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DOI

[10.1080/09654313.2023.2244567](https://doi.org/10.1080/09654313.2023.2244567)

Publication date

2023

Document Version

Final published version

Published in

European Planning Studies

Citation (APA)

Liu, T., Korthals Altes, W. K., Melot, R., & Wallet, F. (2023). Reterritorialisation of agricultural activities in land-use and food planning: Comparing the Netherlands and France. *European Planning Studies*, 32 (2024)(5), 952-972. <https://doi.org/10.1080/09654313.2023.2244567>

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Reterritorialisation of agricultural activities in land-use and food planning: comparing the Netherlands and France

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ABSTRACT

The reterritorialisation of agricultural activities (RAA) consists of reinforcing local food production and its diversification activities oriented toward local consumers. RAA helps shape the local food system, which is an increasingly studied topic in the planning field. However, institutional impacts on planning approaches for RAA remain unknown. This study examines this question by comparing land-use and food planning in Dutch and French cases, where France defines food planning via national law and the Netherlands does not. Through analysis of planning documents and semi-structured interviews, we identified planning goals and instruments, and analysed governance models. We then linked these three components to understand institutional impacts. Our empirical findings reveal that regarding planning policies on RAA, there are differences between the two countries in terms of focused action fields, planning instruments, and links between land-use and food planning. Our results show that the dominance of state-local relationships in France and civil society-government relationships in the Netherlands has a significant effect on planning approaches. This study supports the need for an emphasis on institutional design for effective planning for RAA.

ARTICLE HISTORY



Received 13 July 2022
Revised 5 July 2023
Accepted 31 July 2023


KEYWORDS

Land-use regulations; local food system; farm diversification; farmland preservation; food policy

1. Introduction

Planning for the local food system is a topic introduced to the planning field over two decades ago (Pothukuchi and Kaufman 1999, 2000). There is a close link between food production and consumption in local food systems (Enthoven and Van den Broeck 2021). This link has potential to address negative effects on product quality, climate change, and food security generated by the global food system (Allen 2010; Fattibene et al. 2023; Fei et al. 2023; Morgan and Sonnino 2010). Food is associated with major planning concerns, such as health, economy, land use, transportation, and social justice (Pothukuchi and Kaufman 1999). An important part of planning for a local food system is the reterritorialisation of agricultural activities (RAA). RAA involves

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 Supplemental data for this article can be accessed online at <https://doi.org/10.1080/09654313.2023.2244567>.

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that food is supplied by local farms that produce for the local population and not for the world market. It includes activities such as farming, local processing, local food transport and logistics, local sales community-supported agriculture, and agri-tourism. Planning policies are needed to support RAA in a context in which a food system operates on a global, rather than a local scale.

Two types of local planning policies are closely related to RAA. The first is land-use planning, which spatially defines land use and development rights to be applied to activities associated with RAA. The second, and more recent, type of local planning policy is food planning, which promotes urban-rural linkages, creating healthy and sustainable local food systems that are economically and socially productive (Fattibene et al. 2023; Morgan and Sonnino 2010; Raja, Born, and Russell 2008). Food planning is primarily strategic as it aims to impact decisions outside the planning context, whereas land-use planning focuses on operational regulations and legally-binding rules.

When comparing territories, planning approaches to RAA may differ but share certain similarities within countries and regions. For example, while cities and regions in the USA focus on urban agriculture and healthy neighbourhoods, French authorities prioritize public food procurement to facilitate local food consumption (Candel 2020; Filipini, Mazzocchi, and Corsi 2019). Public policy theories emphasize that institutions impact policy approaches (Lodge 2007). However, few systematic, cross-national comparative analyses have been performed to understand the institutional impacts on planning approaches for RAA.

We aim to address this knowledge gap using an international comparative study of French and Dutch cases, with eight cases per country. These two countries were chosen because, while they have relatively similar social-economic contexts and increasing political awareness of local food issues, they also have different policy frameworks towards food planning. At the state level, France defines food planning through national law, whereas the Netherlands does not. In terms of their similarities, France and the Netherlands have similar proportions of agricultural land use (52.3% and 54.4% in 2018, respectively) (Eurostat 2021c). They both have a strong agriculture sector, with France being first and the Netherlands being seventh in European Union (EU) standard output (Eurostat 2021a), and are the highest-ranking countries for non-EU net food exports (France) and EU net food exports (the Netherlands) (Eurostat 2021b). Given their emphasis on exports, reterritorialisation is an important issue for agriculture sectors in both countries.

This study aims to understand how institutional settings and strategies of local stakeholders influence food and land-use planning approaches for RAA in France and the Netherlands. Specifically, we investigate 1) the foci and strategies for RAA in both countries for food and land-use planning, 2) the links and missing links between the two planning policies for the implementation process, and 3) the stakeholders' (public authorities, non-governmental organizations (NGOs), farmers' organizations, etc.) representations of the planning strategies suited for RAA.

The paper is structured as follows. Section 2 provides an overview of the state-of-the-art to specify research gaps. After introducing the institutional context of both countries in Section 3, Section 4 presents case study areas, the analytical framework, and methodological steps. The results are presented in Section 5. The paper ends with a discussion and

conclusion about the implications of this comparative study on RAA planning in practice and in research.

2. State-of-the-art: focus areas and knowledge gaps in RAA planning

In the land-use and food planning literature, the following major areas have been associated with RAA planning: planning strategies for RAA, local food as a cross-sectoral topic, and new governance models.

