



OPEN ACCESS

EDITED BY

Priscilla Claeys,
Coventry University, United Kingdom

REVIEWED BY

Chris Maughan,
Coventry University, United Kingdom
Colin R. Anderson,
Coventry University, United Kingdom

*CORRESPONDENCE

Daniel López-García
✉ daniel.lopez@cchs.csic.es

RECEIVED 12 March 2024

ACCEPTED 24 June 2024

PUBLISHED 19 July 2024

CITATION

López-García D, Cruz-Maceín JL and DiPaula M (2024) Agri vs. food? Perceptions of local policymakers on agri-food policies from a multilevel approach.
Front. Sustain. Food Syst. 8:1399746.
doi: 10.3389/fsufs.2024.1399746

COPYRIGHT

© 2024 López-García, Cruz-Maceín and DiPaula. This is an open-access article distributed under the terms of the [Creative Commons Attribution License \(CC BY\)](https://creativecommons.org/licenses/by/4.0/). The use, distribution or reproduction in other forums is permitted, provided the original author(s) and the copyright owner(s) are credited and that the original publication in this journal is cited, in accordance with accepted academic practice. No use, distribution or reproduction is permitted which does not comply with these terms.

Agri vs. food? Perceptions of local policymakers on agri-food policies from a multilevel approach

Daniel López-García^{1*}, Jose Luis Cruz-Maceín² and Martina DiPaula³

¹Institute of Economics, Geography and Demography, Spanish National Research Council, Madrid, Spain, ²Instituto Madrileño de Investigación y Desarrollo Rural, Agrario y Alimentario, Madrid, Spain, ³Faculty of Sociology and Political Sciences, Universidad Complutense, Madrid, Spain

In the EU, policies towards territorial development and the sustainability of agri-food systems are exemplified above all in Pillar II of the Common Agricultural Policy (CAP). However, policies for the promotion of sustainable food systems and networks are mainly driven by municipalities and large cities. In order to understand multi-level configurations of policies to promote Sustainable Food Systems (SFS), this paper strives to identify the challenges that municipal policymakers face in implementing sustainable agri-food policies, from a multi-level governance perspective. To this end, and through in-depth interviews and secondary documentation analysis, the policies implemented in 10 different municipalities of the Madrid Region (Spain) are studied and the challenges these municipalities are facing are analysed from a multi-scale and territorialised perspective. The following research objectives are addressed: (1) description of the type of policies implemented for the promotion of SFS and the narrative frameworks in which they are shaped; (2) identification of challenges of local policies to support SFS especially governance challenges; and (3) proposals for the promotion of sustainable food systems through a multi-level, territorialised governance perspective. The paper identifies three main axes of tension and discoordination—municipal Vs regional competences; agricultural vs. food policies; and rural vs. urban territories—that constrains the sustainability potential of multi-level agro food policies. Finally, we provide a comprehensive, sustainable scheme to assess local agri-food governance throughout a multi-level and multi-actor approach, setting interrelations between the different levels, actors and agencies involved to overcome the lock-ins identified.

KEYWORDS

agricultural policies, food policies, sustainable food systems, food governance, urban food systems, sustainability transitions, Spain

1 Introduction and objectives

Urban food policies cannot unfold the potential of sustainable food systems by themselves, since both agencies and operations along the value chain spread among different territories and administrative levels (IPES-Food, 2017; Gonzalez De Molina and Lopez-Garcia, 2021). Multi-level territorialised approaches to food systems' sustainability, such as City-Region Food Systems, can facilitate overcoming this gap in two ways: first, by combining resources and

agencies at municipal and supra-municipal levels; and second, by generating synergies, complementarities, and economies of scale and scope between highly densely populated territories, with a preponderance of consumer activities (urban), and other less densely populated territories, where agri-food production is more relevant (rural) (Vaarst et al., 2017; Blay-Palmer et al., 2018).

However, the current legal framework of political competences¹ and responsibilities regarding sustainable food systems in Spain result in a lack of resources for local authorities, and in demands on supra-municipal administrations to enhance their support (González-Azcárate et al., 2022). The various weights and configurations of local agri-food systems across different types of territories and municipalities (depending on the weight of agri-food production or consumption in the local economy and society, among other factors) introduce differential needs and opportunities from the perspective of Sustainable Food Systems. This presents challenges in the promotion of a sustainable food system in city regions, and these could be overcome from a territorial and multi-level perspective in sustainable food policies that are adapted to the different configurations of local food systems. To activate this multi-level perspective of food system sustainability, a number of authors list various political, narrative, regulatory, and budgetary mechanisms that should be activated on different scales (IPES-Food, 2017; Béné et al., 2019; González de Molina et al., 2019).

In order to understand the needs of Local Authorities regarding multi-level configurations of policies to promote Sustainable Food Systems, this paper identifies the challenges that municipal administrations face in implementing sustainable agri-food policies framed within a Sustainable Food System approach. To this end, we analyse which policies are being implemented in 10 different municipalities of a highly populated urban region (Madrid, Spain) from a comprehensive perspective, and which challenges these municipalities are facing from a multi-scale and territorialised perspective. The following research objectives are addressed: (1) a description of the type of policies implemented for the promotion of SFS and of the narratives within which are they framed; (2) the identification of challenges of local policies to support, especially governance challenges; and (3) to deliver proposals for the promotion of sustainable food systems through a multi-level, territorialised governance perspective.

2 Agri-food systems, sustainability, and multi-level policy tools

The literature on agri-food systems has traditionally focused on the interactions between and within the social and ecological components of food-related activities (from production to consumption), and on what outcomes they provide to society in terms

of food security and social, environmental, and economic processes (Erickson, 2008; Ingram, 2011; Béné et al., 2019). Since agri-food systems have become more visible, their relationship with some of the main planetary limits, such as biodiversity, depletion of fossil and mineral resources, climate change, and diseases related to malnutrition, the scientific and political debate has gained special relevance in recent years (Steffen et al., 2015; IPCC, 2022). The focus on the localisation of the dynamics of food systems has gained great weight in this regard (Willett et al., 2019; Gonzalez De Molina and Lopez-Garcia, 2021). However, while such transitions are expected to be multi-level and to articulate urban and rural territories, empirical research is needed on how to operationalise such territorial dynamics, and how to use current policy tools, at different administrative levels, for this purpose. Recent scientific debates on sustainable food systems and their transition dynamics are revealed below. It is subsequently explored how, to this end, scholars are assessing agri-food policies at different territorial levels.

2.1 Sustainability transitions, food systems, and territory

Globalised food systems play a central role in global change, along a twofold relation as facilitators of global crises (such as climate change, and pandemics, such as COVID-19) and as socio-ecological systems deeply affected by such crises and the war in Ukraine (IPCC 2019, 2022; Rivera-Ferre et al., 2021; Pörtner et al., 2022). High Level Panel of Experts on Food Security and Nutrition (HLPE) (2019, 31) defines a sustainable food system (SFS) 'as a food system that delivers food security and nutrition for all in such a way that the economic, social and environmental bases to generate food security and nutrition for future generations are not compromised'. The main goal of SFS is to achieve food and nutrition security for the whole population while addressing various socio-ecological sustainability challenges, fostering the transitions as multi-dimensional processes [High Level Panel of Experts on Food Security and Nutrition (HLPE), 2017; El Bilali et al., 2019]. Thus, the outcomes delivered by a specific food system have not been conceptualised as final products, but as crystallisations of specific system's configurations. SFS outcomes are immersed in diverse, overlapping, and changing feedback loops and therefore interact closely and permanently with other components of the system (Erickson, 2008; Béné et al., 2019).

The sustainability of agri-food systems has often been analysed as an outcome of the social and ecological embeddedness of food networks in the territory (Granovetter, 1985; Chiffolleau, 2009; Morris and Kirwan, 2011). The territory is thus configured as a living space, traversed by pressures, conflicts, and power relations from local to global scale, in which the projects of social and economic actors are developed (Winter, 2003; Lamine et al., 2019). Vicente-Vicente et al. (2021) apply the concept of 'foodshed' and highlight the need for a true territorial approach to food production, delivery, and consumption, to overcome the metabolic rift introduced by the segregation of activities between urban and rural territories. Gonzalez de Molina and Lopez-Garcia (2021) propose the concept of Agroecology-based Local Agrofood Systems to re-localise food systems through territorialised assemblages of food chain actors, state and non-state actors, policies, and material infrastructures and flows, and through the development of new multi-actor and multi-level

¹ When we talk about political "competences" we refer to the range of political issues which are assigned to a specific administrative level of the public administration, in which they own the legal, formal powers to legislate and develop public policies and policy frameworks. In Spain there are national laws that state the policy realms to be regulated, addressed and legislated at each administrative level (municipal, regional, or national) of the public administration, in order to avoid duplications and promote its efficiency.

institutionalities to drive food system transitions towards sustainability. However, such a virtuous outcome of territorial agri-food systems is highly dependent on pre-existing power relations and actors' constellations, and on the way in which they are translated into specific policies and governance frameworks (Ajates Gonzalez et al., 2018; Marsden et al., 2018; El Bilali et al., 2019; Kroll, 2021).

Indeed, symbolic frameworks and narratives are a core issue regarding how SFS are understood and assessed. Since sustainability remains a contested and political process (Eakin et al., 2016), the sustainable food system outcomes considered in the scientific literature are diverse regarding the various disciplines, assumptions, and narratives, which also represent a range of ideological positions and interests (Ericksen, 2008). Béné et al. (2019) structure different approaches towards SFS as conditioned by scholars' disciplines, and differentiate between agriculture, nutrition, (socio)ecology, the value chain for nutrition, and agroecology. Stefanovic et al. (2020) identify five types of discourse framing, regarding different SFS outcomes: (1) food (and nutrition) security; (2) global environmental change to sustainability; (3) the overall Food Systems' performance; (4) resilience; and (5) transformation. For Béné et al. (2019) information, communication, governance, cultural dynamics, and politics, all interact with each other and have long-term and sometimes unexpected implications over food systems' dynamics and thus over its outcomes.

However, a scientific consensus can be found regarding the demand for articulated, coherent multi-level policies that cut across different territorial scales not only to reduce the metabolic rift throughout the re-organisation and re-localisation of agri-food systems, but also to adapt current policy and governance tools for this purpose (IPES-Food, 2017; Vaarst et al., 2017; González de Molina et al., 2019; Lamine et al., 2021). Anderson et al. (2021, 155) suggest, for a highly transformative agroecology, to move beyond the notion of policies, to focus on 'the process, politics and principles of mobilisation and shifting power'. To this end, agri-food policies research should engage with an agri-food system perspective, and include: both agricultural and food policies; a relational approach to food governance and policies; the ability to address policy coherence between different policy realms and territorial scales; and the ability to differentiate between environmental targets and actions among territories (Recanati et al., 2019; Moragues-Faus and Battersby, 2021; López-García and Carrascosa-García, 2024). However, there is a wide difference in framings and realities between agricultural policies that are usually deployed at supra-municipal administrative levels, and in food policies, that are commonly deployed at the municipal, and more usually urban, levels (Curto et al., 2021; López-García and Carrascosa-García, 2024). This is why we have split both policy approaches in the following sections.

