1.1, it can be observed that the initiative Flevocampus mirrors the concept of food system thinking. Flevocampus promotes research on food system activities and food system outcomes. At the same time, it builds bridges in the food system connecting education and entrepreneurship in the food system. In doing so, it fosters connections between a variegated multitude of actors in the food system, such as students, researchers and entrepreneurs. In addition to this, Flevocampus creates relations and connections between actors that even go beyond the food system, such as with political actors. In this way Flevocampus builds a connection between the food system and other systems, such as the political one, corroborating the insights from Sonnino, Tegoni and De Cunto (2018) that thinking in terms of food system "give emphasis to interactions, integrations and relationalities between actors and activities within the food system and between food and other relevant systems" (p. 3).

Criterion 10: Civic food networks

The research in the food governance of Almere allows to grasp a more nuanced understanding of the criterion "civic food networks". In particular, the analysis of the initiatives Flevofood and Coalition Buitengewoon allows to refine this criterion into the following three declinations: (1) *civic food networks with food system thinking embedded*; (2) *entrepreneurial driver in civic food networks*; (3) *commitment of volunteering in civic food networks*.

   (1) *Civic food networks with food system thinking embedded*

Adopting the conceptualization of food system thinking by Sonnino, Tegoni, de Cunto (2018), Flevofood and Coalition Buitengewoon can be considered initiatives that embody food system thinking.

Representing a collective that gathers under the same umbrella a wide variety of food entrepreneurs (food producers, food processors, food retailers), Flevofood connects actors at different stages of the food system - including also some considered as "missing middle" activities: food processing and retailing (Sonnino et al., 2018, p.5) – under the common goal of shortening the food supply chain of Almere. At the same time Flevofood, in pursuing one of its missions - raising awareness on the importance of local food - organizes events joined also by political and academic actors. In this way, Flevofood fosters relations between the food system and other systems, such as the political one.

Finally, Coalition Buitengewoon mirrors and embodies a food system thinking approach. Coalition Buitengewoon connects multiple food system activities, because in performing its tasks, it addresses food logistics (collecting food waste), food processing (preparation into meals), food distribution (distributing meals in dedicated points), and food consumption. Moreover, this initiative contributes to socio-economic food system outcomes. It fosters both the circular economy agenda, by collecting food surplus from local suppliers and retailers and reusing it, and to the food security agenda, providing warm meals to vulnerable groups. Finally, Coalition Buitengewoon creates relations and bridges between a multiform variety of people, such as local suppliers and retailers, volunteers and citizens. Therefore, it fosters relationalities among actors that belong to spheres beyond the food system per se.

In conclusion, similarly to Flevocampus, the initiatives Flevofood and Coalition Buitengewoon foster the connection between the food system and other systems, evidencing that food system thinking reflects also on the connections and relationalities between diverse systems, as pointed out by Sonnino, Tegoni and De Cunto (2018).

(2) *Entrepreneurial driver in civic food networks*

The study of the civic food network Flevofood suggests that entrepreneurs can be the initiators of networks around food meant to organize the local food chain from a systemic perspective.
Therefore, it seems reasonable to add "entrepreneurial driver" as a refined dimension of the criterion "civic food networks".

(3) *Commitment of volunteering in civic food networks*

The initiatives Flevofood and Coalition Buitengewoon share the common characteristic of being constituted by committed volunteers. The board members of Flevofood are professional entrepreneurs that voluntarily dedicate time on the association, implying that "sometimes there's a clash between what you need to do for your own business (…) and then what you can do for Flevofood" (interviewee A - Flevofood).
Coalition Buitengewoon relies on a network of volunteers, some of which are also the users of the service. When asked about the necessary conditions to sustain a network of committed volunteers, a representative from the initiative highlighted that trust and commitment in the core team of volunteers are essential components for an effective voluntary work (interviewee B – Coalition Buitengewoon).

Moreover, the declination of the criteria "civic food networks" in "commitment of volunteering in civic food networks" is instrumental from a governance perspective. Literature on urban food governance did not highlight the role of volunteers as relevant actors in the governance of food. Therefore, the criterion "commitments of volunteers in civic food networks" provides insights for a more nuanced conception of the traditional governance triangle as presented in agri-food studies (see for example Wiskerke, 2009), that generally pictures government, market and civil society. It opens up the possibility to shed more light on new roles that span across those three categorizations, such as volunteers, that can professionally be entrepreneurs, but they freely dedicate their time in managing local food networks, as in the case of Flevofood.

Criteria from the literature review	Refinements of criteria through the case of Almere
7.Sustained commitment across electoral cycles	• *Political will*
9.Partnership around food between the municipality and non-governmental actors	• *Partnerships around food between the municipality and non-governmental actors with food system thinking embedded*
10.Civic food networks	• *Civic food networks with food system thinking embedded* • *Entrepreneurial driver in civic food networks* • *Commitment of volunteering in civic food networks*

Figure 5 Refinement of the conceptual framework through the case study of Almere

	CRITERIA FROM THE LITERATURE REVIEW	KEY REFERENCES	CRITERIA AS ENCOUNTERED IN ALMERE	REFINED CRITERIA FROM THE CASE STUDY OF ALMERE
Municipal policy	Integration of food across municipal policy outputs	Moschitz, 2018; Sibbing et al., 2018.	Food goals mainly integrated in the domains of 1) research, education and innovation; 2) city marketing.	
	Cross-departmental coordination	Mendes, 2008; Mansfield and Mendes, 2013.	Food projects split in the portfolios of different aldermen; lack of structured cooperation among aldermen (e.g. no interdepartmental meetings on food).	
	Involvement of the mayor in food policy developments	Reynolds, 2009; Halliday and Barling, 2018.	Not investigated.	
	Dedicated food policy staff positions	Mansfield and Mendes, 2013; Mendes, 2008.	Absence of a dedicated food policy staff position.	
	Municipal financial resources for food	MacRae et al., 2013; Mansfield and Mendes, 2013; Mendes, 2008; Sonnino, 2009.	Flevocampus financed by the municipality; provision of funds to civil society initiatives.	
	Participation in translocal food policy collaborations	Moragues-Faus and Sonnino, 2018; Sonnino, 2017.	Signature of the MUFPP; participation in the Dutch City Deal Food on the Urban Agenda.	
In and beyond municipal policy	Sustained commitment across electoral cycles	Mansfield and Mendes, 2013.	Electoral changes affecting the political commitment on food and the provision of fundings.	*Political will:* potential inclusion of food in the Sustainability Agenda.
	Food champions	MacRae et al., 2013; IPES-Food, 2017.	Mainly in academic and farming spheres; initiators of networks; fostering connection with the municipality.	
	Partnerships around food between the municipality and non-governmental actors	Fridman and Lenter, 2013; Mendes, 2008; Morgan, 2015.	Flevocampus, partnership with research and academic institutions; Absence of an institutional local food policy council, but participation at Voedsel Verbindt at the regional scale.	*Partnerships between the municipality and non-governmental actors with food system thinking embedded:* Flevocampus.
Beyond municipal policy	Civic food networks	Renting et al., 2012.	Coalition Buitengewoon; Flevofood.	*-Civic food networks with food system thinking embedded:* Flevofood and Coalition Buitengewoon. *-Entrepreneurial drive in civic food networks:* Flevofood. *-Commitment of volunteering in civic food network:* Flevofood and Coalition Buitengewoon.