Since Pothukuchi and Kaufman (1999) first addressed food in the planning field, a range of studies on integrated food planning have been published. Researchers such as Filippini, Mazzocchi, and Corsi (2019), Sibbing, Candel, and Termeer (2019), Doernberg et al. (2019), and Candel (2020) analysed local food planning objectives and instruments based on case studies. On the basis of these results, they developed a list of RAA-associated strategies. Local food planning addresses many topics, such as, economic development, social justice, and a healthy environment (Candel 2020; Moragues-Faus and Sonnino 2019). RAA is typically addressed as an issue within these topics (Moragues-Faus and Sonnino 2019).

Land-use planning studies for RAA stress changing mono-functional land uses that constrain RAA. Many experiments on urban agriculture have taken place in the context of land-use planning, which corresponds to the features of post-industrialised cities (Coppola 2019); an example is the introduction of specific urban agriculture land-use regulations or zoning classes (Meenar, Morales, and Bonarek 2017). In rural areas, studies have identified barriers to on-farm diversification activities, such as land-use regulations that prohibit on-site construction (Horst and Gwin 2018; Nichol 2003).

Food as a cross-sectoral issue is another studied area. Researchers and international networks (e.g. Milan Urban Food Policy Pact) emphasize the role of land-use planning in achieving food planning goals, because it is about preserving farmland, finding places for food facilities, and designing land regulations for RAA (FAO 2019; Pothukuchi and Kaufman 1999; Raja, Born, and Russell 2008). Scholars (Crivits et al. 2016; Diehl et al. 2020) have called for synergy between food and land-use planning because the latter can adapt regulations to facilitate implementing food strategies. Researchers have also proposed that land-use planning can adapt to fit the needs of the RAA (Horst and Gwin 2018), integrate food into green infrastructure design (Moragues-Faus and Morgan 2015), and organize food infrastructure networks (Nichol 2003). The literature reveals a lack of empirical studies on the interactions between food and land-use planning policies.

Another topic in the literature is the governance of local food. 'Governance' implies a shift from 'government' and emphasizes the coordinated processes between public and private resources (Pierre 2011). Particularly, scholars use 'new' food governance to address the diverse forms of collaboration among local food-associated stakeholders who were not previously involved together in planning. These forms range from multi-level governance to civil society's intervention with the establishment of Food Policy Councils (Doernberg et al. 2019; Moragues-Faus and Morgan 2015). While local governments need external resources to perform food planning process activities and implement food planning strategies, civil society actors need government support (e.g. access to land, capital, and formal approval of activities) (Duvernoy 2018; Moragues-Faus and Morgan 2015). However, the stakeholders' involvement in food

governance is not uniform and, therefore, entails different power relationships. Although studies have found an increasingly active role of NGOs in food governance, the lack of involvement of farmers (as landowners and as tenants) is problematic in planning practices (Mansfield and Mendes 2013; Perrin et al. 2020; Skog 2018). Researchers (Morgan and Sonnino 2010; Morley and Morgan 2021) have emphasized that implementable actions need to be guaranteed by collaboration between different governance levels, but this need has only just been met (Sonnino, Tegoni, and De Cunto 2019).

Others (Giambartolomei, Forno, and Sage 2021; Moragues-Faus and Carroll 2018; Prové, de Krom, and Dessein 2019) have focused on understanding the driving forces associated with different approaches to the local food system. They found that land-use patterns, socio-economic dynamics, institutional settings, and local authorities' competences are essential to this understanding. It is however hard to interpret the outcomes as existing international comparisons are usually based on case studies performed within a single context.

By summarizing and identifying research gaps, we argue that there are already 1) systemic analyses of local food strategies, 2) proof of the significance of coherent food and land-use planning, and 3) a focus on new governance. There are fewer studies on the driving forces behind approaches taken, the topic of RAA itself, and the interactions between land-use and food planning within the realm of empirical studies.

3. Institutional context of RAA planning in The Netherlands and France

3.1. Major actors in agri-food domains

France and the Netherlands are decentralized unitary states. There are three main tiers of local administration in France (region, department, and municipality) and two tiers in the Netherlands (province and municipality). Both countries develop their agricultural policies within the framework of the European Union's common agricultural policy (CAP). Supramunicipality governments (France: the state and regions; the Netherlands: the state and provinces) are responsible for the execution of the CAP rural development programmes. Municipalities do not have the traditions and competences in agricultural issues in either country, except for managing agricultural land use through land-use planning.

NGOs and quasi-autonomous NGOs have roles in public intervention in agriculture. Professional farmers' organizations participate in policy-making processes in both countries. In France, a quasi-autonomous NGO (a company with public function; SAFER or Land Development and Rural Establishment Company) manages rural land by exercising pre-emption rights to avoid land speculation and foster access to land for young farmers (Boinon 2011; Piet, Melot, and Diop 2021). Consequently, France has a relatively lower average farmland sale price (average of €6,000/ha in 2019) than other European Union countries; this sale price is less than one-tenth of that in the Netherlands (average of €69,632/ha in 2019) (Eurostat 2022).

3.2. Food planning

Food planning is a new local policy field in France and the Netherlands. The French state defined food planning (Projet Alimentaire Territorial) in its Agriculture Law in 2014. The main objectives of the law are to structure the agricultural economy and to

implement a local food system. It aims to bring producers, processors, distributors, local authorities, and consumers together and to promote local agriculture and food quality. Since 2015, the state has been funding food planning via an annual national financing programme. There is a recognition system of 'labelling food planning' charged by the Ministry of Agriculture. Although food planning is not compulsory for local governments, increasing projects have emerged in recent years.