Indeed, the operating logic of the administration itself, with its highly sectoral approaches and little cooperation and coherence of action between the various departments and levels of administration, has been pointed out as a dysfunctional element when it comes to developing comprehensive, sustainable agri-food policies (De Cunto et al., 2017; Recanati et al., 2019; Ploeg et al., 2000). This logic rarely embraces multi-stakeholder and multi-level governance approaches, or the development of rural-urban cooperation, and thus hinders sustainability transitions at food-system scale (IPES-Food, 2017; Recanati et al., 2019; López-García et al., 2020; Sachet et al., 2021).

2.2 Agricultural policies for the promotion of sustainable food systems

The Common Agricultural Policy (CAP) of the European Union is the main public policy implemented in its Member States regarding the agricultural sector and the rural communities. Pillar II of the CAP supports many different actions for the promotion of SFS, such as those for Short Food Supply Chains (Kneafsey et al., 2013); and rural livelihoods, including (i) young farmers, (ii) new entrants, (iii) small-scale farmers, and (iv) women farmers (Recanati et al., 2019). Certain authors consider the performative indeterminacy of policy instruments as an asset for agroecological transitions (Lamine et al., 2021). These instruments enable supported farmers' groups to build their trajectory of change, which also entails difficulties in terms of implementation and evaluation (Lampkin et al., 2020). However, for several authors, it is the general framework of the CAP, explicitly oriented towards farmers' and food integration into global commodity markets, that challenges CAP sustainability aims, including organic farming and agroecology approaches (Ajates Gonzalez et al., 2018; Ramos García et al., 2018). Furthermore, actions for generational renewal have been unsuccessful, not due to difficulties experienced by farmers in accessing markets or resources, but because global markets require a scale of production that are not affordable for most newcomers into farming (Sutherland, 2023). Despite numerous calls for the integration of health and food and nutrition security in the CAP, this has not happened as effectively as certain environmental targets, such as climate and biodiversity, socio-economic equity targets (Recanati et al., 2019; European Court of Auditors, 2020).

Organic farming represents the most recognised expression of sustainable agriculture, and is simultaneously more profitable and employment-rich than conventional agriculture (Crowder and Reganold, 2015; D'Annolfo et al., 2017). Moreover, agroecological schemes based on input reduction, local markets, and territorial organisation can support the economic viability of small farmers (van der Ploeg et al., 2019). However, a transition to sustainability in agricultural systems also relies on other policies supporting the establishment of value-based food chains, dietary changes, and the protection of natural resources (Lampkin et al., 2020). Ramos García et al. (2018) recommend a range of measures that foster the development of the domestic market, which include the growth of organic food industries, a continuation of policies of public purchase of organic products, the increased domestic production of inputs (organic fertilisers and seeds), better crop/livestock integration, and a revision of the contradictions in current organic regulations. However, policies to promote organic farming are being weakly developed all over the World.

2.3 Local food policies towards sustainability

In contrast, urban food policies have provided the main means for agri-food policy innovation towards sustainable food systems in recent decades, and have acted as a major lever for food system transformation (Calori and Magarini, 2015; Moragues-Faus and Morgan, 2015). The most common actions developed by urban food policy programmes relate to supporting: the development of alternative and localised food chains and

public procurement (Doernberg et al., 2019; Simón-Rojo et al., 2020; González-Azcárate et al., 2022; Metz and Scherer, 2022); access to fresh and good quality food for marginalised social groups; multi-stakeholder and multi-level participatory food governance processes; community activation; and education and awareness-raising among the various stakeholders in the food chain, especially final consumers (Moragues-Faus et al., 2013; Calori and Magarini, 2015; Milan Urban Food Policy Pact, 2015; EIP-Agri, 2016; De Cunto et al., 2017; Ploeg et al., 2000). However, several of these institutional factors fall beyond the scope of responsibilities held by Local Authorities (IPES-Food, 2017). Nevertheless, urban food policies are usually fragmented and are often based on individual activities, and the implementation of policies commonly lacks financial and staff resources (Doernberg et al., 2019).

Currently, cities are highly dependent on several inputs, and they are especially exposed to food shortages in eventual systemic disruptions such as pandemics (Song et al., 2021). However, few studies into urban food policy focus on food production and rural–urban linkages (Doernberg et al., 2019; González-Azcárate et al., 2022). Previous research in urban food policy shows a lack of a biophysical or spatial approaches, which has been linked in turn to the segregation of urban and rural environments (Simon-Rojo, 2019; Tornaghi et al., 2019; Gonzalez De Molina and Lopez-Garcia, 2021). Several studies highlight the suitability of approaches such as City-Region Food Systems (Vaarst et al., 2017; Blay-Palmer et al., 2018) and foodsheds (Vicente-Vicente et al., 2021) to integrate the ecological dimension of urban social metabolism of food systems, that goes far beyond urban boundaries.

A recent shift in urban food policy scholarship can be observed towards a food system approach and a relational and wider approach to urban food governance (Wegener et al., 2012; Moragues-Faus and Battersby, 2021; Gaitán-Cremaschi et al., 2022). Several authors claim a more prominent role for ‘materiality’ and ‘agency’ approaches in understanding the multi-scalar implications between food systems and urban transformations (Moragues-Faus and Sonnino, 2019; Moragues-Faus and Battersby, 2021), which brings us beyond urban boundaries. Through this 2-fold perspective of relational and food system approaches, rural–urban relations, and the presence of rural actors, especially the territorialised and sustainable agri-food production sector, would become more central to research into urban food policies (López-García and González de Molina, 2020). Alliances and vibrant cooperation dynamics among local authorities and (alternative) food movements have been indicated as a key issue in promoting deeply transformative food policies (González de Molina et al., 2019; Kroll, 2021), while such cooperation dynamics have been criticised for their inability to overcome co-optation and re-signification dynamics (Rivera-Ferre, 2018; Giraldo and McCune, 2019).

To sum up, while food systems’ scholars have a clear idea on the importance of a territorial approach to strengthen transformations towards sustainability, it remains understudied how to activate its potential through specific actions and governance ecosystems. While there is a growing number of research on both agricultural and food policies for socio-ecological sustainability, they—‘agro’ and food policies—remain weak, fragmented, disconnected, and often contradictory among them. This is what we will address in the following lines.

3 Methods

Our study combines the analysis of secondary data and in-depth interviews with policymakers from 10 municipalities in the Madrid Region (see Table 1). The different municipalities have been selected through a purposive sampling (Campbell et al., 2020), all of which are relevant municipalities for either having developed agri-food policies, or for having farming activity as a traditional distinction of the municipality. Furthermore, the sample aims to address combinations of different variables: metropolitan/non-metropolitan/rural; main agroecosystems and crops; food policies/importance of agricultural activity. A review of agri-food-related policies and activities has been carried out in all 10 municipalities, by downloading information from City-Council websites, and from the available diagnoses and Strategic Plans. One interview per municipality was subsequently carried out, which lasted between 20 and 60 min. All interviewees were elected politicians, directly in charge of agri-food policies in the municipality, with the exception of two interviewees who were formerly responsible for agri-food policies for 4 years, but had not been re-elected in the 2023 municipal elections.

The interviewers’ script was constructed with seven open-response questions to gather opinions: (1) how sustainable is the local agri-food system; (2) what are local agri-food policies; (3) what has been done or is planned, or (4) should be done in each municipality; and (5) which barriers and (6) support they find [or (7) would like to find] to develop such an agenda at different administrative levels and programmes. The interviews were transcribed verbatim through Google Pinpoint software and then revised by the research team. The analysis of the content of the interviews was performed with ATLAS.ti (version 23.4), whereby a first level of coding was applied regarding the research objectives of the current research (1-narratives; 2-policies implemented; 3-barriers; and 4-multi-level governance). Within this first level, a second level of coding was developed by applying an inductive approach, across the emergent categories obtained from the interview contents.

4 Results: how agri-food policies are framed and implemented

This section presents the main results obtained from the interviews to respond to research objectives 1 (narrative framing, and policies implemented) and 2 (main challenges, and specific governance challenges). The results are shown that address a multi-level and multi-actor perspective. These allow us to better understand the various configurations of local food policies regarding the different geographical and political contexts. Such results constitute the main ingredients to respond to the third research objective and suggest proposals to improve multi-level governance dynamics in the transitions towards sustainable food systems, to be presented in section 5.

4.1 Narrative framings

The informants have deployed different framings when speaking about sustainable food systems. While there are many issues mentioned, most discourses can be organised into two main strands:

TABLE 1 Main features of the municipalities and interviewees included in the study.

Interview code	Inhabitants in 2022 (INE 2023)	Distance to Madrid city-centre (Km)	Main agroecosystem(s) and crops	Rural/urban	Interviewee profile	Strategic document on sustainable agri-food policies (Year of approval)	Member of a City-food Network
M1	59,762	49.2	Rainfed cereal, historical irrigated meadows for horticulture	Urban (Town)	Politician, male	Strategic Plan for the Restoration of traditional farmland	
M2	13,235	52.8	Mountain, pastureland, <i>dehesa</i> . ¹ Extensive livestock	Rural	Ex-politician, male		Red Terrae ²
M3	53,389	37	Rural, mountain, pastureland, <i>dehesa</i> . Extensive livestock	Urban (Town)	Politician, male		
M5	189,891	24.5	Rainfed cereal, historical irrigated meadows for horticulture	Urban (City)	Politician, female	Agricultural Park's Strategic Plan (2015, 2021)	RMAe ³ , MUFPP ⁴
M5	183,219	14.4	Rainfed cereal, historical irrigated meadows for horticulture	Urban (City)	Politician, male	Strategic Plan for the promotion of Agroecology (2016)	RMAe, MUFPP
M6	13,905	46	Rural, mountain, pastureland, <i>dehesa</i> . Extensive livestock	Rural	Politician, male		
M7	298	64.3	Rainfed cereal, olive groves and vineyards	Rural	Politician, female		Red Terrae
M8	96,690	25	Irrigated meadows for horticulture	Urban (City)	Ex-politician, female	Agricultural Park's Strategic Plan (2021)	RMAe, MUFPP
M9	7,092	63.7	Irrigated meadows, vegetable greenhouses, rainfed olive groves, and vineyards	Rural	Politician, male		
M10	7,629	67.6	Rainfed cereal, olive trees, and vineyards	Rural	Politician, male		

¹Dehesa is an agrosilvopastoral system formed from the clearing of evergreen woodlands where trees, native grasses, crops, and livestock interact positively under management (AGFORWARD 2023).

²Red Territorios Reserva Agroecológicos, a national-wide association of Local Authorities mainly composed of small municipalities, for the promotion of public land banks and agroecological entrepreneurship. Available at: <https://www.tierrasagroecologicas.es/>.

³Red de Municipios por la Agroecología, a national-wide association of Local Authorities composed by small, medium-sized and large municipalities, for the promotion of sustainable agri-food policies oriented towards agroecology. Available at: <https://www.municipiosagroeco.red/>.