Figure 6 Process of elaboration of the conceptual framework "systemic urban food governance"

4 Discussion

The following chapter stands as an overarching reflection on the results from this study, on the theoretical approach adopted and on the methodology used. For the sake of clarity, they have been presented in three separate sections.

4.1 Reflections on the results

This research elaborated a conceptual framework for a basic understanding of systemic urban food governance (SUFG). This framework stems from a solid methodological design: it is the result of the convergence between academic literature and "real world" insights from the case study of Almere, which provided innovative dimensions and enabled to further refine it.

This framework lays on innovative theoretical foundations: it integrates urban food policy and food governance perspectives. Some criteria of this framework relate to the municipal policy level, while others transcend a municipal policy level and reflect a governance perspective.
Specifically, in terms of quantity, most of its criteria belongs to the municipal policy level. These criteria classified as "municipal policy" were already present in the conceptual framework elaborated from the literature review and have not been refined through the application of it in the case study of Almere. The criteria classified as "in and beyond municipal policy" and "beyond municipal policy" reflect a governance perspective and they are the criteria mostly subjected to refinements through the case study of Almere.
Some criteria have been categorized as "in and beyond municipal policy" because they entail a blurred distinction between municipal, civil society and private actors. For example, political will to address food issues is co-created by politicians and citizens, who express through elections a societal will to consider sustainability and food at a political level. Food champions can be civil servants employed in the municipality, interested in the municipal food policy developments, and therefore belong to the municipal policy arena. Food champions can also be academics and farmers, who organize networks around food in civil society and belong to the governance arena.

This conceptual framework can be relevant in food governance and food system transitions literature, bringing an innovative understanding of food system thinking as an intrinsic component of food partnerships and networks or shedding light on the relevance of food champions in food governance. Along with contributing to enrich the academic debate, this framework can have practical implications. For example, it can used by policy makers to assess or further enhance a systemic approach to food policy in cities. This research nourishes the current debate occurring at a municipal level on how to approach food policy, that in some cities has led to the creation of municipal departments dedicated to food (such as in the city of Belo Horizonte in Brazil) or to the establishment of food policy coordinators (such as in the city of Ede in the Netherlands). By shedding light on the different modalities of approaching food policy at a municipal level, this conceptual framework can be used as a solid base by municipal leaders to foster benchmarking among municipalities. By benchmarking, municipalities can monitor, mutually stimulate and advance in food policy developments.

However, being elaborated from a single case study, this framework cannot be considered as an extensive exploration of systemic urban food governance. If applied to other urban case studies, it could be expanded and further advanced. For example, more criteria could be created to study the "prosumer" role of citizens. Citizen are nowadays prosumers of food: under "do-it-yourself" or "grow-it-yourself" movements they are actively engaged in shaping the food system, participating in community supported agriculture initiatives, food cooperatives or buying groups (Kosnik, 2018).

Moreover, more criteria could be dedicated to the influence of conventional agri-food actors on urban food governance developments, such as supermarkets. They are actors slightly touched upon through the analysis of Flevofood, but not extensively studied in this thesis.

The analysis of Flevofood, classified under the criterion "civic food networks", has provided insights on the interaction between the provincial governance and the municipal governance: even if explored in this thesis in the context of Almere, Flevofood, created under the impulse of the province, operates at the provincial level. More research could be done to deepen the interactions between different vertical scales of governance, for example on the influence of provincial food policy developments on the food policy of Almere.

Furthermore, future research could refine or redefine some criteria, such as "Partnerships around food between the municipality and non-governmental actors with food system thinking embedded" and "Civic food networks with food system thinking embedded". A relevant study could be done to disentangle the dynamics behind the creation of partnerships and networks or to research the obstacles that threat the cohesiveness of networks.

Finally, more research could be done to advance the understanding of the systemic governance of food in Almere. Firstly, it could be relevant to obtain a deeper knowledge on the dynamics of inter-departmental interactions on food, further exploring how the different aldermen who have a portfolio with food-related projects interact with each other. Research could be done on potential measures to promote cross-departmental coordination on food, such as creating interdepartmental teams on food or food policy coordinators.

Secondly, a relevant research could focus on the influence of the mayor in the food policy developments of Almere, criterion which has been unexplored in this thesis.

Thirdly, an analysis could be carried to explore the effectiveness of the participation of Almere in translocal collaboration networks, such as the Dutch City Deal Food on the Urban Agenda network. It could be relevant to perform a longitudinal study to track over time the extent to which the participation of Almere in this network influences its municipal food policy developments.

Finally, other methods of research could be used when conducting an analysis of the urban food system, such as participant observation. Compared to interviews, by using this method, deeper insights on the governance of food in urban contexts may emerge. For example, participant observation could be a suitable method to explore the dynamics of interaction among municipal departments on food issues or the challenges in keeping food networks cohesive.

4.2   Reflection on the theoretical approach: strengths and limitations

The adoption of the theoretical approach of governance showed a number of strengths and weaknesses.

Concerning the exploration of urban food strategies, the adoption of a governance perspective has enabled to consider some strategies, such as the creation of food policy councils or networks, that fostered my awareness that a collaborative attitude between actors is a salient characteristic of a governance context (Lang et al., 2009). Moreover, assuming a governance lens has allowed to create a conceptual framework with criteria that consider a diverse range of actors, such as aldermen, citizens, academics or market actors. In the case study of Almere, having a governance perspective allowed me to focus on the relationships of partnerships and networks, such as Flevocampus, Flevofood, Coalition Buitengewoon.

However, assuming a governance perspective has not been an easy task and it has often created some confusions. For example, knowing that in a governance view the traditional borders between state, market, civil society are diluted (Leach et al., 2007), it has often been difficult to discern the initiators of programs or understand the dynamics of partnerships between actors.

Despite the challenges, the choice of a governance lens has not been regretted, because it has allowed a more nuanced view on the topic. If, alternatively, I had chosen a governmental perspective on this research, I would have missed several salient aspects of how food is nowadays governed in cities.

Especially in the case of Almere, characterized by a vibrant interaction between municipal, civil society and private actors, assuming a governmental perspective on how food is governed in the city would have given a partial answer to the research question.

4.3 Reflection on the methodology: strengths and limitations

The choice of the overall methodological design adopted in this study has shown strengths and weaknesses. It has enabled to combine a theoretical approach on urban food governance with a "real world" analysis of food governance in the case study of Almere. The case study has been instrumental in providing innovative dimensions to the conceptual framework, which has been further refined. However, the chosen three methods of investigation – literature review, systematic document analysis and semi-structured interviews – entailed some limitations, presented in the following section.

4.3.1 Literature review

In order to answer to the first research question: "*What are the ways in which food is governed in a systemic way in cities?*" and to the second research question: *"What are criteria that uncover how food is governed in a systemic way in cities?",* the chosen method of research has been a literature review conducted with a snowball approach.