A state-defined food planning framework does not exist in the Netherlands; local governments have an increasing interest in local food policy-making, which echoes a growing interest from civil society (Sibbing, Candel, and Termeer 2019; Van der Valk 2019).

3.3. Land-use planning

French inter-municipal bodies or municipalities are responsible for land-use plans. Since 2017, land-use planning responsibility has been transferred to the inter-municipal body, except in case of derogations provided for by law. (Inter)municipal governments have a high level of independence when developing land-use plans. These governments are only required to adhere to the guidelines of regional plans and legally-binding aspects of intermediate master plans. Higher-scale governments only provide non-binding advice.

As described by Van der Valk (2002, 204): *'the key to understanding Dutch politics is the deep-rooted conviction that power flows from consensus.'* In the Netherlands, land-use planning is conducted by municipalities. Land-use regulations must, where applicable, follow provincial planning rules. Related to agriculture and food, provincial planning priorities are about rural development, landscape, and biodiversity. Because the central government has decentralized planning to the provinces (Korthals Altes 2018), they determine planning issues mostly free from the national framework (OECD 2017).

French and Dutch land-use plans have different capacities during interventions in agricultural production. The French Planning Code regulates that land-use planning cannot define agricultural production. The Dutch Planning Act previously included a similar regulation, but this was lifted in the revised 2008 Planning Act.

The Netherlands is known for 'active' land-use planning in urban development (Tennekes 2017). Municipalities are actively involved as buyers and sellers in the land market (Buitelaar 2010). French municipalities usually do not have this tradition, with some exceptions (Carpenter and Verhage 2014).

4. Research design and methodology

4.1. Case study selection

We studied eight cases in the Netherlands and eight cases in France (Figure 1). Each case contains both land-use and food planning projects. We also chose various types of territories (Table 1).

4.2. Analytical framework

Theories on comparative public policy analysis are the theoretical point of departure. Lodge (2007) emphasized that comparative public policy analysis seeks *'what accounts*

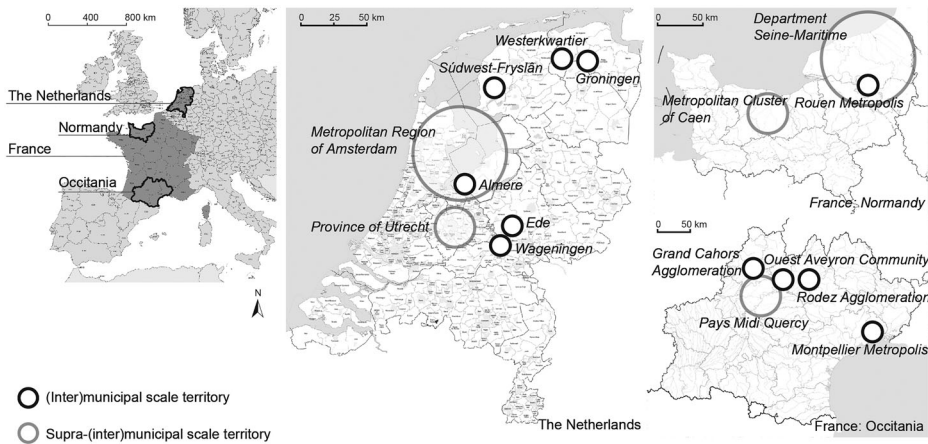


Figure 1. Case study areas.

for the observed patterns in public policy' (275) and proposed understanding the policy patterns from institutional impacts. One central strand of such impacts, stated by Lodge, is that '*nations matter*', which refers to that '*national styles affect policymaking or that broad formal policy system factors impact on how systems respond to various policy challenges*' (279). Therefore, institutions are viewed both as organizational structures and as norms and rules within the broad policy system (Pierre 2011).

We adopted a governance perspective to understand institutional impacts, as it enables us to look beyond the institutions in a narrow sense that impose norms on local stakeholders and, instead, to '*search for processes and mechanisms through which significant and resource-full actors coordinate their actions and resources in the pursuit of collectively defined objectives*' (Pierre 2005, 452). On the one hand, supra-local institutions affect the organization of local governance and the establishment and attainment of local policy goals; on the other hand, local governance, shaped by locally-specific institutions, affects local policymaking (Peters and Pierre 2001; Pierre 2011).

In the field of planning studies, Healey and Williams (1993) compared the diversity of planning systems in European countries and provided a frame of comparative planning studies. They analysed various aspects of the planning systems in different countries, different local responses in responding to the same external pressure by adapting to their institutional settings, and these differences' effects on the local development patterns. Built upon these theories, Table 2 presents our analytical framework, which evaluates institutional impacts from three perspectives: the national institutional settings' effects on the main actors' roles in local planning (arrow 1) and on the planning policy patterns (arrow 3), and the effects of main actors' interactions on policy patterns (arrow 2).

To analyse policy patterns, we first identified RAA action fields. We started from Ericksen's (2008) definition of the food system component as producing, processing and packaging, distributing and retailing, and consuming food; the first three stages were relevant to RAA. Based on strategies identified from the literature review, we regrouped them into RAA action fields. Producing activities were divided into (1) land access and (2) farming practices. Processing, packaging, distribution, and retailing

Table 1. Overview of case study area characteristics.