⁴Milan Urban Food Policy Pact, an international network of Local Authorities, mainly from big cities, for the promotion of sustainable and healthy food policies. Available at: <https://www.milanurbanfoodpolicy.org/>.

agriculture as an economic sector; and the food system as a driver for sustainability transitions. Each of the strands can be linked with different profiles of municipalities. On one hand, those in which agriculture has historically been an important activity and still represents a core part of the local identity, speak about food systems focusing on agriculture and livestock farming as economic sectors. On the other hand, municipalities in which agriculture has almost disappeared in recent decades and has no cultural relevance for its historical background, speak more regarding sustainability, territory, or even develop a discourse centred on sustainable food systems. Finally, there is an alternative narrative around the category of 'health', which also includes issues related to 'diets', which appears to be transversal to all discourses, and which could be then understood

as a bridging category. Nevertheless, narratives focusing on food and the environment have appeared to be considered by the interviewees as independent and often contradictory framings to professional agriculture, which additionally target different socio-economic profiles.

4.1.1 Agriculture as an economic sector, quality, and localness

This first narrative strand embraced categories such as 'prices' and 'profitability', 'localness', 'quality', and 'employment'. It is possible to set up links between the professional profile of the interviewees and the discursive approach that is given, such as those linked to quality and marketing, for politicians alien to the agricultural sector, and in M9 or M2, both with family roots in agriculture and

deploying a discourse focused on farmers: *'I am an agricultural engineer and agronomist, so because the training I had has helped me to be able to take to the council [...] and perhaps because I come from a family of farmers'* (M9). However, all 'economy' strands of discourses focused on the farmers as protagonists of agri-food policies: *'We must be united because we are going to favour and help the farmer'* (M9). Municipalities with vibrant agri-food sectors focused their discourses on traditional farmers' profiles, with an explicit tendency towards professionalisation and an increase in the scale of production: *'Either you are very professional and you are a good farmer, or you do not stay in the sector'* (M9).

Furthermore, municipality representatives with a stronger agricultural background deployed in the interviews discourses rooted in a sense of quality based on local food: *'We advocate for these quality and proximity products'* (M1). This also links with the idea of sustainability through discourses on the category of 'tradition': *'our elders are the ones that teach us how to cultivate'* (M7). Through the idea of 'tradition' it is also possible to trace the current socio-economic importance of agriculture in local communities, beyond professional agriculture: *'From a food point of view (olive groves and vineyards) are two fundamental crops, in every family there is some land, although they were not professionals'* (M10). In several cases, local and direct marketing schemes were associated only with supporting the local economy.

4.1.2 Sustainability, sustainable food systems, and agroecology

The discourses based on 'sustainability' were observed regarding municipalities with less historical and economic importance of agricultural activity, or from visions of territorial development that transcend the strictly agri-food chain, including issues such as the conservation of agro-ecological enclaves. Certain interviewees showed a complex vision of agri-food systems and territorialised development: *'By sustainable production and sustainable food, we mean that there is a meeting between demand and supply, a meeting of trust. [...] That there is a sector to be developed, which is the primary sector, that if there is a commitment by the rest of the citizens to promote and support it, they will be able to feed them'* (M2). For some interviewees, sustainability issues were framed within activist approaches: *'Agroecology was one of the concerns of the local social movements and environmentalist movement'* (M4), which links the concept of sustainability with other socio-ecological aims: *'What we understand is that [food policies] would be a set of actions that should have an impact on sustainable production, the promotion of healthy eating, and the localisation of the food system'* (M5).

Agroecology was mentioned only in cases of municipalities that form part of City-Food networks, and of politicians who show a firm commitment to the promotion of sustainable food systems as a core tool for sustainable and equitable local development. Indeed, the two national networks in which the various municipalities participate make explicit mention of agroecology in their name. Agroecology also appeared linked to interviewees' profiles far from agricultural family backgrounds, and closer to environmentalist positions, as an ideological backbone which sometimes emerged as separated from the actual agri-food background of the municipality: *'(we want to) go beyond the issue of urban community gardening in the idea of covering the whole food chain [...], that we can cover the whole issue of production and also marketing'* (M4).

Some of the studied municipalities with stronger urban pressure or weaker agri-food sectors deployed narratives around agri-food economy, focusing on generational renewal: *'we want to restore the self-provision capacity of our city through agroecology'* (M4). However, for interviewees from other types of cities, sustainability discourses were questioned. The politicians featured the average local conventional farmers as opposed to sustainability by questioning the profitability of sustainable agricultural models: *'I have seen in the village few (farmers) aware of sustainability'* (M9).

4.1.3 Health

All interviewees agreed on the role of 'health' as a core category to support local agri-food policies for sustainability and local development. 'Health' appeared as a bridge for both the previous narratives of economy and sustainability, and was able to link what in other ways is presented in binary terms as opposite and contradictory. *'It is necessary to think about the direct competences of a city council (regarding food and agriculture) and whether it can exercise them or not. And one of them is ill-health prevention (on non-communicable diseases related to food and diets). There I think everything comes in [...] in a transversal way'* (M2).

Only in one case can we find an explicit description of a comprehensive approach to food policies within a Local Authority, linked to health and other departments: *'The way we see (food policies) is in a transversal way. That is to say, it is not something that only affects my department, [...] (it) is not just a household issue. We are talking about the shops, the hotel and catering industry, which is where the Department of Commerce comes into play, [...]. So we are not alone in this awareness'* (M5). The 'health' approach also served to integrate a multi-level governance approach: *'the regional administration of Madrid has to finance (agri-food policies) since it is responsible for health'* (M10).

4.2 Actions

The actions in the field of agri-food policies carried out by the local governments analysed covered the entire food supply chain: production, processing, distribution, retail and consumption (Table 2). Our findings suggest that municipalities with a strong agricultural sector implement more actions focused on production (e.g., promoting agricultural parks to protect and revitalise agricultural land use in metropolitan settings, land banking to promote access to land, and training activities for newcomers into farming), and also on the promotion of their food products. In both cases, farmers were a key stakeholder and target: *'We influence four areas. One of them is agricultural production and there would be agricultural production, regional food production and marketing, the area of consumption and then other areas'* (M5). This can be sometimes developed in coordination with other local economic sectors, such as tourism: *'The initiatives that we have made the theme of the fair, tasting activities that were attractive enough to function as tourism [...]. To make this type of production more known because in the end if the consumer does not know, they do not demand it either'* (M9), or the restaurant sector. Touristic activities around local food always remained within an economic narrative framework.

Municipalities within this study with a weaker agricultural background focused on consumer issues (such as awareness

TABLE 2 Main agri-food policy actions developed by the target municipalities.

Agrifood supply chain	Target population	Profiles	Actions
Production	Farmers	Villages, towns, and cities with agricultural activity	<ul style="list-style-type: none"> • Agrarian park • Land banking • Training • Support for entrepreneurship • Fostering urban agriculture • Sector engagement
Marketing and distribution	Farmers	Villages, towns, and cities with agricultural activity	<ul style="list-style-type: none"> • Labelling • Promotion of local products in international events • Local fairs • Local market • Regulation of farm sale • Advertising
Consumption	Consumers	Villages, towns, and especially in cities	<ul style="list-style-type: none"> • Awareness and information campaigns • Support for food group consumption • Awareness campaigns with schools and kindergartens • Awareness campaigns focusing on agroecological products (local, seasonal, organic) • Organised visits to food gardens and agricultural parks • Awareness campaigns on agro-environmental challenges and sustainable consumption • Support of school food gardens • Arboretum • Community garden
	Hotels, restaurants, and catering	Towns and cities	<ul style="list-style-type: none"> • Campaigns with local restaurants • Collaboration with restoration schools
	Public food procurement	Cities	<ul style="list-style-type: none"> • Food bank • Catering in kindergartens • Catering for local events
Circular economy actions	Farmers, consumers, and restaurants	Villages, towns, and cities	<ul style="list-style-type: none"> • Composting • Recycling campaigns • Waste management

raising), community gardening, and the reactivation of the local agricultural land with new entrants (such as by promoting agricultural parks). Several interviewees mentioned public procurement as a key instrument in the transition towards a more sustainable food system: *'It would be in municipal buildings and schools, expanding the contact that has been made with schools with the climate-friendly menus. [...] It is a way to grow and show the product to families'* (M5).

Framed within a 'circular economy' approach, a number of the studied municipalities also implemented measures aimed at taking advantage of the waste generated. In certain cases, all these actions have been structured within the framework of an agroecological plan, but in general, it is a series of actions coordinated by the corresponding department without a specific planning framework. During the field work, municipalities that lack policies and a discourse on the food system have also been detected. *A priori* these municipalities considered that the field of food needs no specific local policies.

4.3 Barriers to promoting sustainable food systems

The barriers to the promotion of sustainable food systems mentioned by the interviewees have been organised, by following an inductive approach, into four main blocks: political will, resources, political competences, and structural conditions of the food system. Structural conditions of the current food regime impose important constraints on sustainability transitions that cut across all territorial scales, from the farms to the global agreements on agri-food trade. We will discuss briefly such an issue, as there is already a huge body of literature on the issue, and as it falls apart from the capabilities of the Local Authorities. By its side, governance issues appear to be, for the policymakers, a core obstacle to advancing the aims of the municipalities. Topics on resources, political power, and political will show significant roots, as we will see, in neglecting multi-level governance.

4.3.1 Political will and training

Food policies were seen by some interviewees as an innovative policy realm in the local agenda, while other interviewees consider that *'from a political point of view, this is something that is believed to have little electoral value'* (M8). Sustainable agri-food policies were understood by some as conflicting with other economic sectors, which are perhaps more valuable in financial terms: *'So when all productive land has been dedicated to construction, the countryside has been completely abandoned and the focus has been on tourism and environmental figures for the protection of biodiversity'* (M2). For several policymakers, the eventual disappearance of agriculture was the driving force behind the abandonment of agri-food policies: *'we do not have agriculture, so we have not done anything like that'* (M6). However, in cities where politicians have shown clear commitment with food policies, including a dedicated budget to such policies, its development has been wide and deep: *'there is a commitment on the part of the City Council, on the part of our mayor [...] where he is committed to supporting farmers and agriculture'* (M5). As referenced above, there were a number of cities in our sample in which agriculture has also disappeared, but in which sustainable agri-food systems were made a cornerstone of the local development project.

Farmers were mentioned to be reluctant to sustainable agri-food policies, and thus as an excuse for not promoting them: *'There was a lack of interest on the part of farmers to make the conversion towards more sustainable agriculture'* (M9). Supra-municipal policy-makers were also mentioned to have no interest in such approaches: *'With (the regional or national scale) as facilities (to promote agri-food models of a more sustainable nature) I think that, in reality, there are none'* (M9). As an innovative policy realm, scarce knowledge was mentioned as a detriment of political will: *'There is a great lack of leadership and training of managers of these types of projects because, in the end, the projects that are cooperatives, associations, etc., are highly fragmented and are not something very transcendental in the culture of the region'* (M2). Lack of information was also mentioned to be at the basis of the lack of demand from citizens: *'What I see above all is the misinformation that prevents people from consuming differently. And, above all, the product that is of the Community of Madrid, which is rarely promoted'* (M6).