The methodological choice of a snowball approach entails limitations. Performing a snowball literature review has led to reporting bias. For example, I initially overemphasized some strategies that cities adopt to govern food (such as public food procurement) and overlooked others. This is due to the fact that I tended to read literature related to authors in the same body of literature (such as food policy and planning). Moreover, the conceptual framework of criteria that uncover systemic urban food governance suffers from a lack of a complete picture on how cities govern food in a systemic way, result of the choice of a snowballing approach for reviewing literature.
In light of this, performing a systematic literature review would have been a more suitable method of investigation. First of all, it could have ensured a less biased position as researcher, for example preventing an arbitrary choice of literature and scholars to read (Bryman, 2012). Secondly, it could have resulted in a completer and more thorough picture on urban food governance compared to a snowball literature review. For example, performing a systematic literature review may have led to elaborate criteria on the "prosumer" role of citizens, not explored in this thesis. Lastly, a systematic literature review could have guaranteed more rigor and transparency, as pointed out by Transfield et al., 2003 (as cited in Bryman, 2012). In this way, this research would have benefited in terms of qualitative validity, allowing other researchers to replicate the procedure followed in the literature review and eventually contest the results (Trochim, 2006).

4.3.2 Systematic document analysis

A systematic document analysis has been performed to understand the domains in which food goals are integrated in municipal policy outputs of Almere. It was related to the first criteria of the conceptual framework: "Integration of food across municipal policy outputs". The methodological procedure followed in the systematic document analysis showed a number of limitations. The first one relates to the choice to search for relevant policy outputs in the municipal councils' web-based information system (RIS). There might be relevant policy outputs from the municipality of Almere which are not (or not yet) published in the RIS. Therefore, because of this reporting bias, those have not been considered even if they potentially could have been relevant. The second limitation relates to the choice of the terms to search for relevant policy documents. The chosen policy documents had to contain the terms "Voedsel OR Voeding OR Food". However, there might be relevant policy documents that don't contain those exact terms, but still target the functioning of the food system. Therefore, other terms could have been chosen such as "agriculture" or "nutrition". The third

limitation relates to the difficulty often encountered in determining if documents have been formally adopted by the municipal council and thus, they could be considered relevant policy outputs. In order to overcome this barrier, an additional web search for documents with an unclear status has been performed, when possible. Moreover, a municipal food policy expert has been contacted for clarifications, when the status of documents was not clear. Finally, the forth limitation relates to the unclarity of the definition of "goals" when analysing the content of the seven selected policy outputs. In particular it has been difficult to discern among different degrees of targeting, from specific policy goals to goals with a general target to the food system. The approach adopted was to consider also as "goals" those with a general and abstract targeting of the food system.

4.3.3 Semi-structured interviews

Semi-structured interviews have been conducted to answer to the third research question: "*How is food governed in the city of Almere in a systemic way?*". The choice of a semi-structured approach in conducting interviews has provided innovative insights on the systemic governance of food. Consequently, this has enabled to refine the conceptual framework.

However, the performance of interviews has encountered some practical limitations. The first limitation relates to the unavailability of some potentially relevant interviewees. For example, the initial intention was to interview all aldermen from the municipality of Almere. However, it was not possible to reach all of them due to their unavailability and in the end only one alderman has been interviewed. The second limitation is about the number of interviews performed. I tended to excess in the number of carried interviews and I could have stopped when the information saturation point was reached. This is due to my personal curiosity on the topic; however, it has led to an overflow of information, which took more time than expected to be selected and processed. The third limitation relates to the choice of the location in which interviews have been performed. For example, in some cases it was noisy and therefore not optimal for carrying an interview.

Finally, carrying out this research in English has been challenging. The document analysis phase has taken more time than planned because I had to translate documents from Dutch to English. Moreover, the execution of the interviews in English, which was neither the mother tongue of the interviewees neither mine, has often created problems of communication.

5 Conclusion

This study aimed at advancing the understanding on food governance in cities, with a special focus on systemic approaches. This research has started from the consideration that governing food systemically is not an easy task for cities, because it entails an effort to overcome a traditional siloes approach to policies and issues. However, since food is a cross-sectoral and multidimensional topic by nature, embracing a systemic approach is a necessary condition when governing food in cities.

In light of a lack of definitions in urban food studies that explicitly link the concept of "food system" with "governance", this thesis created the concept of "systemic urban food governance" (SUFG) and developed a framework to uncover and assess it.

Firstly, a literature review on urban food studies has been conducted to explore the ways in which food is governed in a systemic way in cities around the world.

Based on it, a conceptual framework with ten criteria that uncover systemic urban food governance has been created. This framework consisted of the following ten criteria: integration of food across municipal policy outputs, cross-departmental coordination, involvement of the mayor in food policy developments, dedicated food policy staff positions, municipal financial resources for food, participation in trans-local food policy collaborations, sustained commitment across electoral changes, presence of food champions, partnerships around food between the municipality and non-governmental actors, civic food networks.

Secondly, this conceptual framework has been applied and tested in the case study of Almere, a city of the Netherlands characterized by a vibrant food scenario. The conceptual framework has been further refined. In particular, the criterion "sustained commitment across electoral changes" has been declined into "political will"; the criterion "partnerships around food between the municipality and non-governmental actors" has been refined into "partnerships around food between the municipality and non-governmental actors with food system thinking embedded" and finally, the criterion "presence of civic food networks" has been subjected to three declinations: "civic food networks with food system thinking embedded", "entrepreneurial driver in civic food networks" and "commitment of volunteering in civic food networks".

Therefore, the final version of the conceptual framework to assess systemic urban food governance (SUFG) that this thesis delivers is the following:

	CRITERIA
Municipal policy	1.Integration of food across municipal policy outputs
	2. Cross-departmental coordination
	3. Involvement of the mayor in food policy developments
	4. Dedicated food policy staff positions
	5. Municipal financial resources for food
	6. Participation in trans-local food policy collaborations
In and beyond municipal policy	7. Political will
	8. Presence of food champions
	9. Partnerships around food between the municipality and non-governmental actors with food system thinking embedded
Beyond municipal policy	10. Civic food networks with food system thinking embedded
	11. Entrepreneurial driver in civic food networks
	12. Commitment of volunteering in civic food networks

Figure 7 Framework that unfolds systemic urban food governance (SUFG)

Applying this framework to the case study of Almere, it can be concluded that in the city food is governed from a systemic perspective, as the following considerations suggest.

Firstly, the city of Almere shows signs of a fragmented approach to food policy at the municipal level. There are multiple projects related to food, but they are split among portfolios belonging to several aldermen; there are not procedures of cross-departmental coordination on food, such as interdepartmental meetings on the topic, or dedicated food policy coordinators. However, the city has integrated food beyond its administrative boundaries: Almere participates in the Dutch City Deal Food on the Urban Agenda network, a trans-local food policy collaboration network. This is a sign of the vocation of the city to integrate the topic of food beyond its own borders.

Secondly, this thesis evidenced that in terms of content, food is integrated with a food system approach. The content analysis of municipal policy outputs proved that the municipality integrates food system goals from various domains - from education to economic development - and from multiple food system activities - from food production to food waste. Moreover, three analyzed initiatives - Flevocampus, Flevofood and Coalition Buitengewoon - embody a food system thinking approach. Flevocampus, a programme of cooperation between municipal, provincial actors and academic institutions, promotes research on urban food system activities and outcomes and it builds bridges in the food system, by connecting education and entrepreneurship.