Country	Scales	Territory of the food planning	Spatial planning responsibility	Area (km ²)	Population (p)	Density (p/km ²)
The Netherlands	Municipal	Almere	Land-use planning	129.2	214,715	1,662
		Wageningen		30.4	39,635	1,303
		Ede		318.2	118,530	373
		Groningen		185.6	233,273	1,257
		Westerkwartier		362.7	63678	176
		Súdwest-Fryslân		523.0	89,999	172
	Supra-municipal	Metropolitan area of Amsterdam	–	4,076.4	3,316,712	813
		Utrecht (province)	Provincial planning	1485.46	1,361,153	916
France	Intermunicipal*	Montpellier	Land-use plan and Master planning	421.8	491,417	1165
		Metropolis				
		Rouen Metropolis	Land-use planning	663.8	494,299	745
		Rodez		205.3	56,080	273
	Supra-intermunicipal**	Agglomeration Grand Cahors		593.2	41,795	71
		Agglomeration Ouest Aveyron		668.0	27,224	41
		Community				
		Department Seine-Maritime	–	6,277.6	1,255,633	200
		Rural Cluster of Midi Quercy**	Master planning	1192.2	50,271	42
		Metropolitan Cluster of Caen**		1595.7	390,417	245

* French inter-municipal bodies include metropolis, agglomeration, and community and are often responsible for land-use planning.

** There are several forms of supra-intermunicipal bodies in France. Department is an upper-level authority. Other than that, France set up cooperation mechanisms bringing together inter-municipal bodies to develop territorial projects. Rural Clusters and Metropolitan Clusters are forms of supra-intermunicipal bodies for such projects.

Sources³: CBS (2022): data for the Netherlands (2021); Insee (2022): data for France (2019).



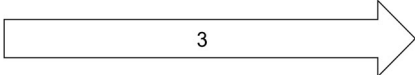
activities were regrouped into (3) structuring local food chains. We then analysed policy outputs under these action fields along two dimensions: policy goals and instruments (Howlett and Giest 2012).

We focused on interaction patterns between public authorities and societal groups at the local planning scale (Lodge 2007). We examined how the macro-institutional context, the strategies of local stakeholders, and the implementation process affected local governance models and, thus, affected planning approaches (arrows 2 and 3 in Table 2). Two major components were identified from existing local food policy studies: 1) multi-level governance, which addresses relationships between governance processes at different government levels (Peters and Pierre 2001; Sonnino, Tegoni, and De Cunto 2019) and 2) government-society relationships (e.g. Morgan 2015).

4.3. Data collection and analysis

We conducted research using document analysis and semi-structured interviews. We collected land-use plans from centralized web platforms and local websites (France: *Plan Local d'Urbanisme intercommunal* at inter-municipal level; the Netherlands: *Omgevingsvisie* and *Bestemmingsplan* at municipal level) and food plans (France: *Projet Alimentaire Territorial*; the Netherlands: *Voedsel-agenda*, *-visie*, *-akkoord*, *-strategie*) (Appendix A). The scale of land-use plans is sometimes inferior to the territory of

Table 2. Analytical framework.

National institutional settings	Main actors and roles in local planning	Policy patterns (objectives and instruments) Howlett and Giest (2012)
<ul style="list-style-type: none"> • Actors and responsibilities in agricultural policies • Food planning • Land-use planning 	 <ul style="list-style-type: none"> • Multi-level government relationship • Governments-civil society relationship 	 <p>In the three action fields:</p> <ul style="list-style-type: none"> • Access to land • Transition of farming practices • Structuring local food chains <p>(Adapted based on Ericksen 2008) And</p> <ul style="list-style-type: none"> • Links between land-use and food planning
		

food plans, because food planning is performed at a supra-(inter)municipal scale or because land-use plans are compiled before the fusion of the (inter)municipal territory. We studied documents to identify policy goals and instruments by RAA-associated action fields by applying an analytical grid, which followed a process of (1) tracking essential information through keywords and (2) categorizing information by action fields (Appendix B).

We conducted semi-structured interviews between April 2021 and February 2022 with mainly civil servants associated with the planning projects. In some cases, we interviewed other actors such as activists and elected officials. The interviews (30 interviews, 45 interviewees) were 45 to 135 min, were recorded with permission from interviewees, and were transcribed (Appendix C). Interviews at the project scale included the topics: (1) Initiation and progress of planning project(s), (2) Characteristics, challenges, and planning strategies for the RAA, (3) Stakeholders and their roles in planning, particularly focusing on the multi-level governments and multi-stakeholders' participation, (4) (Potential) interactions between land-use and food planning. For interviews with staff working at provincial and regional institutions or organizations (e.g. farmers' organizations and the state's regional service on agriculture and food), we asked questions on topics 3 and 4 and on regional characteristics. We analysed interview transcripts by using the qualitative analysis software, Atlas.ti, based on a coding procedure framework (Appendix D) built upon the analytical framework (Table 2). Appendix E presents an export of the analysis from Atlas.ti.

5. Results

In this section, we present the results of the document analysis and interviews. The results are organized according to the research design: action fields, links between land-use and food planning, and governance models.

5.1. RAA-associated policy goals and instruments

5.1.1. Farmland availability and access to land

We focused on two types of activities, professional farming and urban agriculture. The major distinction is that professional farming is about finding land to help farmers set

up a viable farm, while urban agriculture is usually multifunctional and emphasizes the involvement of citizens. In theory these activities can overlap (professional farmers active in urban agriculture) but in practice this is often not the case.