4.3.2 Agricultural policy competences

A second issue involved the lack of competences of local administrations in agriculture: *'When you have competences, you can (implement policies), but when you do not, it's more difficult (to promote agri-food transformations models)'* (M1). This further generated a lack of resources (see Section 4.3.c) and instability in the political agenda: *'Then you come up against a bureaucratic obstacle that tells you that legally there is something you cannot do, you cannot legally invest money in it (agriculture)'* (M2). In certain cases, local specificity enabled municipalities to assume a more active role: *'(our case) is special because of what I was saying: because 70% of the farms belong to the municipality'* (M9), which can also present additional difficulties regarding the structure of responsibilities in the Local Authority perceived by the various city officers: *'We have a kitchen, so the idea was to train (workers) and to make other (processed) products [...], (but) the town council would not let us because training for the unemployed is not a municipal competence (but a competence of the regional government)'* (M9).

4.3.3 Financial and personal resources

Both the lack of political competences in agriculture and the issue of food policies being an innovative field in local policies, determined a significant lack of resources: *'We have neither technical resources nor economic resources'* (M1), which can be seen even for specific programmes: *'If you want to promote a product, you have to advertise it, and that costs money'* (M1). The application for resources from higher levels of Administration also appeared as a matter of resources: *'There is little help and the funding from grants is very complicated and very difficult'* (M8), especially for small municipalities: *'They are too many projects for too little aid'* (M7), which often complain of being overly controlled: *'what is applied is a total tutelage of what he does, why he does it, and whether he can do it'* (M2). In smaller municipalities, the public municipal auditor was mentioned as having major power for both enabling and blocking the development of agri-food policies: *'has been a major brake'* (M9).

The excessive burden of administrative work was highlighted also for farmers, who refused to apply for funding from supra-municipal funds: *'Everyone complains to me about the bureaucracy and obviously they (livestock farmers) are people who are almost 24h a day in the field'* (M3). Similar complaints were gathered when talking about the application of environmental regulations for farmers, which generated a growing administrative burden and added pressure towards professionalisation and raising the scale of production: *'Regarding the application of phytosanitary products, if you already have a certain surface area, you already need advice that is signed by a technician [...]. So if you are not very professional and you do your (administrative) work very well, you will fall by the wayside'* (M9).

4.3.4 Structural constraints of the agricultural system

Finally, a number of issues regarding the current structure of the agricultural system have been highlighted by informants as key challenges for the promotion of policies for sustainable food systems. These range from low profitability and precarious working and living conditions of farmers, small scale of production, cheap food with lower prices for farmers, lack of generational renewal, to socio-economic challenges regarding highly populated territories and powers between agricultural and urban uses of the territory.

4.4 Governance

Lastly, local food governance processes have been widely discussed in the interviews. Interviewees highlighted the dependence of Local Authorities on supra-municipal funding and political competences and demanded better cooperation and coordination among political scales. City-food networks were presented by their members as key tools for making food policies visible, for providing technical and expert support, and for knowledge exchange. The need to develop multi-actor approaches did not arise in all discourses but emerged in some of them as powerful tools to activate local resources and give coherence and strength to local agri-food policies. The interviewees called for multi-level governance processes and tools for the better deployment of the sustainability potential of agri-food policies. Several interviewees suggested integrative frameworks, such as 'health' and 'sustainability' policies, in order to enable multi-actor and multi-level governance.

4.4.1 Coordination between and within administrations

Interviewees generally expressed the need for stronger support from supra-municipal administrations. They called for better cooperation and coordination between different administrative levels and sections: *‘There has to be teamwork’* (M10). However, not all the multi-level experiences were referenced as negative: *‘We are treated very well (by the Regional Agriculture Department), and they help us. I help them and propose things to them, and I’m thankful that we are working together’* (M3). The regional government and the EU were cited, but the National State administration was hardly ever mentioned. Fragmentation of competencies and changes in the governmental structure was mentioned as a major constraint: *‘There is a lack of common work for each of (the different Regional Departments) to be able to work together within their sphere and jurisdiction, as it is quite segregated. [...] I think that many times we miss out on possibilities because the resources are not channelled well’* (M10). Overcoming such incoordination between administrative levels and sections appeared to be a common concern for all interviewees.

The policymakers more committed to sustainability and agroecology mentioned to a lesser extent the dependencies and lack of support from supra-municipal levels, and mentioned political differences: *‘Until now, it has been impossible with the Regional Government of Madrid’* (M8). Nonetheless, these interviewees appeared to posit relevant expectations of support in city-food networks at the national level: *‘We have learned a lot from this Network (Spanish Network of Municipalities for Agroecology), from other municipalities’* (M8). Such an expectation included the possibility to access technical, specialised support, which is scarce among the cities analysed, and was also highly valued: *‘We are understaffed. I think that we have raised this as a development need, but I think that the fact that we are part of the Network of Municipalities, I think that we can really receive support’* (M4).

4.4.2 Multi-actor processes

A great emphasis has been placed on the centrality of farmers in co-production processes of agri-food policies: *‘The farmers are the real actors in the important work, not only in the municipality but at a general level, which is primary resources and primary production: to try to give them what they want, what they need’* (M1). Farmers were presented in most municipalities as the main (and sometimes unique) target of agri-food policies at the municipal level: *‘we have an extraordinary relationship (with the municipality’s livestock farmers) and we are doing things little by little so that (they) are better off’* (M3). However, in municipalities with weaker agricultural socio-economic fabrics, the focus was reoriented towards new entrants into farming and towards strengthening farmers’ organisations, as in M5; or towards the reconfiguration of new plural socio-economic subjects to boost the relocalisation of the food system: *‘agreements with the Community of Madrid, universities, the issue of food culture, the issue of knowledge exchange... Here we have a cooperative supermarket...’* (M4). Alliances with dedicated consultancy entities appear to be key to developing sustainable and localised agri-food policies; as such policies are an innovative topic in the political agenda of most municipalities: *‘[Our technical consultants] have grown under the heat of the Agricultural Park.*

The growth of the Agricultural Park has made them grow. In this sense of strategic alliance, public and private [entities] go hand in hand’ (M5).

References to alternative food networks were scarce and weak in the interviews, and even some of the most progressive politicians suggested hybridisations of alternative and conventional actors to develop local markets: *‘Small producers can also form alliances with other larger companies, which in the end I think would make it easier for the entire marketing sector to reach the rest of the population’* (M8). For other interviewees linked to economic approaches, agricultural policies and even farmers remain separated from, and sometimes opposed to, food policies and consumers: *‘My department has always been closely linked to agriculture, so maybe it’s because of what I bring from my family, maybe I leave food or the consumer aside [...]. The farmers themselves are very far from the community’* (M9). Only one city representative expressed to have formalised multi-actor governance spaces for agri-food policy co-production: *‘From this Council, we have the [...] Sectoral Council of participation, (our idea) is that this is also one of the tools for associations to be able to participate and to familiarise ourselves with the steps that are being taken’* (M4).

To end this section, several suggestions have been gathered to construct a strategic approach to the governance of local food systems, to overcome the aforementioned challenges. The first approach focused on the construction of governance tools for multi-level and intersectoral governance within the State: *‘We (Local Authorities) would have to sit down (together, at regional level) and above all see what the future is (for the regional agriculture) and where we want to go’* (M1). A second approach, perhaps complementary, focused on thematic and narrative hooks to overcome policy fragmentation, in which “health” issues appeared as a common place for several interviewees: *‘That’s where we could invest, but you have to work hard, you have to justify it a lot because nobody believes it’* (M2), while rejected by others: *‘Promoting healthy eating or something else, maybe it fits in with health, I do not know, it escapes me’* (M9). As we can see, the interviewed politicians cover a wide range of profiles and positions regarding agri-food policies. While we have found a general claim for multi-level cooperation between administrations and support from supra-municipal bodies, what to support appears as a contested issue. As we will see below, several contradictions hinder the potential of an agri-food system approach to promote transitions to sustainability through local agri-food policies.

5 Discussion

In this section, a framework is suggested for food policy co-production, to promote socio-ecological sustainability at the agri-food system level. Below, based on our findings, a multi-actor and multi-level approach is developed that is aimed at overcoming current approaches in which current agri-food policies are based on a 3-fold, overlapping opposition between municipal and supra-municipal administrative levels, agricultural and (sustainable and healthy) food policies, and rural and urban territories. Such a threefold binary opposition is highlighted here as being a core obstacle to developing comprehensive and transformative approaches for agri-food policies, and to building governance arrangements to promote sustainable food systems. We suggest overcoming this threefold contradiction by mainstreaming a food system approach across different administration

levels and sections, thereby giving space to different kinds of actors and knowledge, and deploying comprehensive and integrative policies, and narratives to support its implementation (see Figure 1).

5.1 Multi-level gaps for sustainable food-policy co-production

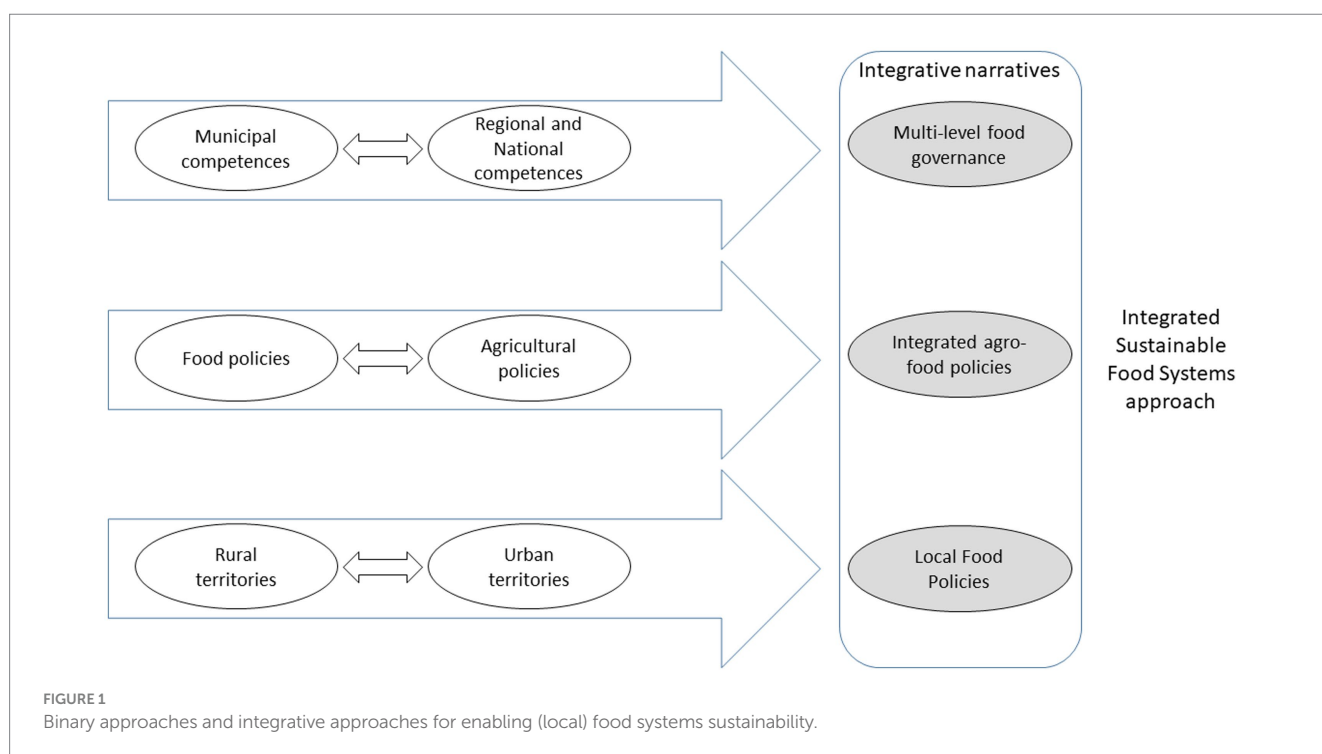
Public policies at the municipal level play a major role in the specific configurations that food systems adopt at the local scale (Morgan, 2015; Moragues-Faus and Battersby, 2021). Although a large part of the decisions are at the regional and national level, there is a wide range of actions that can be developed by local governments (see Figure 2), as we have seen, to promote transitions towards food systems sustainability. Most of the resources employed by the municipalities under study for the implementation of their food policies are solely municipal resources, both in personnel and budgetary terms. In Spain, most political competences and budgetary resources on agri-food, health, environmental, territorial (urban-rural), and rural development policies rely on both the regional and national Administrations. The lack of power in agriculture has been previously identified as an opportunity for local administrations to develop sustainable, territorialised agri-food policies, regarding less resistance among politicians and public officers towards alternative approaches such as agroecology (López-García et al., 2019). However, such a lack of competencies limits their agency regarding two main issues: (1) access to resources; and (2) administrative and political capacity of action. Most interviewees have expressed their specific concerns regarding a lack of power in agricultural policies, and a clear need for integrated agri-food policies and governance frameworks, which will be later discussed in depth in section 5.4.