By representing a collective of food producers and entrepreneurs, food processors, food retailers, Flevofood connects and builds bridges among representatives of multiple food system activities (food production, food processing, food retailing) under the common mission of shortening the food supply chain. Therefore, the intrinsic composition of Flevofood suggests that this initiative reflects a food system thinking approach. Finally, Coalition Buitengewoon, a partnership between various organizations with the mission to transform food surplus into meals for vulnerable groups, reflects a food system thinking approach because (a) in performing its activities, it connects multiple food system activities (food processing, food distribution, food waste), (b) it produces socio-economic food system outcomes, by contributing to the circular economy and food security agendas, (c) it fosters relationalities between people inside and outside the food system, such as food producers, volunteers and vulnerable citizens.

Thirdly, this research suggests that in Almere there are signs of an increasing political will to address food issues. The presentation to local politicians on the verge of elections of a Municipal Food Manifesto written by students during a Flevocampus think-tank contributed to foster a political debate on food. Moreover, the municipal discussion of including food in the sustainability portfolio, which is currently under the political process of decision-making, gives signs of an emerging political will to tackle food system issues at the municipal level.

Fourthly, systemic food governance in Almere is being practiced through food champions. They are individuals personally interested in food, mainly from academic and farming spheres, who cultivate interpersonal relations to bring the topic in the municipal agenda and foster the creation of networks of cooperation and knowledge exchange around food.

Fifthly, this research evidenced that the city of Almere is inclined to support research, education and innovation in the food system. This is supported both by the results of the policy outputs content analysis, which saw the predominance of food goals in the domains of research, education, innovation in food and by the presence of the programme Flevocampus.

In conclusion, it can be observed that in Almere food is governed by a diverse range of actors in a collaborative way. For example, through partnerships between political and academic institutions, such as Flevocampus, and through the private and civil society food networks Flevofood and Coalition Buitengewoon. This observation suggests that Almere is a city in which food, rather than being an exclusive prerogative of the local government, belongs to the domain of governance.

	CRITERIA		
Municipal policy	1.Integration of food across municipal policy outputs	✔	Food goals mainly integrated in the domains of 1) research, education and innovation; 2) city marketing
	2. Cross-departmental coordination	**X**	Food projects split in the portfolios of different aldermen; lack of structured cooperation among aldermen (e.g. no interdepartmental meetings on food)
	3. Involvement of the mayor in food policy developments	Not investigated	
	4. Dedicated food policy staff positions	**X**	Absence of a dedicated food policy staff position
	5. Municipal financial resources for food	✔	Flevocampus financed by the municipality; provision of funds to civil society initiatives
	6. Participation in trans-local food policy collaborations	✔	Signature of the MUFPP; participation in the Dutch City Deal Food on the Urban Agenda
In and beyond municipal policy	7. Political will	✔	Potential inclusion of food in the Sustainability Agenda
	8. Presence of food champions	✔	Mainly in academic and farming spheres; initiators of networks; fostering connection with the municipality
	9. Partnerships around food between the municipality and non-governmental actors with food system thinking embedded	✔	Flevocampus
Beyond municipal policy	10. Civic food networks with food system thinking embedded	✔	Flevofood and Coalition Buitengewoon
	11. Entrepreneurial driver in civic food networks	✔	Flevofood
	12. Commitment of volunteering in civic food networks	✔	Flevofood and Coalition Buitengewoon

Figure 8 Systemic urban food governance in Almere

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7 Appendix

7.1 Annex 1: urban food strategies

FOOD SYSTEM ACTIVITY	EXAMPLE OF MEASURES	EXAMPLE OF CITIES	REFERENCES
FOOD PRODUCTION	Emission of zoning ordinances that provide and protect land for (peri) urban agriculture	Seattle, Detroit	Viljoen and Wiskerke, 2012; IPES-Food, 2017
	Design of "food growing friendly" neighbourhoods	Malmö	Moragues Faus et al., 2013
	Stimulate the creation of productive roofs and green walls in buildings	Paris, Amman	Forster et al., 2015, Dubbeling, 2013
	Promotion of food growing in schools	Belo Horizonte	Dubbeling, 2013
	Financial and educational support to community gardening projects	Malmö, London	Moragues Faus et al., 2013
FOOD PROCESSING	Support programs to teach cooking skills to process seasonal food in public institutions	Malmö	Moragues Faus et al., 2013
	Support educational programs to teach cooking skills in schools	London	IPES-Food, 2017
	Support the creation of community kitchens	Vancouver	Deakin et al., 2016
FOOD DISTRIBUTION, LOGISTICS AND RETAILING	Promote markets that sell local and fresh healthy food	Barcelona	Forster et al., 2015
	Promote innovative distribution systems, such as hubs where local producers can store safely and distribute efficiently their products	Lyon	Forster et al., 2015
	Incorporate sustainability criteria in procurement policies	Malmö: ambition that all food procured by the city should be organic by 2020	Andersson and Nilsson in Viljoen and Wiskerke, 2012; Moragues-Faus and Morgan, 2015; IPES-Food, 2017
	Create projects on food logistics to reduce the environmental impact of food transportation to supermarkets	Paris: waterways transportation of food retailed by supermarkets	Forster et al., 2015
	Provide technical assistance and food safety training to street food vendors	Abidjan, Cote d'Ivoire	IPES-Food, 2017

	Promote the creation of buying groups and co-ops by providing technical assistance and information	Brighton	Moragues Faus et al., 2013
	Use planning measures to avoid the growth of out of town supermarkets	Vienna	Moragues Faus et al., 2013
	Developing a logistical system for city-region food products	Rotterdam	Dubbeling, 2013
FOOD CONSUMPTION	Organization of educational activities on healthy food (food tastings, group discussions, festivals)	Gent	Forster et al., 2015
	Facilitate the access of low-income households to healthy foods, sold at lower prices	Curitiba	Forster et al., 2015
	Reduce the access to unhealthy fast-food in schools, using planning and regulatory measures	London	Moragues Faus et al., 2013
	Buy more sustainable food for municipal institutions	Bristol	Moragues-Faus et al., 2013
FOOD WASTE	Promoting technical innovations that close loops in energy, food and waste cycles	Linköping, Sweden	Dubbeling, 2013
	Avoid food waste at the food industry level by connecting food industries with charities to redistribute food surplus	Fareshare (UK)	Moragues Faus et al., 2013
	Support community compost projects by providing technical advice, support and training	Brighton and Hove Food Partnership (UK)	Moragues Faus et al., 2013
	Support educational programs on food waste prevention	Paris	Forster et al., 2015