1) Farmland preservation and new farmers' access to land

All French food plans were found to have the goal(s) of preserving farmland and/or facilitating farmers' access to land. These plans were identified to include three instruments. First, land-use planning was referred to as a lever in food plans used to preserve farmland ($n = 4$). The second instrument was networking potential buyers and sellers and accompanying the take-over of agricultural holdings ($n = 4$). The third instrument was to help new farmers by providing access to publicly-owned land ($n = 3$), reclaiming agricultural wasteland ($n = 2$), grouping new farmers to achieve collective land purchasing ($n = 1$), or diversifying crop farms ($n = 1$). The establishment of incubator farms (on public land) was a frequent action of food planning projects. French land-use plans were found to preserve farmland through exclusive zoning, authorizing only necessary farm buildings, and specification of maximum distances between new and existing farming buildings to avoid sprawl.

No food plan in the Netherlands included farmland preservation or setting up new farmers as a main goal. Only one municipality proposed using publicly-owned land as an instrument for RAA. Moreover, interviewees reported that implementation was challenging, as the municipality did not own much land and buying new land for RAA lacked incentives: *'It brings a lot of work and responsibility extra on everything you already have. And it's not our common business, so you need special expertise for that'* (Interview with civil servants of Wageningen, the Netherlands, 24/01/2022). In most cases, local governments kept land for future urban development (municipalities) or nature restoration (provinces). One province rented land for nature-inclusive farming but did not target short chain activities. The lease term was short (1 year) because the goal was to transform into nature restoration, which did not favour nature-inclusive farming (Interview with a civil servant of the province of Gelderland, the Netherlands, 24/01/2022). Dutch land-use plans were found to define agricultural areas and assign building blocks to restrict construction. No land-use plan explicitly included RAA as an agricultural zoning criterion.

2) Urban agriculture that integrates civil society

All French food plans included promotion of urban agriculture as an action, although usually not as a major goal. They included collective food gardens, and in the three metropolitan territories they also included actions to promote professional urban farms. All land-use planning regulations included special zones for collective food gardens, in which small-scale construction was allowed.

As an essential component, urban agriculture contributed to the main goals of most Dutch food plans for a 'healthy food environment' and/or 'sustainable food economy' ($n = 7$). Objectives included the promotion of collective food gardens/community support agriculture/urban farms ($n = 3$), setting food forests ($n = 5$), and edible greenery in public spaces (e.g. fruit trees in the street and parks) ($n = 4$).

Some Dutch municipalities had supportive land-use regulations for urban agriculture. Almere, for their experimental area, defined ‘urban agriculture’ as a multifunctional activity involved in short food chains; the activity could be professional or performed for self-sufficiency (Gemeente Almere 2016). Since Almere owns a lot of land, the municipality was able to use publicly-owned land and implemented regulations that integrated food gardening into housing development. Wageningen had a land-use category, ‘*Agricultural with values – Urban fringe area*’ where ‘*commercial and hobby agricultural land use, recreational and sporting use are authorised*’ (Gemeente Wageningen 2014).

We found that in some municipalities, agricultural activities at agricultural areas on the urban fringe can encounter obstacles from land-use regulations. Food forests can be hindered by municipal land-use planning regulations, which may define the use of agricultural land as ‘*agricultural land use, with the exception of a tree and/or ornamental nursery, growing wood or fruit*’ (Gemeente Grootegast 2016). Regulations follow provincial instructions to either maintain open landscape and protect meadow birds, or to avoid the environmental impact of intensive arboriculture (Gemeente Grootegast 2010). Large-size food gardens also encountered restrictive regulations for building shelters on the urban fringe because building construction was strictly limited to assigned building blocks.

5.1.2. Transition of farming practices

The transition of farming practices discussed in this study contributes to the environment, a healthy diet, and a local food balance between food production and consumption. In subsequent sub-sections, we discuss diversification of food production and sustainable farming, which are interrelated. For example, diversifying existing intensive livestock farming can lead to fewer negative environmental effects and contribute to biodiversity. Sustainable farming here refers to farming practices that aim at improving environmental performance (e.g. organic farming, agroecological practice, and nature-inclusive farming) (Dessart, Barreiro-Hurlé, and van Bavel 2019).

1) Diversification of production types

Although product diversification itself is not a main goal of French food plans, we found that they all support this through facilitating market gardening. Such an objective was accomplished by creating incubator farms, which are also connected to sustainable farming and local supply chains. Diversification of existing livestock or crop farms was an associated instrument used in the food plans. Land-use planning cannot define agricultural production. We found one case that set the zone ‘*agriculture – market gardening*’ to preserve several existing market gardening areas (Rodez Agglomération 2021).

Dutch food plans tended to facilitate transitions to plant-based protein production. Three food plans explicitly promoted more plant-based protein production by referring to cooperation with regional actors. One proposed developing plant-based protein supply chains. Others encouraged such production through increasing consumers’ awareness about diet transition and leveraging local procurement. Market gardening was only indirectly referred to in strategies related to food gardens and food forests; it could even be prohibited by land-use regulations. For example, one municipality defined its agricultural area as only for ‘*the pursuit of a livestock business*’ (Gemeente

Weesp 2015). One interviewee described an example of a difficult situation related to farm product diversification:

‘... [market gardeners] start a new garden, and customers come up to pick up their food, then the neighbours will complain to the municipality. And the municipality will close down the garden. This has happened a couple of times already, because there the land-use plan specifies agricultural land uses as open pastures.’ (Interview with an activist and researcher, the Netherlands, 11/11/2021)

2) Transition to sustainable farming

Three French food plans explicitly set sustainable farming as a main goal, aiming to protect natural resources and counter climate change. They planned to achieve this goal by facilitating farmers’ sustainable farming practices and outlets for production. In the Netherlands, four projects proposed facilitating a transition to sustainable farming. Two of the four projects proposed land lease modifications, but implementation strategies were unclear. Identifying market opportunities to make sustainable practices profitable was a concern in both countries.