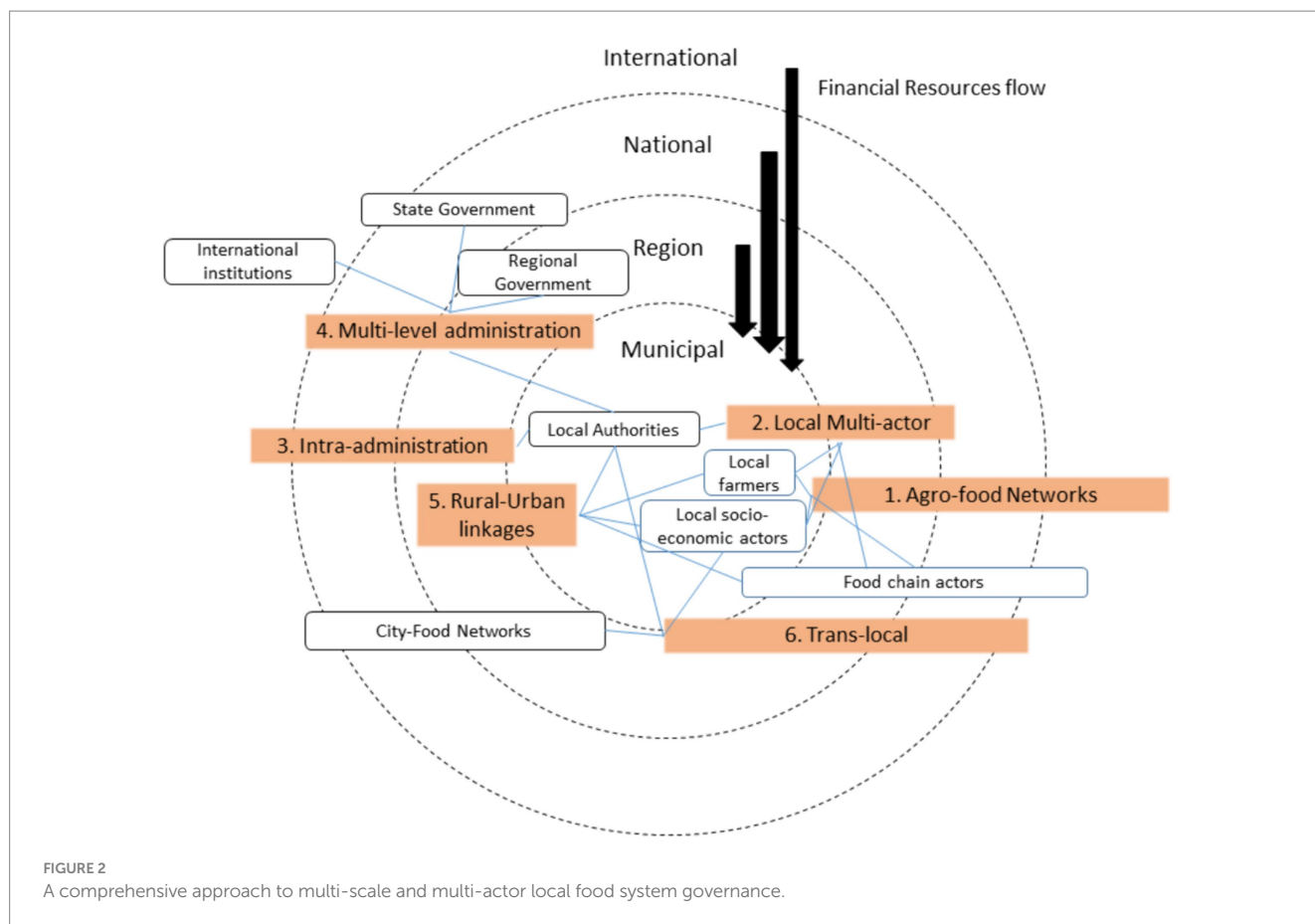
Only a few municipalities have departments explicitly oriented towards agriculture, most of which promote agri-food policies

supported by the scant resources (both budgetary and personnel) of departments such as environment, education, waste, and climate change. Most interviewees have reported very little internal collaboration between departments within each municipality, and this appears to be a common issue. Significant administrative difficulties, and in certain cases, specific administrative and accountability roles, such as the municipal comptroller or secretary, are decisive (López-García et al., 2020). A lack of political competences can be utilised as an argument by civil servants to place obstacles in front of innovative approaches to local food policies, as has been reported by several interviewees. Nevertheless, ideological biases and lack of information in technical staff might also introduce obstacles regarding policy implementation (Wheeler, 2008).

Most municipal policymakers expect no support from supra-municipal administration. The regional government and the EU are cited by interviewees, but the national administration is hardly ever mentioned. The support from supra-municipal administrations is needed for the maximisation of the impact potential from coherent, multi-level public policies (IPES-Food, 2017). In many cases, this implies access to the budget for the development of such local policies (IPES-Food, 2017; Doernberg et al., 2019), as long as local government teams remain sensitive to these issues. In cases when cooperation with regional administration has been developed, the success in promoting the sustainability of food systems has been much greater, as is the case of the Chilean INDAP (Curto et al., 2021). The intermediate strata of cooperation between municipal and regional administrations have revealed success for public-community cooperation, especially regarding regulatory mechanisms to organise multi-actor participation on local food governance (Lamine et al., 2021).

Territorial integration is essential in a framework in which several of the main barriers to the development of agri-food policies involve the communication and coordination between administrations, and the distribution of competences and powers, as





will be proposed in section 5.4. The sustainability potential of urban food governance has been linked with the ability to apply both a relational and food system approach (Moragues-Faus and Battersby, 2021), which cuts across administrative scales, across boundaries of Local Authority departments, and across types of actors (Anderson et al., 2021). However, significant differences in how agri-food policies are framed at the municipal and regional/national levels have been identified, regarding a focus on food or agriculture, in rural or urban settings, or transformative/conservative approaches (López-García et al., 2019). Urban food policies in certain of the municipalities assessed, mainly medium-sized cities, are framed on topics such as sustainable food security, equity, sustainability, and overall within a sustainable approach to food systems. However, agricultural policies at regional, national, and supra-national levels seek productivity on and integration into global markets (Recanati et al., 2019). Such a contradiction in its framing sets different approaches to the final aims and outcomes of food systems, and also to the actors involved in its actual implementation (Giraldo and Rosset, 2018; Béné et al., 2019).

5.2 Agricultural vs. food policies: towards integrated agri-food policies

In the preceding section, we identified a gap between food policies, which are usually developed at the municipal level and in urban territories, and agricultural policies, which are usually

developed at supra-municipal levels including regional, national, and supra-national (IPES-Food, 2017; Doernberg et al., 2019). Such a gap means that (municipal) food policy for sustainable and healthy diets usually lacks competences in agriculture issues and thus adequate resources, which usually rely on the regional and national levels (IPES-Food, 2017; López-García and Carrascosa-García, 2024). Furthermore, while agricultural policies in Europe are explicitly oriented towards sustainable and healthy diets, their practical implementation has been criticised to deliver unhealthy diets and nutrition and strong negative impacts in both social and ecological terms (Solazzo et al., 2016; Recanati et al., 2019). To overcome such a contradiction, our proposal involves integrated, agri-food policies that cut across different territorial levels and involves a diversity of actors and sectors and activities, as will be described in more depth in section 5.4.

Interviewees have identified structural constraints of global, agri-food markets that put pressure on farmers to intensify their (unsustainable) farming methods and raise their production scales to meet market needs. Agricultural policies are oriented towards producing large amounts of 'cheap food' and are based on commoditisation and a constant search for growth in productivity, efficiency, and scale (Moore, 2015; Walthall et al., 2024). In contrast, urban food policies focus on promoting sustainable and healthy diets and social justice but often disregard rural and agricultural processes (Morgan, 2015; Gonzalez De Molina and Lopez-García, 2021). Such incoherence between food policies and agricultural policies expresses a lack of an overall approach to the food system and could be the

prime cause of the failure of agri-food policies to promote sustainability of comprehensive food systems (Recanati et al., 2019). The lack of a territorialised approach that is both rural–urban and multi-level could lie at the centre of such unsustainability (Vaarst et al., 2017; Blay-Palmer et al., 2018; Anderson et al., 2021; Gonzalez De Molina and Lopez-Garcia, 2021). As has been already mentioned, the integrated perspective we are proposing here, and especially in section 5.4, can help overcome such a gap.

Policies depend on the will of each politician. In the cities where politicians have shown a clear commitment to food policies, including dedicated budgets, their development has been wide and deep. In the municipalities analysed, the size of the municipalities is not significant concerning the deployment of agri-food policies that are more or less committed to the perspective of sustainable agri-food systems. There is an agricultural focus in both medium-sized cities (M5, M3) and small municipalities (M9) in our sample, and there is a food focus in both large (M4, M8) and small municipalities (M2, M7). The political orientation of the government team is not significant either. Rather, it seems to be the training and personal will of the elected officials (often linked to personal experiences and even family background) that constitute the most decisive aspects in this respect. Nevertheless, it is difficult to move from planning to specific policies, as there are many competing interests in each territory, depending on the actors involved (Ajates Gonzalez et al., 2018; López-García et al., 2019; Curto et al., 2021).