7.2 Annex 2: policy documents retrieved in the municipal council web-based information system (RIS)

NUMBER DOCUMENT	DATE	TYPE OF DOCUMENT	TOPIC	POLICY OUTPUT?
3	02-Oct-2018	Proposal to the board of mayor and aldermen. Accepted by the board of mayor and aldermen.	Network Partnership between municipality and Flevo Food association. Cooperation with entrepreneurs. Regional cooperation.	NO
4	07-Mar-18	Activity of debate	Flevo Campus Think Tank. Create a food manifesto. Debate with political representatoves from the Council.	NO
7	26-May-11	Event proposal	Politeke Markt. Presentation of the CookBook done by Stichting Voedsel Loket Almere (VLA) and handing over.	NO
8	12-Nov-15	Motion	Financial contribution for families' food education (against malnutrition problems in children).	NO
9	24-Sep-15	Proposal to the board of mayor and aldermen (College)	Decision from the board of mayor and alderman to sign the Milan Urban Food Policy Pact. One of the motivations is that the MUFPP directly links to the topic of Floriade 2022 (Growing Green Cities) and that the MUFPP provides access to cities within the C40 city network. Decision to organize a seminar with the city of Milan and RUAF after the signature of the MUFPP, to take steps for its implementation.	NO
10	02-Oct-08	Preparation Memo from the Presidium to the Council	Proposition to put in the agenda for the plenary meeting the financial help for Stichting Voedsel Loket Almere.	NO
11	16-Oct-08	Motion from the Socialist Party (SP)	Request from the Council to the Board of a financial impulse for VLA.	NO
12	02-Oct-08	Decision on the motion	Decision on the motion for the financial impulse to Voedsel Loket Almere (VLA).	NO
13	03-Dec-09	Motion from party Leefbaar Almere	Subsidy for Voedsel Loket Almere (VLA).	NO
15	16-Oct-15	Text of the MUFPP		NO
16	16-Oct-15	Event related to MUFPP during Expo	Event led by City of Milan and City of Almere on how to implement the MUFPP.	NO

17	02-Oct-08	Reaction to the motion of the Socialist Party and Leefbaar Almere on Voedsel Loket (VLA)	Financial impulse for Voedsel Loket Almere (VLA).	NO
18	02-Oct-08	Motion from party Leefbaar Almere	Subsidy for Voedsel Loket Almere (VLA).	NO
19	16-Oct-08	Accepted Motion from SP, Leefbaar Almere and GroenLinks	Request to the board of mayor and alderman to financially support Voedsel Loket Almere (VLA).	NO
20	16-Oct-08	Preparation Memo from Presidium to the Council (Raad)	On the agenda point: motion from Leefbaar Almere, SP and Groenlinks for a financial impulse for Voedsel Loket Almere (VLA).	NO
21	16-Oct-08	Decision to put the motion to votes	Motion on financial impulse for Voedsel Loket Almere (VLA).	NO
22	26-May-11	Event	Presentation of the cookbook of Voedsel Loket Almere (VLA).	NO
23	06-Nov-14	Motion from the Council (Raad) to the Board of mayor and aldermen	Motion to increase the budget for Voedsel Loket Almere (VLA).	NO
24	22-Jun-06	Accepted amendment	Sudsidy for Voedsel Loket Almere (VLA).	NO
25	8-Nov-2012; 15-Nov-2012	Motion	Subsidy for Voedsel Loket Almere (VLA).	NO
26	16-Oct-2008	Report on the motion	Motion from SP, Leefbaar and GroenLinks for subsidy for Voedsel Loket Almere (VLA).	NO
29	20-Dec-16	Letter from mayor to the Raad (council)	Letter that informs the Raad of the development of "Programma plan Making of Floriade Almere 2022"; Flevo Campus programme; connection to the City Deal.	NO
30	20-Dec-16	Proposal from the Raad (council) to the board of mayor and aldermen.	Proposal to update the Board on the development of the Programmaplan Making of Floriade Almere 2022.	NO
31	05-Jul-16	Letter to the Raad (council) from the mayor	Give information on the first developments of the Flevo Campus.	NO
33	29-Sep-15	Letter from the mayor to the Raad (council)	Decision to sign the MUFPP. One of the motivations is that it provides access to cities within the C40 network.	NO
34	18-Jun-18	From the Provincie Flevoland to the Raad (council)	Offer of the booklet "Voedsel verbindt"(Food Connects) with insights on the condition of nutrition in the Amsterdam Metropolitan Area (MRA) and in Flevoland/North Holland. Invitation to work on an implementation	NO

			programme for the MRA on food.	
35	Not indicated	First developments of the Flevo Campus	Same text of document 31.	NO
36	04-Feb-14	Letter to the Raad (council) from the mayor.	Information of the decision to sign the Urban Agriculture Agenda. It is an urban agriculture city network in cooperation with other cities (e.g.Rotterdam signed it).	NO
37	Not indicated	Annex: financial plan for Flevo Campus	First financial plan for Flevo Campus.	NO
38	20-Jun-17	Letter from the mayor to the Raad (council)	Update the Raad on the progress on the InnovatieAgenda.	NO
39	05-Sep-17	Letter to the Raad (council) from the mayor	Update about the progress of the Programmaplan "Growing Green Cities. Making of de Floriade Almere 2022". Focus on the theme "Feeding the city".	NO
41	05-Jul-16	Proposal from the Raad (council) to the board of mayor and aldermen (College)	First elaboration of FlevoCampus.	NO
42	05-Sep-17	Proposal to the board of mayor and aldermen (College)	Inform the Raad on the stage of development of the Programmaplan ""Growing Green Cities. Making of de Floriade Almere 2022".	NO
43	17-Jan-17	Proposal to the board of mayor and aldermen (College). Accepted by the College	Decision to sign the City Deal 'Voedsel op de Stedelijke Agenda'.	NO
44	10-Feb-15	Letter from the mayor to the Raad (council)	Economic programme "Floriade Works" of the province of Flevoland. Prepared in collaboration with the municipality of Almere.	NO
46	26-Sep-14	Draft Policy	Draft policy for the location of street stands (standplaatsenbeleid) (including food).	NO
47	16-Feb-15	Policy	Policy for the location of street stands. Including food. It is the same text of doc 46.	YES
48	28-Jun-16	Proposal to the board of mayor and aldermen (College). Accepted	Innovatieagenda Almere 2.0.	NO
49	28-Jun-16	Proposal to the board of mayor and aldermen (College). Accepted	Innovatieagenda Almere 2.0.	NO

50	2015	Cooperation programme	Growing Green Cities cooperation programme (samenwerkingsprogramma) between Geemente Almere, Aeres group, Groenhorst Almere, CAH Hogeschool, Wageningen Unviersity (idea of a kenniscluster). Document on how those institutions implement a partnership, to be realized between 2015 and 2022. Delineation of the structure of a knowledge campus (kenniscampus) to realize in the Floriade site (demand-driven research). Continuation of the cooperation with Urban Greeners.	YES
51	Replication of doc. 50			
52	Not indicated	Appendix to the policy doc. 46	Location of stands (also food stands).	NO
54	07-May-15	MasterPlan Go Greener Floriade Almere 2022	Floriade.	YES
56	Jun-17	InnovatieAgenda Newsletter; NieuwsBrief nummer 3, Juni 2017. Geemente Almere and GoGreener Floraide	InnovatieAgenda Newsletter. Main topics are: the Second Round of the competition Upcycle City, the Blue Economy, personalized food.	YES
57	2015	Consultation report from CO Verdaas.	Advisory report that investigates on the possibilities of a knowledge and innovation center for 2022 in the framework of Growing Green Cities.	NO
59		InnovatieAgenda 2016-2018	InnovatieAgenda 2016-2018.	YES
60	15-Nov-16	Letter from mayor and alderman to the Raad (council)	FlevoCampus project: updates: e.g. organization of 2 Floriade dialogues by Flevo Campus. Innovatieklas Food and Veldacademie.	NO
61	Not indicated	Proposal financial plan: fonds verstedljking Almere 2017	Funds for urbanization Almere 2017.	NO
62	Not indicated	Proposal financial plan: fonds verstedljking Almere 2018	Funds for urbanization Almere 2018.	NO
63	08-Apr-14	Letter to several municipal councils	Request of an antipoverty policy. Request to cooperate with civil society organizations.	NO
64	Apr-11	Report offered to the municipality	Result of dialogue (Stadsdialoog Almere Centrum Weerwater) among residents, entrepreneurs, municipality, etc on the possibility for an area development in the south of Weerwater. It may constitute a source for	NO