Land-use planning can affect the transition to extensive farming, especially in livestock farming. All studied Dutch land-use plans controlled intensive farming either by prohibiting building construction for intensive farming businesses, or by restricting them to assigned locations. Some land-use plans created natural zones that only allow extensive livestock farming. This regulation worked as an external factor that pushed the transition of farming practices. Thus, livestock farming helped to maintain the grassland.

5.1.3. Structuring local supply chains and diversification of farming activities

Structuring local supply chains was found to be a major goal shared by most food plans in both France ($n = 8$) and the Netherlands ($n = 7$). Results are presented at the individual and collective levels.

1) Individual on-farm projects

Food plans in both countries were facilitating on-farm projects (e.g. on-farm processing and direct sale) by networking between local actors and/or increasing the visibility of initiatives to consumers (e.g. an interactive map and a processing facility map).

In France, most examined land-use plans followed the Planning Code and authorize on-farm diversification construction that is ‘*processing, packaging, or sale that is part of the extension of production activities*¹’, with only one plan not authorizing this kind of construction. In one ongoing land-use planning project in an urban territory, on-farm diversification was considered a threat because agricultural buildings might illegally transform into tourism or secondary residences, which could lead to sprawl (*Interview with civil servants of Montpellier Metropolis, France, 07/10/2021*).

Dutch land-use regulations usually incorporated flexibility for on-farm diversification activities. All interviewees indicated that land-use regulations were not major obstacles. All examined land-use plans authorized small-scale sale facilities in agricultural zones,

usually with conditions that specify maximum surface area (e.g. 120 m² of Westerkwartier) and the condition of only providing locally produced products (e.g. Ede). Four land-use plans explicitly authorized dairy processing activities. In many cases, diversification outside the food sector, such as a small camp with up to 25 sites or small-scale care functions up to 650 m², was also allowed (Gemeente Weesp 2015).

2) Collective food infrastructure

Food plans were found to integrate collective infrastructures to support farmer profitability. Most French food planning projects ($n = 7$) envisaged projects on collective processing infrastructures, i.e. four local vegetable centres, one local slaughterhouse, and two general processing facilities. Five food plans also included development of local food logistics or more specific food hubs.² Compared with the French projects, fewer Dutch food planning projects envisaged collective processing infrastructure. Two included a programme on food processing by mapping existing initiatives. Another worked on building new food processing facilities. Three Dutch projects planned to develop food hubs, though in what form was unclear.

We did not find specific components of collective infrastructures in land-use plans. However, Montpellier Metropolis (France) proposed transforming vacant heritage farm buildings into collective processing centres as a way to preserve farmland from excessive individual building construction.

5.2. Links and missing links between land-use and food planning

In most French cases ($n = 5$), mutual interaction between food and land-use planning (or master plan) was found at the agricultural diagnosis stage. Land-use planning as a compulsory project includes territorial diagnosis, which sometimes contributes to food planning. At the strategic stage, objectives of food planning were sometimes integrated into the strategic plan of land-use planning in both countries, if the land-use plan was compiled after the conception of food planning. At the implementation scale, investigations in both countries revealed the difficulties involved in the translation of food-associated orientation into land-use regulations, as ‘*it’s not physical*’ (Interview with civil servants of *Súdwest-Fryslân, the Netherlands, 14/12/2021*), and as agricultural practices were considered ‘*the responsibility of the agricultural world itself*’ (Interview with elected officials and a civil servant of an intermunicipal body of *Pays Midi Quercy, France, 28/06/2021*).

In France, land-use and food planning interactions during implementation stages were mainly identified in rural areas. When a food plan referred to land-use planning as a lever, the aim was to preserve farmland ($n = 4$). Interviewees indicated that the interaction could occur when an RAA project was to be localized, such as modification of downzoning from buildable land to agricultural land use. The Montpellier Metropolis example of transforming vacant heritage farm buildings into collective processing centres also showed the potential of synergies between farmland preservation and vacant farm heritage reuse schemes when land-use and food planning are integrated.

Dutch cases revealed coherence between land-use and food planning in urban projects. In one instance, integration occurred between the planning of food hubs and the planning for associated transport networks. In another example, neighbourhood

design guide booklets contained inspiring examples of locations that integrated food into development projects. In a third instance, the new urban area of Almere applied an innovative land-use strategy where at least half of the land sold to private owners (e.g. for housing) must be dedicated to food production (Jansma and Wertheim-Heck 2021).

There were also conflicts between Dutch land-use planning regulations and food planning actions (see Section 5.1). In one case, a farmer aiming to start in a municipality was pushed towards the neighbouring municipality because land-use regulations prohibited necessary constructions for market gardening.

When land-use and food planning were not on the same scale, we found that links between the two types of planning policies were weak. We also found some places where such links were higher than others. This difference is discussed in regard to institutional settings in the next section.