The articulation of local administrations with pioneering social organisations in the promotion of sustainable food systems has been identified as a key element that requires effort in both directions (Lampkin et al., 2020; Kroll, 2021; Vara-Sánchez et al., 2021). The institutionalisation of sustainable models based on the access of activists to institutions makes it possible to go beyond binary, simplistic approaches to the interrelations State/social actors and introduces changes in the logic of the administration as well as in the activist fabric itself (Curto et al., 2021). In the cases analysed, this can be observed in three ways: first, in the activists who have acceded to the positions of councillors; second, in the profiles, which are usually linked to food movements, that provide technical assistance to those government teams that have made the most progress in their agri-food policies; and third, in the importance given to technical and political support from city-food networks, that are driven in the Spanish cases (Red Terrae and Red de Municipios por la Agroecología) by entities and technical teams with an activist profile, thereby representing clear examples of meta-governance (Moragues-Faus and Sonnino, 2019; Moragues-Faus, 2021; Vara-Sánchez et al., 2021). Both the integration of food activists in food policy co-production processes and the support of city-food networks could lead to a more integrated and trans-scalar approach to (urban) food policies (Moragues-Faus, 2021). Such an approach can facilitate overcoming binary approaches towards ‘agro vs. food’ policies, through mainstreaming a sustainable food system perspective (Moragues-Faus and Battersby, 2021; López-García and Carrascosa-García, 2024).

5.3 Urban vs. rural food policies, or ‘local agri-food policies’?

As already mentioned, a key element in the orientation of agri-food policies is the personal vision of the policymakers. Although the size of

the municipality and the political orientation of the government seems to be of little relevance in defining the type of policies implemented, the urban/rural character does indeed appear to be a relevant factor. First, the agrarian tradition of the municipality appears to be highly relevant in shaping, for example, the centrality of farmers and agriculture in local agri-food policies. And second, small municipalities manage small budgets and are thus more dependent on higher scales of the Administration, which becomes more sensible in a densely populated region such as Madrid. In this respect, the term ‘urban food policies’ fails to explain all issues regarding agri-food policies at the municipal level, and hence ‘local agri-food policies’ is the term employed. Within such an approach, the rural/urban character of the municipalities shapes the set of actions to be developed (see Table 3). This can be related to the centrality of specific actors’ profiles in the orientation of the policies. In urban settings, the policies are formed around health and sustainability issues and are mainly oriented towards consumers. Alternatively, in rural settings and municipalities with strong agricultural backgrounds and identities, farmers are central in the narratives of the policymakers, and the main actions are oriented towards professional agriculture and framed by economic narratives related to productivity, professionalisation, and profitability.

The opposition between the objectives of agricultural and food policies can be related to mutual exclusions of specific actors in governance and decision-making spaces. The segregation of agricultural policies and food policies, and of the collective actors that participate in the governance spaces related to each type of policy, reproduces the metabolic rift between urban and rural spaces, and between processes along the food chain. Reproducing such a metabolic rift hinders the sustainability potential of both agricultural and food policies (Recanati et al., 2019; Gonzalez De Molina and Lopez-Garcia, 2021). However, no actions of cooperation have been identified between urban and rural municipalities, nor the deployment of a city-region food system approach, which could mitigate such a metabolic rift. A stronger supra-municipal orientation, along with multi-level coordination and alignment, could provide a major step in this respect, since they would enable both consumption and production aims to be addressed in rural and urban settings (Blay-Palmer et al., 2018; Moragues-Faus, 2021).

The pressure from global markets and policies to raise the scale of production makes it increasingly difficult to render farms profitable in municipalities where agricultural land and infrastructure are segregated and degraded, and where the social, economic, and political fabric of the agricultural sector is degraded (López-García et al., 2021; Sutherland, 2023). The efforts of local administrations to support farmers in metropolitan regions such as Madrid appear to be policies for a socio-economic actor that is often absent, and thus policy performance becomes weak and disoriented in terms of the degradation of the agricultural social fabric. This explains why certain city governments are promoting the self-organisation of organic farmers in some metropolitan regions (Doernberg et al., 2019; López-García and Carrascosa-García, 2024). Strengthening the local agricultural sector has been identified as a key issue in addressing social and environmental imbalances regarding the intensification and globalisation of food systems (Anderson et al., 2021; Martínez-Valderrama et al., 2023), as in the case of several of the cities in the present study. Nevertheless, the role of farmers in local agri-food policies appears to be fuzzy and ambivalent. On one hand, farmers’ voices disappear from food governance spaces in urban settings, and their agri-food policies therefore become incomplete (López-García and Carrascosa-García, 2024). On the other hand, approaches based on

TABLE 3 Framing of the policies developed in the municipalities regarding its rural/urban character.

	Agrarian	Non-agrarian
Rural	<ul style="list-style-type: none"> - Limited vision of the consumption side - Support and concern for the agricultural sector as an economic sector 	<ul style="list-style-type: none"> - Orientation dependent on the sensitivity of the government team
Urban	<ul style="list-style-type: none"> - Comprehensive vision of the food system - Actions to support the agricultural sector and promote consumption of local food - Protection of agricultural land 	<ul style="list-style-type: none"> - Orientation towards sustainable consumption - Awareness-raising initiatives

sustainable and healthy food and diets have been hindered in municipalities where the agricultural (conventional) sector is politically strong. Hence several cities are promoting the specific role of organic farmers in agri-food policies and policy co-production spaces (López-García and Carrascosa-García, 2024).

5.4 Towards a comprehensive, sustainable food system approach in local agri-food governance

In Figure 2, we present a conceptual scheme to overcome binary oppositions, described above in this section that prevents transitions towards socio-ecological sustainability. A territorial approach to agri-food governance can be strengthened through regional institutions and policies but also through new grassroots and alternative institutions that transcend existing regional boundaries (Anderson et al., 2021). Thus, our conceptual scheme operationalises the one proposed by López-García et al. (2020), integrating both the multi-scale and multi-actor dimensions of local food systems' governance processes by describing six realms of governance. It helps posing both the socio-economic and political actors and the relationships between them in specific territorial and administrative scales. It moves beyond policies to focus on process, politics, relations, agency, and finally power (Anderson et al., 2021; Moragues-Faus and Battersby, 2021). Such a scheme might be useful for both the understanding and planning of local agri-food policies for food system sustainability aligned with the elements above described.

Figure 2 draws up a structure of nested territorial/administrative scales (concentric circles) in which policies—and thus resources, black arrows—are put into practise regarding the competences and jurisdiction of each level of administration, corresponding with territorial scales. While some authors show similar schemes focusing on governance and bottom-up transformation processes (Anderson et al., 2021), our approach here focuses on policies and how policies are inserted within wider food governance ecosystems. Figure 2 offers an operational scheme to identify interrelations between different actors, agencies, knowledge, and agency levels, that would help to overcome the lock-ins expressed in Figure 1—municipal vs. regional competences; agricultural vs. food policies; and rural vs. urban territories. Such a figure helps to shape a comprehensive view on the governance mechanisms and flows around sustainable food systems, necessary to deploy the (socio-ecological) sustainability potential of agri-food policies (Anderson et al., 2021).

In Figure 2, white boxes represent different actors related to agri-food policies co-production and implementation, from policy-makers to policy-targets, whose main space for action is located in specific territorial/administrative scales, and sometimes specifically set bridges

throughout scales. By setting the articulation between the different agencies and competences of the actors—both institutional and non-institutional—, located in different scales, it is possible to identify six realms of agri-food governance (in coloured boxes) that allow overcoming the binary oppositions described in the precedent sections. Such a structure of realms for sustainable agri-food governance is based on that proposed by López-García et al. (2020).

The first realm (Agri-food Networks) identified lies outside the administration, and brings together both local and extra-local food chain actors, including farmers, to develop universes of new socio-economic institutions that have managed to introduce food policies into the local political agenda. The second realm (Local multi-actor) embeds the dialectics between administration and social organisations in the co-production of local agri-food policies, conjugating unequal competences and agencies within the local context. The third realm (Intra-administration) brings together different sections of the different levels of the public administrations to coordinate horizontally agri-food policies and mainstream the food systems approach along a nested scheme of competences and jurisdictions. The fourth realm (Multi-level administration) addresses the coordination process between the different levels of public administrations with competences, jurisdiction, interests, and resources of different nature. The fifth realm (Rural–urban linkages) explores the political, economic, ecological, and cultural interactions between the main urban centres and its hinterland, throughout municipal and City-region scales, including both institutional and non-institutional actors (Blay-Palmer et al., 2018; Vaarst et al., 2018). Finally, the sixth realm (trans-local) addresses horizontal coordination and cooperation between local actors—both institutional and non-institutional, and thus with differentiated agencies—in different locations, as a key process for coordinated policy and governance innovation (Moragues-Faus and Sonnino, 2019).

Beyond the interactions between actors and scales, we have identified various narratives that enable or hinder the deployment of a comprehensive and sustainable agri-food system. Health has been mentioned by the interviewees who are more committed to sustainability approaches as a crosscutting narrative for both overcoming limitations of agrifood competences in the municipalities and deploying a comprehensive approach to sustainable food systems. Such an approach can be supported by the proposals for sustainable food security, which are becoming increasingly relevant in both scholarly and policy arenas (Sonnino et al., 2014; Wezel et al., 2020).

However, the symbolic importance of agricultural activity, beyond its economic contribution, has proved to be very powerful in sustaining local agri-food policies, since agriculture generates other ecosystem services and strengthens non-agricultural economic activity (such as commerce, hotels, tourism, and spaces for sustainable public

use in urban areas). Beyond 'defensive localisms', which can hide social and environmental unsustainability behind the tag of 'local' (Winter, 2003), narratives for reactivating the fabric of sustainable agriculture in city-regions such as Madrid can play a major role in the transition towards sustainable agri-food systems. To this end, sustainable farming and farmers could play a core role in such a transition.

6 Conclusion

We have analysed herein the policies implemented and the discourses on agri-food policies of policymakers from a European urban region: Madrid. The historical background of each municipality and the personal background of each policymaker, including family and training backgrounds, appear to be the main elements in shaping the orientation of the policies implemented. Local food policies are key factors in the transition towards sustainable food systems, and local governments are becoming increasingly committed to this transition. However, the municipalities experience certain challenges regarding legal competences, financial resources, structural constraints of the global food system, training, and (multi-level and multi-actor) governance processes. We propose an integrative, multi-level, and multi-actor approach to address these challenges by overcoming three contradictions of the policies implemented: first, the opposition and discoordination between various administrative levels; second, the opposition of the aims and tools between agricultural and (sustainable and healthy) food policies; and third, the disconnection and discoordination between urban and rural municipalities. All three binary oppositions can be overcome by taking a comprehensive food system approach towards delivering all the sustainability potential of relocalisation processes. However, such an approach comprises major challenges regarding the current political framework in Europe. First, there is a need to harmonise the aims and tools of both agricultural and food policies within a framework of growing commodification of food and growing concentration of power in the global food system (Clapp, 2023). Second, we must learn how to overcome the structural constraints of the food system that put pressure on unsustainable farming practises. Third, the segregated structure and orientation of the different levels of state administration make it difficult to coordinate and harmonise measures, and to support the right policies at each administrative level. Advancing towards multi-level and multi-actor governance processes and spaces for food system sustainability remains a key issue in territorial, sustainable transitions.