			inspiration for an area development plan.	
65	15-Nov-16	Proposal to the board of mayor and aldermen (College).	Flevo Campus: start in January 2017 and state of affair.	NO
66	18-Jun-15	Agenda for the meeting	Collection of memos, annotations, draft plans, proposals, agreements.	NO
68	20-Mai-2014	Consultancy report forwarded by the Mayor to the council (Raad)	Exploratory report: Verkenningsrapport Floriade 2022 "Floreren in Almere", consultancy of Mr Veerman.	NO
69	26-May-11	Proposal event submitted by Voedsel Loket Almere (VLA)	Presentation of the cookbook of Voedsel Loket Almere (VLA).	NO
72	29-Apr-15	Consultancy report commissioned by the municipality	Exploratory report on the socio-economic impacts of Floriade 2022.	NO
73	10-Oct-17	Draft financial plan sent by the mayor to the Council (Raad)	Almere Urbanization Fund 2018 (Fonds verstedljking).	NO
74	10-Jan-17	Event	Meeting Flevo Campus.	NO
75	Dec-17	Progress report	Progress Report Floriade 2017 "De Beuk zit er in!" ("the beech is in it"): reed beech as the first tree, symbolic donation by the horticultural sector.	NO
76	Oct-16	Letter from mayor to the Raad (council)	Letter from the mayor to the Raad about the "Fonds Verstedelijking Almere: Jaarprogramma 2017 en Meerjarenprogramma 2017-2021".	NO
78	26-May-11	Event	Presentation of the cookbook of Voedsel Loket Almere (VLA).	NO
79	25-Jun-15	Accepted amendment	Promotion market participation from Floriade BV. Formalization of the relationship between the municipality of Almere and Floriade BV.	YES
80	20-Jun-17	Proposal to the board of mayor and aldermen (College). Accepted	InnovatieAgenda.	NO
81	25-Jun-15	Amendment (not accepted yet). See doc 79	Promotion market participation from Floriade BV. Formalization of the relationship between the municipality of Almere and Floriade BV.	NO
82	19-Jun-14	Agenda for the meeting	Collection of memos, presentations, annotations.	NO
83	03-Dec-15	Proposal for an agenda item for the Political Markt	Creation of a knowledge center or "Green Campus", that acts as a magnet (Magneetfunctie) Possibility to organize a workshop at the Floriade site: Innovatiewerkplaats	NO

84	Not indicated	Financial Programme Meerjareenprogramma FVA 2017-2021	Financial programme of the policy "Meerjarenprogramma Almere 2.0 2017-2021".	YES
86	19-Jun-05	Nota (memorandum)	Food Markets in Almere for 1998-2002.	NO
87	06-Jul-05	Background paper (achtergronddocument)	Background information for the decision of the College of the 13 November 2014 on Floriade 2022.	NO
90	05-Oct-17	Slide presentation for the Raad	Presentation on Floriade 2022.	NO
91	10-Jan-17	Event: Workshop (Praktijkwerkplaats)	Official start of FlevoCampus.	NO
92	Dec-12	Proposal to the board of mayor and aldermen (College)	Criteria of distance of fries' mobile tracks from secondary education schools is not seen as an effective tool against childhood obesity.	NO
93	Aug-17	Progress report Floriade 2017	Progress Report Floriade 2017.	NO
95	06-Mar-18	Proposal to the board of mayor and aldermen (College). Accepted	Results of the Innovation Agenda 2016-2018. Learning experiences about: Upcycle City competition and cooperation with TNO.	NO
96	Mar-17	Annual report 2017	Almere 2.0.	YES
97	Jun-06	Collection of motions and amendments.	Sport, cultural activities.	NO
98	25-Jun-15	Agenda for the meeting	Collection of motions, memos, amendment.	NO
99	14-Dec-11	Vision document	Vision for the retail sector 2012.	YES
100	02-Oct-18	List of decisions from the College.	Presentation of the list of decisions.	NO

7.3   Annex 3: list of typologies of included and excluded documents

This annex specifies the typologies of documents frequently included and excluded in the policy output search and selection carried in relation to the systematic document analysis method. The aim of this phase was to select "policy outputs", defined as "the direct result of a decision-making process usually in the form of programs, strategies or vision documents" (Knill and Tosun, 2012, p.29).

In the sample of 100 documents sorted by relevance from the municipal councils' web-based information system (RIS), documents that were frequently included and categorized as "policy outputs" are:

- Strategy documents, Masterplans (e.g. doc. 54);
- Vision documents (e.g. doc. 99);
- Accepted amendments (e.g. doc. 79)
- Policy outputs where the municipality is a co-author together with other parties (e.g. samenwerkingsprogramme) (e.g. doc 50)

Documents that were frequently excluded are:

- (Rejected) council (Raad) proposals (e.g. doc 95)
- Letters from the Mayor to the council (Raad) (e.g. doc 31)
- Motions (e.g. doc. 19)
- Framework of policy documents (e.g. doc 46)
- Agenda for meetings, events (e.g. doc 98)
- Presentation materials (e.g. doc 90)
- Memos (e.g. doc 10)
- Budget reports for plans and policies (e.g. doc 73)
- Progress report (e.g. doc 75)
- Studies/reports conducted by consultancy agencies (e.g. doc 57)
- Appendix (Bijlage) (e.g. doc 52)

7.4 Annex 4: final dataset of policy outputs subjected to the content analysis

This annex presents the 9 documents subjected to the content analysis of the domains of food goals. Two documents (doc. 79; doc. 99) have been excluded in the content analysis phase because not containing food goals.