5.3. Institutional impacts on RAA planning: new governance models established in different contexts

5.3.1. Multi-level governance

France was found to have strong state-local relationships with the RAA that are based in the state's political commitment to food planning. One interviewee confirmed from her observation at the regional level that the national law, labelling system, and funding have incentivised local authorities to develop food plans that line up with the national framework (*Interview with a project manager of farmers' support organisation of Normandy, France, 11/06/2021*). Also, the Ministry of Agriculture's management of the financing and labelling programmes, together with the Agricultural Law's focus on the agricultural economy, has positively affected local food plans' central focus on agriculture, much more than urban agriculture, and local chains.

We found only weak connections between different local governmental levels for RAA planning in France. When the food planning occurred at a larger scale than the land-use planning did, these weak relationships led to missing links between planning policies. Interviewees from one French department (supra-intermunicipal authority) indicated that they '*do not have an agricultural entrance*' when providing comments about intermunicipal land-use planning (*Interview with civil servants of the department Seine-Maritime, France, 11/05/2021*). In one supra-intermunicipal territory (a rural cluster) where the authority operated food and master planning, a close mutual working relationship was developed between the two projects. However, integration was difficult because the intermunicipal government with land-use planning responsibility lacked political willingness.

Unlike France, the Netherlands does not impose a national law for food planning. Multi-level governance for RAA was mainly found between provinces and municipalities. Some municipalities left the responsibility of agriculture and short supply chain activities to the provinces because they considered it beyond municipal competence. Some provinces were not in alliance with municipal local food goals, stating '*we [the municipality] want local food and here we have the province who says we want to grow for export*' (*Interview with civil servants of Súdwest-Fryslân, the Netherlands, 14/12/2021*). Provinces were sometimes referred to by municipalities as partners in sustainable farming but not in local food. When creating municipal land-use regulations, provinces

do have a guiding role, as some of their requirements are legally-binding. These requirements are negotiable if there is political willingness. However, our investigation did not find evidence of negotiation associated with RAA.

5.3.2. Government-society relationships

1) Farmers' organizations

In France, we found that major farmers' organizations are systematically involved in food planning projects, usually through the farmers' support organizations (Chambres d'Agriculture). They are often close partners in food planning projects to facilitate the take-over of agricultural holdings and to support the exchange of practices between farmers. In one case, the farmers' support organization is a project co-leader. Another regional farmers' support organization manages the regional food planning network and oversees the communication and facilitation of food planning projects. The systematic participation of farmers' support organizations corresponds the French food planning scope in the professional farming and agricultural system.

Farmers' support organizations were also found to be influential in land-use planning. They are indispensable actors that are consulted during the formulation of land-use plans. For some plans, they also conducted the agricultural diagnosis (i.e. territorial analysis of the status quo of agriculture) ($n = 5$). Interviews revealed that farmers' organizations want farmers to be unhindered. In several cases, when land-use planning wanted to involve a specialized zone for certain types of farming practices (often market gardening), opposition from farmers' organizations prevented it from happening.

In the Netherlands, we found that major farmers' organizations (LTO: the Netherlands Agricultural and Horticultural Association) are less involved in both land-use and food planning. In only one case, a major farmers' organization was a core actor in food planning to facilitate a transition to plant-based protein production. In other cases, only minority farmers (or farmers' groups) working on sustainable farming and alternative business models were active.

2) Civil society representatives

We found that NGOs are partners in French food planning projects to implement actions and enlarge action fields. As one civil servant explained, '*... the food planning, it's fed by many initiatives in fact. The idea is not to take away or appropriate the initiatives of associations, not at all. We don't have the time, we don't have the means, it's not our job. [...] we rely on them.*' (Interview with civil servants of Grand Cahors Agglomeration, France, 05/10/2021).

NGOs and activists in the Netherlands were found to be essential actors during food planning. In some cases, NGO participation helped establish several food planning projects and provided expertise when local authorities lacked expertise in food. For example, an association helped draft food planning documents and organized working groups to implement action items. In addition, an informal but embedded food network was reported to be influential to RAA planning. Actors from different professional fields interested in local food issues formed informal networks, which facilitated knowledge

and information communication. This network helped to counter the instability associated with political change (*Interview with an activist and researcher, the Netherlands, 11/11/2021*).

We found that governments-NGO relationships differ depending on political interests and governance models. For example, the food planning team of Ede wanted to identify what civil society actors could do independently, and Súdwest-Fryslân was still exploring how to involve NGOs. In some territories, NGOs worked on purchasing farmland collectively for sustainable farming, but we did not find clear relationships between those organizations and the food planning process. Limited funding was a frustration expressed by some NGO-associated interviewees, as they encountered instability and lacked the power to make essential changes.

6. Discussion and conclusion

In this study, we compared Dutch and French cases to examine institutional impacts on planning interventions for RAA. We found that depending on the institutional context, the two countries have governance models that perform differently. This study indicates that the state-local relationship in France and civil society-government relationship in the Netherlands have large effects on the planning approaches used for RAA. We suggest that these institutional disparities have led to different styles regarding the approach to RAA-associated action fields, the policy instruments leveraged, and the areas of interaction between land-use and food planning.