Data availability statement

The raw data supporting the conclusions of this article will be made available by the authors, without undue reservation.

References

- Ajates Gonzalez, R., Thomas, J., and Chang, M. (2018). Translating agroecology into policy: the case of France and the United Kingdom. *Sustain. For.* 10:2930. doi: 10.3390/su10082930
- Anderson, C. R., Bruil, J., Chappell, M. J., Kiss, C., and Pimbert, M. P. (2021). *Agroecology Now! Transformations Towards More Just and Sustainable Food Systems*. Cham: Palgrave Macmillan.
- Béné, C., Oosterveer, P., Lamotte, L., Brouwer, I. D., de Haan, S., Prager, S. D., et al. (2019). When food systems meet sustainability—current narratives and implications for actions. *World Dev.* 113, 116–130. doi: 10.1016/j.worlddev.2018.08.011
- Blay-Palmer, A., Santini, G., Dubbeling, M., Renting, H., Taguchi, M., and Giordano, T. (2018). Validating the City region food system approach: enacting inclusive, Transformational City region food systems. *Sustain. For.* 10:1680. doi: 10.3390/su10051680
- Calori, A., and Magarini, A. (2015). *Food and the Cities. Food Policies for Sustainable Cities*. Milano: Edizioni Ambiente.
- Campbell, S., Greenwood, M., Prior, S., Shearer, T., Walkem, K., Young, S., et al. (2020). Purposive sampling: complex or simple? Research case examples. *J. Res. Nurs.* 25, 652–661. doi: 10.1177/1744987120927206

Ethics statement

Ethical review and approval was not required for the study on human participants in accordance with the local legislation and institutional requirements. Oral informed consent from the patients/participants or patients/participants legal guardian/next of kin was obtained to participate in this study in accordance with the national legislation and the institutional requirements.

Author contributions

DL-G: Writing – review & editing, Writing – original draft, Visualization, Software, Methodology, Investigation, Formal analysis, Data curation, Conceptualization. JC-M: Writing – review & editing, Writing – original draft, Methodology, Investigation, Formal analysis, Data curation, Conceptualization. MD: Writing – review & editing, Software, Investigation, Formal analysis, Data curation.

Funding

The author(s) declare that financial support was received for the research, authorship, and/or publication of this article. This publication is framed within the research grant “Sustainable food networks as chains of values for agroecological and food transition. Implications for territorial public policies” (PID2020-112980GB-C22; 2021–2025), funded by the Spanish Scientific, Technical and Innovation Research Plan: MCIN/AEI/10.13039/501100011033.

Conflict of interest

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

Publisher's note

All claims expressed in this article are solely those of the authors and do not necessarily represent those of their affiliated organizations, or those of the publisher, the editors and the reviewers. Any product that may be evaluated in this article, or claim that may be made by its manufacturer, is not guaranteed or endorsed by the publisher.

- Chiffolleau, Y. (2009). From politics to co-operation: the dynamics of embeddedness in alternative food supply chains. *Sociol. Rural.* 49, 218–235. doi: 10.1111/j.1467-9523.2009.00491.x
- Clapp, J. (2023). Concentration and crises: exploring the deep roots of vulnerability in the global industrial food system. *J. Peasant Stud.* 50, 1–25. doi: 10.1080/03066150.2022.2129013
- Crowder, D. W., and Reganold, J. P. (2015). Financial competitiveness of organic agriculture on a global scale. *Proc. Natl. Acad. Sci.* 112, 7611–7616. doi: 10.1073/pnas.1423674112
- Curto, R., Bondaruk, V., Gutierrez Molina, F., Pessah, S., and Monkes, J. (2021). Políticas públicas de Agroecología en el Cono Sur de América Latina. *Apuntes Agroecónóm.* 21, 1–11.
- D'Annolfo, R., Garibaldi, L. A., Gemmill-Herren, B., Graeb, B. E., Cunningham, S. A., and Breeze, T. D. (2017). Farming approaches for greater biodiversity, livelihoods, and food security. *Trends Ecol. Evol.* 32, 68–80. doi: 10.1016/j.tree.2016.10.001
- De Cunto, A., Tegoni, C., Sonnino, R., Michel, C., and Lajili-Djala, F. (2017). Food in cities: study on innovation for a sustainable and healthy production, delivery and consumption of food in cities.
- Doernberg, A., Horn, P., Zasada, I., and Piore, A. (2019). Urban food policies in German city regions: an overview of key players and policy instruments. *Food Policy* 89:101782. doi: 10.1016/j.foodpol.2019.101782
- Eakin, C. M., Heron, S. F., Maynard, J. A., and Van Hooijdonk, R. (2016). Warming trends and bleaching stress of the world's coral reefs 1985–2012. *Sci. Rep.* 6:38402. doi: 10.1038/srep38402
- EIP-Agri (2016). Cities and food. Connecting producers and consumers. Final Report. EIP-Agri Workshop. European Commission, Brussels.
- El Bilali, H., Callenius, C., Strassner, C., and Probst, L. (2019). Food and nutrition security and sustainability transitions in food systems. *Food Energy Secur.* 8:e00154. doi: 10.1002/fes3.154
- Ericksen, P. J. (2008). Conceptualizing food systems for global environmental change research. *Glob. Environ. Chang.* 18, 234–245. doi: 10.1016/j.gloenvcha.2007.09.002
- European Court of Auditors (2020). Report of the European court of auditors on the performance of the EU budget – status at the end of 2019. Available at: https://www.eca.europa.eu/lists/ecadocuments/annualreport-performance-2019/annualreport-performance-2019_en.pdf (Accessed February 26, 2024).
- Gaitán-Cremaschi, D., Klerkx, L., Aguilar-Gallegos, N., Duncan, J., Pizzolón, A., Dogliotti, S., et al. (2022). Public food procurement from family farming: a food system and social network perspective. *Food Policy* 111:102325. doi: 10.1016/j.foodpol.2022.102325
- Giraldo, O. F., and McCune, N. (2019). Can the state take agroecology to scale? Public policy experiences in agroecological territorialization from Latin America. *Agroecol. Sustain. Food Syst.* 43, 785–809. doi: 10.1080/21683565.2019.1585402
- Giraldo, O. F., and Rosset, P. M. (2018). Agroecology as a territory in dispute: between institutionality and social movements. *J. Peasant Stud.* 45, 545–564. doi: 10.1080/03066150.2017.1353496
- Gonzalez De Molina, M., and Lopez-Garcia, D. (2021). Principles for designing agroecology-based local (territorial) Agri-food systems: a critical revision. *Agroecol. Sustain. Food Syst.* 45, 1050–1082. doi: 10.1080/21683565.2021.1913690
- González de Molina, M., Petersen, P. F., Garrido-Peña, F., and Caporal, F. R. (2019). Political Agroecology: Advancing the Transition to Sustainable Food Systems. Boca Raton, FL, USA: CRC Press.
- González-Azcárate, M., Cruz-Maceín, J. L., Bardají, I., and García-Rodríguez, A. (2022). Local food policies from a city-region approach: fostering the SFSCs in the region of Madrid. *Cities* 133:104158. doi: 10.1016/j.cities.2022.104158
- Granovetter, M. (1985). Economic action and social structure: the problem of embeddedness. *Am. J. Sociol.* 91, 481–510. doi: 10.1086/228311
- High Level Panel of Experts on Food Security and Nutrition (HLPE) (2017). Nutrition and food systems. A report by the high level panel of experts on food security and nutrition of the committee on world food security. Available at: <http://www.fao.org/3/i7846e/i7846e.pdf>
- High Level Panel of Experts on Food Security and Nutrition (HLPE) (2019). Agroecological and other innovative approaches for sustainable agriculture and food systems that enhance food security and nutrition. Committee on World Food Security, Rome.
- Ingram, J. (2011). A food systems approach to researching food security and its interactions with global environmental change. *Food Secur.* 3, 417–431. doi: 10.1007/s12571-011-0149-9
- IPCC (2019). *Climate change and land: an IPCC special report on climate change, desertification, land degradation, sustainable land management, food security, and greenhouse gas fluxes in terrestrial ecosystems*. Ginebra: IPCC Disponible en.
- IPCC (2022). “Climate change 2022: impacts, adaptation, and vulnerability” in *Contribution of Working Group II to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change*. eds. H.-O. Pörtner, D.C. Roberts, M. Tignor, E.S. Poloczanska, K. Mintenbeck, A. Alegria, M. Craig, S. Langsdorf, S. Löschke, V. Möller, A. Okem, B. Rama; Cambridge University Press, Cambridge, UK and New York, NY, USA, 3056 pp.
- IPES-Food. (2017). What makes urban food policy happen? Insights from five case studies. International panel of experts on sustainable food systems. Available at: www.ipes-food.org (Accessed February 26, 2024).
- Kneafsey, M., Venn, L., Schmutz, U., Balázs, B., Trenchard, L., Eyden-Wood, T., et al. (2013). Short food supply chains and local food systems in the EU. A state of play of their socio-economic characteristics. *JRC Sci. Policy Rep.* 123:129. doi: 10.2791/88784
- Kroll, F. (2021). Agroecology and the metropolitan biopolitics of food in cape. Town and Johannesburg. *Urban Agric. Region Food Syst.* 6:e20010. doi: 10.1002/uar2.20010
- Lamine, C., Magda, D., and Amiot, M. J. (2019). Crossing sociological, ecological, and nutritional perspectives on agrifood systems transitions: towards a transdisciplinary territorial approach. *Sustain. For.* 11:1284. doi: 10.3390/su11051284
- Lamine, C., Schmitt, C., Palm, J., Derbez, F., and Petersen, P. (2021). “How policy instruments may favour an articulation between open ended and deterministic perspectives to support agroecological transitions? Insights from a franco-brazilian comparison” in *Agroecological Transitions, Between Determinist and Open-Ended Visions*. eds. C. Lamine, D. Magda, M. Rivera-Ferre and T. Marsden (Bruxelles, Belgium: Peter Lang Verlag), 129–152.
- Lampkin, N., Schwarz, G., and Bellon, S. (2020). Policies for agroecology in Europe, building on experiences in France, Germany and the United Kingdom. *Landbauforsch. J. Sustain. Org. Agric. Syst.* 70, 103–112. doi: 10.3220/LBF1611684471000
- López-García, D., Alonso-Leal, N., García-García, V., Molero-Cortés, J., García-Fernández, J., Arroyo-Escudero, L., et al. (2020). Ámbitos de gobernanza en las políticas alimentarias urbanas: una mirada operativa. *Estud. Geográf.* 81:e051. doi: 10.3989/estgeogr.202065.065
- López-García, D., Benlloch Calvo, L., Calabuig Tormo, V., Carucci, P., Diez Torrijos, I., Herrero Garcés, A., et al. (2021). Las transiciones hacia la sostenibilidad como procesos de final abierto: Dinamización Local Agroecológica con horticultores convencionales de l'Horta de València. *Bolet. Asoc. Geógr. Españ.* 88. doi: 10.21138/bage.2968
- López-García, D., Calvet-Mir, L., Di Masso, M., and Espluga, J. M. (2019). Multi-actor networks and innovation niches: university training for local Agroecological Dynamization. *Agric. Hum. Values* 36, 567–579. doi: 10.1007/s10460-018-9863-7
- López-García, D., and Carrascosa-García, M. (2024). Sustainable food policies without sustainable farming? Challenges for agroecology-oriented farmers in relation to urban (sustainable) food policies. *J. Rural. Stud.* 105:103160. doi: 10.1016/j.jrurstud.2023.103160
- López-García, D., and González de Molina, M. (2020). Co-Producing Agro-Food Policies for Urban Environments: Toward Agroecology-Based Local Agri-food Systems. in *Urban Agroecology. Interdisciplinary Research and Future Directions*. Eds. M. Egerer and H. Cohen. Boca Ratón (FL): CRC Press. 188–208.
- Marsden, T., Hebinck, P., and Mathijs, E. (2018). Re-building food systems: embedding assemblages, infrastructures and reflexive governance for food systems transformations in Europe. *Food Sec.* 10, 1301–1309. doi: 10.1007/s12571-018-0870-8
- Martínez-Valderrama, J., Olcina, J., Delacámara, G., Guirado, E., and Maestre, F. T. (2023). Complex policy mixes are needed to cope with agricultural water demands under climate change. *Water Resour. Manag.* 37, 2805–2834. doi: 10.1007/s11269-023-03481-5
- Metz, J. J., and Scherer, S. M. (2022). The rise and decline of farmers markets in greater Cincinnati. *Agric. Hum. Values* 39, 95–117. doi: 10.1007/s10460-021-10228-8
- Milan Urban Food Policy Pact (2015). Milan Urban Food Policy Pact. Available at: <https://www.milanurbanfoodpolicypact.org/the-milan-pact/> (Accessed February 26, 2024).
- Moore, J. W. (2015). *Capitalism in the Web of Life: Ecology and the Accumulation of Capital*. London, UK: Verso Books.
- Moragues-Faus, A., and Morgan, K. (2015). Reframing the foodscape: the emergent world of urban food policy. *Environment and Planning A: Economy and Space*, 47:1558–1573. doi: 10.1177/0308518X15595754
- Moragues-Faus, A., and Battersby, J. (2021). Urban food policies for a sustainable and just future: concepts and tools for a renewed agenda. *Food Policy* 103:102124. doi: 10.1016/j.foodpol.2021.102124
- Moragues-Faus, A. (2021). The emergence of city food networks: rescaling the impact of urban food policies. *Food Policy* 103:102107. doi: 10.1016/j.foodpol.2021.102107
- Moragues-Faus, A., Morgan, K., Moschitz, H., Neimane, I., Nilsson, H., Pinto, M., et al. (2013). Urban food strategies: the rough guide to sustainable food systems. Document developed in the framework of the FP7 project FOODLINKS (GA no. 265287). Available at: http://www.foodlinkscommunity.net/fileadmin/documents_organicresearch/foodlinks/publications/Urban_food_strategies.pdf (Accessed July 11, 2019).
- Moragues-Faus, A., and Sonnino, R. (2019). Re-assembling sustainable food cities: an exploration of translocal governance and its multiple agencies. *Urban Stud.* 56, 778–794. doi: 10.1177/0042098018763038
- Morgan, K. (2015). Nourishing the city: the rise of the urban food question in the global north. *Urban Stud.* 52, 1379–1394. doi: 10.1177/0042098014534902