NUMBER DOCUMENT	DATE	TYPE OF DOCUMENT	TOPIC	FOOD GOALS?
47	16-Feb-15	Policy	Policy for the location of street stands, including food vendors.	YES
50	2015	Cooperation programme	Growing Green Cities cooperation programme (samenwerkingsprogramma) between Geemente Almere, Aeres group, Groenhorst Almere, CAH Hogeschool, Wageningen Unviersity Document on how those institutions implement a partnership, to be realized between 2015 and 2022. Delineation of the structure of a knowledge campus (kenniscampus) to realize in the Floriade site (demand-driven research). Continuation of the cooperation with Urban Greeners.	YES
54	07-May-15	MasterPlan Go Greener Floriade Almere 2022	Floriade.	YES
56	Jun-17	InnovatieAgenda Newsletter; NieuwsBrief nummer 3, Juni 2017. Geemente Almere and GoGreener Floriade	InnovatieAgenda Newsletter. Main topics: the Second Round of the competition Upcycle City, the Blue Economy, personalized food.	YES
59		InnovatieAgenda 2016-2018	InnovatieAgenda 2016-2018.	YES
79	25-Jun-15	Accepted amendment	Promotion market participation from Floriade BV. Formalization of the relationship between the municipality of Almere and Floriade BV.	NO
84	Not indicated	Financial Programme Meerjareenprogramma FVA 2017-2021	Financial programme of the policy "Meerjarenprogramma Almere 2.0 2017-2021".	YES
96	Mar-17	Annual report 2017	Almere 2.0.	YES
99	14-Dec-11	Vision document	Vision for the retail sector 2012.	NO

7.5 Annex 5: interview consent form

RESEARCH INFORMATION SHEET

Project Title: *Urban food governance capacity of Almere*

Researcher: *Alice Minichini*

This consent form describes the research study to help you decide if you want to participate. This form provides important information about what you will be asked to do during the study and about your rights as a research subject. If you have any questions about it or if you do not understand something in this form, you should contact Alice Minichini for more information.

What is the purpose of this study?

This is a research study. I am inviting you to participate in this research study because you have relevant knowledge. The purpose of this research study is to explore the food governance in the city of Almere. You will be asked questions focusing on the relationships of collaboration and partnership between the different actors in the urban food scenario of the city.

What will happen during this study?

I will collect data through interviews. Each interview will last between 40 and 60 minutes. You are free to skip questions if you prefer not to answer. Recordings of the interviews will be made for the sake of the research. The recorded data will be stored on a password-protected computer and will be transcribed.

What are the benefits of this study?

The present research will map the state of the art of food governance in the city of Almere, identifying related challenges and opportunities. Moreover, it will contribute to progress the academic research on urban food governance.

What about confidentiality?

I will keep your participation in this research study confidential to the extent permitted by law.

Who is funding this study?

As a researcher, I am receiving payments from Aeres University of Applied Sciences Almere to support the activities that are required to conduct this study.

Is being in this study voluntary?

Taking part in this research study is completely voluntary. You may choose not to take part at all. If you decide to be in this study, you may stop participating at any time. If you decide not to be in this study, or if you stop participating at any time, you won't be penalized or lose any benefits for which you otherwise qualify.

What am I signing?

This Prior Informed Consent Document is not a contract. It is a written explanation of what will happen during the study if you decide to participate. You are not waiving any legal rights by signing this Prior Informed Consent Document. Your signature indicates that this research study has been explained to you, that your questions have been answered, and that you agree to take part in this study. You will receive a copy of this form.

PRIOR INFORMED CONSENT FORM

Researcher copy

I confirm that I have read and understand the information sheet dated for the above study. I have had the opportunity to consider the information, ask questions and have had these answered satisfactorily. ☐

I understand that my participation is voluntary and that I am free to withdraw at any time, without giving any reason. ☐

I understand that any information given by me may be used in future reports, articles or presentations by the research team. ☐

I give you permission to make audio recordings of me during this study. ☐

I understand that my name will not appear in any reports, articles or presentations. ☐

I agree to take part in the above study. ☐

Participant   Date   Signature

Researcher   Date   Signature

When completed, please return it. One copy will be given to the participant and the original to be kept in a secure file of the research team at the Environmental Policy Group, Wageningen University.
If you have further questions, please contact Alice Minichini

PRIOR INFORMED CONSENT FORM

Informant copy

I confirm that I have read and understand the information sheet dated for the above study. I have had the opportunity to consider the information, ask questions and have had these answered satisfactorily. ☐

I understand that my participation is voluntary and that I am free to withdraw at any time, without giving any reason. ☐

I understand that any information given by me may be used in future reports, articles or presentations by the research team. ☐

I give you permission to make audio recordings of me during this study. ☐

I understand that my name will not appear in any reports, articles or presentations. ☐

I agree to take part in the above study. ☐

Participant   Date   Signature

Researcher   Date   Signature

> When completed, please return it. One copy will be given to the participant and the original to be kept in a secure file of the research team at the Environmental Policy Group, Wageningen University.
> If you have further questions, please contact Alice Minichini

7.6 Annex 6: list of interviewees

The following table presents the list of interviewees, keeping their identity anonymous, as declared in the research consent forms.

WHO	POSITION
A	Representative of Flevofood
B	Representative of Coalition Buitengewoon
C	Representative of Flevocampus
D	Representative of Floriade BV
E	Expert in Almere food governance
F	Political advisor
G	Founder of Stadsboerderij, the City Farm
H	Young entrepreneur
I	Representative of Voedsel Loket
L	Manager from Oosterwold
M	Programme Manager Dutch City Deal Food on the Urban Agenda
N	Municipal representative
O	Expert in Almere food governance

7.7 Annex 7: interview protocols

INTERVIEW PROTOCOL FOR A PUBLIC AUTHORITY

Introductory questions

- Can you please introduce yourself?

- What is your work around food in Almere?

- Would you say that Almere has a food policy?

Jurisdictional power of the municipality:

Influence of the structure of the municipality on food policy
- Food systems cover food production, processing, distribution, acquisition, preparation, consumption and waste. What is the relationship of your department with food issues? What aspects of the food system does your department touch upon? *For example, you could consider: public procurement (food supplied in public canteens and schools), land use, support of community food or urban agriculture initiatives, promotion of short food supply chains.*

- Are the responsibilities and tasks with regards to these topics clearly assigned to staff members?

- Is there a specific budget allocated for food?

- Could you tell me about the role of the mayor in relation to food issues?

- Are you aware of the work of other departments of the municipality with food-related issues? How is the relationship with your department with other departments around food issues? Do you think that there is collaboration and cooperation among the various departments in the municipality around food issues?

- In your opinion, what are the weaknesses in the way in which the municipality of Almere deals with food?

- Where do you see room for improvement for the municipality to deal with food in Almere?

- How do you see this in relation to the world horticultural exhibition Floriade 2022?

Joint-actor partnership and citizens participation

- Are you engaged in any food-related joint-actor partnership?

- To what extent is the municipality aware of the work of citizen-led food policy initiatives?

- Does the municipality promote the participation of citizens in the governance of food? To what extent does the municipality encourage community initiatives? Are there mechanisms that allow citizens to express their concerns with regards to food-related issues?

- In your opinion, to what extent does the municipality consider multiethnic groups and low socio-economic conditions groups when dealing with food issues?

Knowledge about the conditions of the food system and translocal collaborations

- To what extent does the municipality interact with the academic world around food issues? What are benefits and challenges of those cooperations?

- What are the benefits and challenges in the participation of the municipality of Almere in translocal networks?

Concluding questions
- Do you have any other comments or suggestions on Almere's capacity to develop a sustainable food system?

- Do you have the contacts of someone relevant to talk to? Can you think of some documents that may interest my research?

INTERVIEW PROTOCOL FOR CIVIL SOCIETY AND PRIVATE NETWORKS AROUND FOOD

Introductory questions

- Can you please introduce yourself?

- What is your role around food in Almere?

- Would you say that Almere has a food policy?

Network dynamics and Joint-actor partnership

- Which kind of socio-economic and ethnic groups does your organization involve and represent?

- What are the challenges in keeping your network cohesive?

- To what extent does your organization cooperate with other civil society or private sector networks?

Role of the municipality and citizens participation

- How do you perceive the role of the municipality in relation to your organization? Did the municipality create some partnership with your organization?

- Do you think that the municipality involves civil society in the governance of food? To what extent is the municipality aware of the work of citizen-led food policy initiatives?
  To what extent does the municipality encourage community initiatives? Are there mechanisms that allow citizens to express their concerns with regards to food-related issues?

- In your opinion, to what extent does the municipality consider multiethnic groups and low socio-economic conditions groups when dealing with food issues?

- What are the benefits and challenges in the participation of the municipality of Almere in translocal networks?

Future perspectives
- Where do you see room for improvement for the municipality to deal with food in Almere?

- How do you see this in relation to the world horticultural exhibition Floriade 2022?

Concluding questions

- What are the benefits and challenges in the participation of the municipality of Almere in translocal networks?

- Do you have any other comments or suggestions on Almere's capacity to develop a sustainable food system?

- Do you have the contacts of someone relevant to talk to? Can you think of some documents that may interest my research?

7.8   **Annex 8: executive summary**

The present annex presents the executive summary of the thesis, elaborated for the presentations of the research at Aeres and at Wageningen University.

Alice Minichini
Master's Thesis
Supervisor: Sigrid Wertheim-Heck

The food system in cities
An exploration of systemic urban food governance. The case of Almere.
Executive summary

The issue

Food has entered the urban agenda. In an era of rapid urbanization, city leaders are worldwide finding solutions to feed their citizens appropriately. Tackling food in the urban agenda is not an easy task for municipalities. Food is complex: it is multidisciplinary, it involves a diversity of actors and it creates various socio-economic and environmental outcomes. Food is a system, more than a topic. Considering food as a system entails governance challenges. Municipalities have fragmented governance structures and procedures, they are characterized by rigid departmental boundaries and they tend to treat issues in isolation. To govern food systemically, they have to overcome their traditional siloes approach to policies and issues. But what does it mean to govern food systemically?

This research advances the understanding of how food is governed in cities in a systemic way, elaborating a conceptual framework that uncovers "systemic urban food governance" (SUFG). This framework is applied and refined through the case study of Almere, a city of the Netherlands characterized by a vibrant food scenario.

Process of elaboration of the conceptual framework

This research journey departed from a review of how urban food scholars approach the concepts of "food system" and "governance". It pointed out that in urban food literature there is a lack of definitions of systemic urban food governance. Based on an academic and grey literature review on how food is governed in cities in a systemic way, this research created a conceptual framework with criteria that define a systemic urban food governance. The conceptual framework has been tested in the case study of Almere. Research in Almere, conducted through a systematic municipal policy outputs content analysis and 13 semi-structured interviews, has been instrumental in refining some criteria of the conceptual framework.

The final version of the conceptual framework, that is the result of the convergence between literature review and insights from the case study, is the following:

	CRITERIA
Municipal policy	1. Integration of food across municipal policy outputs
	2. Cross-departmental coordination
	3. Involvement of the mayor in food policy developments
	4. Dedicated food policy staff positions
	5. Municipal financial resources for food
	6. Participation in trans-local food policy collaborations
In and beyond municipal policy	7. Political will
	8. Presence of food champions
	9. Partnerships around food between the municipality and non-governmental actors with food system thinking embedded
Beyond municipal policy	10. Civic food networks with food system thinking embedded
	11. Entrepreneurial driver in civic food networks
	12. Commitment of volunteering in civic food networks

Fig 1. Framework that unfolds systemic urban food governance

A systemic urban food governance in Almere

This thesis analyzed the food governance in Almere through the conceptual framework and concluded that Almere is governing food in a systemic way. The following observations have been elaborated on the systemic food governance of Almere:

1) The city shows signs of a fragmented approach to food policy at the municipal level, such as a limited cross-departmental coordination, but it has integrated food beyond city borders: Almere participates in the trans-local food policy network Dutch City Deal Food on the Urban Agenda.

2) In terms of content, Almere approaches food from a systemic perspective. Municipal policy outputs integrate food system goals from various domains - from education to economic development - and from multiple food system activities - from food production to food waste. Moreover, in the city, there are three initiatives that embody a food system thinking approach: Flevocampus, Flevofood and Coalition Buitengewoon. The programme Flevocampus, in co-partnership between municipal, provincial actors and academic institutions, promotes research on food system activities and outcomes and it builds bridges in the food system, by connecting education and entrepreneurship. Flevofood, a collective of food entrepreneurs (food producers, food processors, food retailers), assembles representatives of multiple food system activities (food production, food processing, food retailing) under the common mission of shortening the food supply chain. Coalition Buitengewoon, a civil society initiative that transforms food surplus into meals for vulnerable groups, connects multiple food system activities (food processing, food distribution, food waste); it produces socio-economic food system outcomes, by contributing to the circular economy and food security agendas and it fosters relationalities between people inside and outside the food system (food retailers, volunteers, vulnerable citizens).

3) In Almere there are signs of an increasing political will to address food issues. The presentation to local politicians on the verge of elections of a Municipal Food Manifesto written by students during a Flevocampus think-tank contributed to foster

a political debate on food. The discussion around the inclusion of food in the sustainability portfolio - currently under the political process of decision-making - gives signs of an emerging political will to tackle food system issues at the municipal level.

4) The food governance of Almere is characterized by food champions. They are individuals personally interested in food, mainly from academic and farming spheres, who cultivate interpersonal relations to bring the topic in the municipal agenda and foster networks of cooperation and knowledge exchange around food.

5) In Almere food is governed by a diverse range of actors in a collaborative way. For example, through partnerships between municipal and academic institutions (Flevocampus) and through the private and civil society food networks Flevofood and Coalition Buitengewoon. This is a sign that in Almere food belongs to a governance arena rather than to a governmental domain.

	CRITERIA		
Municipal policy	1.Integration of food across municipal policy outputs	✓	Food goals mainly integrated in the domains of 1) research, education and innovation; 2) city marketing
	2. Cross-departmental coordination	X	Food projects split in the portfolios of different aldermen; Lack of structured cooperation among aldermen (e.g. no interdepartmental meetings on food)
	3. Involvement of the mayor in food policy developments	Not investigated	
	4. Dedicated food policy staff positions	X	Absence of a dedicated food policy staff position
	5. Municipal financial resources for food	✓	Flevocampus financed by the municipality; Provision of funds to civil society initiatives
	6. Participation in trans-local food policy collaborations	✓	Signature of the MUFPP; Participation in the Dutch City Deal Food on the Urban Agenda
In and beyond municipal policy	7. Political will	✓	Potential inclusion of food in the Sustainability Agenda; Flevocampus
	8. Presence of food champions	✓	Mainly in academic and farming spheres; initiators of networks; fostering connection with the municipality
	9. Partnerships around food between the municipality and non-governmental actors with food system thinking embedded	✓	Flevocampus
Beyond municipal policy	10. Civic food networks with food system thinking embedded	✓	Flevofood and Coalition Buitengewoon
	11. Entrepreneurial driver in civic food networks	✓	Flevofood
	12. Commitment of volunteering in civic food networks	✓	Flevofood and Coalition Buitengewoon

Fig 2. Systemic urban food governance in Almere