- Morris, C., and Kirwan, J. (2011). Ecological embeddedness: an interrogation and refinement of the concept within the context of alternative food networks in the UK. *J. Rural. Stud.* 27, 322–330. doi: 10.1016/j.jrurstud.2011.03.004
- Ploeg, J. D., Van der Renting, H., Brunori, G., Knickel, K., Mannion, J., Marsden, T., et al. (2000). Rural development: from practices and policies towards theory. *Sociologia Rurali* 40, 391–408. doi: 10.1111/1467-9523.00156
- Pörtner, L. M., Lambrecht, N., Springmann, M., Bodirsky, B. L., Gaupp, F., Freund, F., et al. (2022). We need a food system transformation—in the face of the Russia-Ukraine war, now more than ever. *One Earth* 5, 470–472. doi: 10.1016/j.oneear.2022.04.004
- Ramos García, M., Guzmán, G. I., and González De Molina, M. (2018). Dynamics of organic agriculture in Andalusia: moving toward conventionalization? *Agroecol. Sustain. Food Syst.* 42, 328–359. doi: 10.1080/21683565.2017.1394415
- Recanati, F., Maughan, C., Pedrotti, M., Dembska, K., and Antonelli, M. (2019). Assessing the role of CAP for more sustainable and healthier food systems in Europe: a literature review. *Sci. Total Environ.* 653, 908–919. doi: 10.1016/j.scitotenv.2018.10.377
- Rivera-Ferre, M. G. (2018). The resignification process of agroecology: competing narratives from governments, civil society and intergovernmental organizations. *Agroecol. Sustain. Food Syst.* 42, 666–685. doi: 10.1080/21683565.2018.1437498
- Rivera-Ferre, M. G., López-i-Gelats, F., Ravera, F., Oteros-Rozas, E., di Masso, M., Binimelis, R., et al. (2021). The two-way relationship between food systems and the COVID19 pandemic: causes and consequences. *Agric. Syst.* 191:103134. doi: 10.1016/j.agry.2021.103134
- Sachet, E., Mertz, O., Le Coq, J. F., Cruz-García, G. S., Francesconi, W., Bonin, M., et al. (2021). Agroecological transitions: a systematic review of research approaches and prospects for participatory action methods. *Front. Sustain. Food Syst.* 5:709401. doi: 10.3389/fsufs.2021.709401
- Simon-Rojo, M. (2019). Agroecology to fight food poverty in Madrid's deprived neighbourhoods. *Urban Des. Int.* 24, 94–107. doi: 10.1057/s41289-019-00088-4
- Simón-Rojo, M., Couceiro, A., Del Valle, J., and Fariña Tojo, J. (2020). Public food procurement as a driving force for building local and agroecological food systems: farmers' skepticism in Vega Baja del Jarama, Madrid (Spain). *Landscape* 9:317. doi: 10.3390/land9090317
- Solazzo, R., Donati, M., Tomasi, L., and Arfini, F. (2016). How effective is greening policy in reducing GHG emissions from agriculture? Evidence from Italy. *Sci. Total Environ.* 573, 1115–1124. doi: 10.1016/j.scitotenv.2016.08.066
- Song, S., Goh, J. C., and Tan, H. T. (2021). Is food security an illusion for cities? A system dynamics approach to assess disturbance in the urban food supply chain during pandemics. *Agric. Syst.* 189:103045. doi: 10.1016/j.agry.2020.103045
- Sonnino, R., Moragues-Faus, A., and Maggio, A. (2014). Sustainable food security: an emerging research and policy agenda. *Int. J. Sociol. Agri. Food* 21, 173–188. doi: 10.48416/ijaf.v21i1.161
- Stefanovic, L., Freytag-Leyer, B., and Kahl, J. (2020). Food system outcomes: an overview and the contribution to food systems transformation. *Front. Sustain. Food Syst.* 4:546167. doi: 10.3389/fsufs.2020.546167
- Steffen, W., Broadgate, W., Deutsch, L., Gaffney, O., and Ludwig, C. (2015). The trajectory of the Anthropocene: the great acceleration. *Anthrop. Rev.* 2, 81–98. doi: 10.1177/2053019614564785
- Sutherland, L. A. (2023). Who do we want our 'new generation' of farmers to be? The need for demographic reform in European agriculture. *Agric. Econ.* 11:3. doi: 10.1186/s40100-023-00244-z
- Tornaghi, C., Vandermaelen, H., Dehaene, M., and Vanempen, E. (2019). "Embedding agroecology's soil care principle in the urbanised society: the case of Flanders" in *9th AESOP-SFP Conference Agroecological transitions confronting climate breakdown*. Editorial Universidad de Granada, 205–209.
- Vaarst, M., Getz Escudero, A., Chappell, M. J., Brinkley, C., Nijbroek, R., Arraes, N. A. M., et al. (2018). Exploring the concept of agroecological food systems in a city-region context. *Agroecol. Sustain. Food Syst.* 42, 686–711. doi: 10.1080/21683565.2017.1365321
- Vaarst, M., Padel, S., and Zarlis, K. (2017). Supporting innovation in organic agriculture: a European perspective using experience from the SOLID project. *Sustain. Dev. Organ. Agric. Historic. Perspect.* 4, 115–134. doi: 10.5539/sar.v4n3p32
- van der Ploeg, J. D., Barjolle, D., Bruil, J., Brunori, G., Costa Madureira, L. M., Dessein, J., et al. (2019). The economic potential of agroecology: empirical evidence from Europe. *J. Rural. Stud.* 71, 46–61. doi: 10.1016/j.jrurstud.2019.09.003
- Vara-Sánchez, I., Gallar-Hernández, D., García-García, L., Morán Alonso, N., and Moragues-Faus, A. (2021). The co-production of urban food policies: exploring the emergence of new governance spaces in three Spanish cities. *Food Policy* 103:102120. doi: 10.1016/j.foodpol.2021.102120
- Vicente-Vicente, J. L., Doernberg, A., Zasada, I., Ludlow, D., Staszek, D., Bushell, D., et al. (2021). Exploring alternative pathways toward more sustainable regional food systems by foodshed assessment – City region examples from Vienna and Bristol. *Environ. Sci. Pol.* 124, 401–412. doi: 10.1016/j.envsci.2021.07.013
- Walshall, B., Friedrich, J., Piorr, A., Vicente-Vicente, J. L., and López-García, D. (2024). Complementing or co-opting? Proposing an integrative framework to assess the transformative capacity of approaches that make use of the term agroecology in the global north. *Sustain. Sci. Policy.* 156:103748. doi: 10.1016/j.envsci.2024.103748
- Wegener, J., Raine, K. D., and Hanning, R. M. (2012). Insights into the Government's role in food system policy making: improving access to healthy, local food alongside other priorities. *Int. J. Environ. Res. Public Health* 9, 4103–4121. doi: 10.3390/ijerph9114103
- Wezel, A., Herren, B. G., Kerr, R. B., Barrios, E., Gonçalves, A. L. R., and Sinclair, F. (2020). Agroecological principles and elements and their implications for transitioning to sustainable food systems. A review. *Agron. Sustain. Dev.* 40:40. doi: 10.1007/s13593-020-00646-z
- Wheeler, S. A. (2008). What influences agricultural professionals' views towards organic agriculture?. *Ecological Economics*, 65:145–154. doi: 10.1016/j.ecolecon.2007.05.014
- Willett, W., Rockström, J., Loken, B., Springmann, M., Lang, T., Vermeulen, S., et al. (2019). Food in the Anthropocene: the EAT–lancet commission on healthy diets from sustainable food systems. *Lancet* 393, 447–492. doi: 10.1016/S0140-6736(18)31788-4
- Winter, M. (2003). Embeddedness, the new food economy and defensive localism. *J. Rural. Stud.* 19, 23–32. doi: 10.1016/S0743-0167(02)00053-0