First, this study reveals that newly formed relationships between actors of RAA are different in the two countries. French cases are examples of state-local government relationships and a government-led planning approach towards RAA, while Dutch cases are mainly examples of civil society-government relationships. Our results indicate that the French law and financial support systems form state-local relationships, though they depend on soft laws with no binding forces (Bodiguel 2018). Dutch cases were also found to have characteristics, such as instability of food planning when facing local political changes and lack of farmer participation, that are similar to what previous studies have reported (Sonnino, Tegoni, and De Cunto 2019; Van der Valk 2019). These are, we believe, driven by civil society-related effects. Previous results have suggested that NGOs compensate for the absence of state power and the lack of local expertise (Hamilton 2011), but risk territorial inequity (Moragues-Faus and Morgan 2015). The cases in France in this paper reveal advantages of government guidance: the national framework has a guiding role, the farmers' organizations are more active, and the imbalance between territories is not obvious.

Second, our results show that institutional settings affect the style of RAA planning approaches. French planning interventions were found to focus on achieving a local agricultural economy by facilitating local food production and supply chain in the field of professional agriculture. In contrast, most Dutch cases tend to concentrate on small-scale urban agriculture surrounding health and urban sustainability.

The style present in France is consistent with 'agricolisation' of French food policy (Michel, Fouilleux, and Bricas 2020), in which agriculture dominates the policy focus. The national law's focus on agriculture and the active role of farmers' organizations may explain this agricultural domination. The Dutch performance has features similar

to those described in international studies on local food systems that connect to the 'healthy city' discourse (Morgan 2015). The latter has been introduced to link food and planning and emphasizes food access (Morgan 2015). Sibbing and colleagues' study (2019, 10) found that food plans of large Dutch cities focus mostly on production, '*but only small scale, urban*'. Our study, which included peri-urban and rural territories, has similar findings. Dutch municipalities tend to leave agriculture to higher-level government and farmers, while supra-municipal food plans address local supply chains but not production. This difference is likely because in the Netherlands, intervention in farmers' production models is difficult; traditional professional farmers are difficult to mobilize for participation in RAA planning. Farmers involved in food planning tend to be new entrants into farming.

The distinct focuses of local planning in the two countries highlights the issue of rural and urban land governance. Although there is no official distinction between rural and urban land in their planning systems, a long-standing dichotomy of 'rural as agriculture' and 'urban as non-agricultural' exists. Dutch municipalities prioritize the urban built environment and develop innovative strategies in urban areas, while leaving professional agriculture to provinces as a rural matter. In contrast, French local planning involves farmers' organizations as significant actors and address rural farming activities. In this context, food planning also take place in remote rural areas, and its integration with land-use planning could promote rural development. Evidence from the two countries demonstrates the potential for effective food governance on urban and rural land, while also revealing institutions constraints. We argue that RAA planning requires institutional changes that favour a holistic thinking of the rural-urban land system, addressing specific challenges. Urban land confronts greater land take threats and possesses limited agricultural land, peri-urban land experiences rapid land use change and complex land conflicts, while rural land lacks human resources for land management.

Third, our findings reveal that territories in the two countries leverage different policy instruments for RAA within their respective contexts. The instruments represent how local authorities introduce competences into the new field of planning policy. Our findings show disparities between land-use instruments used for RAA and policy instruments customarily used by local governments. French authorities tend to enlarge their competences in agriculture via available instruments. They use publicly-owned land to support RAA, although without such a tradition of land provision. In contrast, local Dutch governments have a tradition of land purchase but do not apply these land strategies during RAA planning. Instead, NGOs apply these land strategies for RAA.

Additionally, the case studies in both countries start to explore using the food infrastructure as a lever. These explorations suggest that progress is being made, because previous findings from international examples have indicated that local governments rarely address food infrastructure (Sonnino, Tegoni, and De Cunto 2019). However, collective food infrastructure issues remain in the emerging phase, indicating that implementation is more challenging and an area that needs further study.

Fourth, the intersection between land-use and food planning reflects the institutional impacts, i.e. impacts from national institutional settings and from stakeholders' roles in food governance. Whereas French plans have more interactions in agricultural zones (e.g. modifying agricultural zoning), Dutch plans have more innovative integration in urban areas (e.g. integrating food into housing development on publicly-owned land).

Such distinct intersection areas reflect the impact of the French national law's incentive and of the consequent important roles of farmers' support organizations.

Our finding highlights the weak links between land-use and food planning relevant to RAA during the regulation development phase and shows that these links should be strengthened. Land-use regulation barriers of on-farm diversification activities identified by previous studies (Horst and Gwin 2018; Nichol 2003) are not apparent in our cases. However, we found major constraints on the transition of farming practices. French land-use planning has little flexibility to adopt regulations for specific types of production, even though the food planning supports them. Although Dutch land-use planning could define regulations relevant to landscape and biodiversity, those regulations might prohibit diversification of production and urban agriculture promoted by food planning. RAA should be included in local political debates about the development of land-use regulations.

In practice, more fields of intersection should be examined, such as the combination of food hub and neighbourhood revitalization (Luoni 2021). During the planning process, food planning brings common knowledge when diverse groups of stakeholders meet. The limitation of land-use planning is that the participative procedures required are not necessarily clear.

The literature has revealed that there are certain national and regional characteristics associated with planning for local food systems, yet there remains a lack of understanding about the driving forces. Previous studies have focused on planning strategies for local food systems but rarely on RAA. This work was able to identify institutional impacts on planning approaches for RAA by performing an international comparative study of a panel of case studies. This approach, which combined document analysis and semi-structured interviews, allowed us to identify generalizable patterns from an examination of in-depth information. While the document analysis provided a comprehensive overview of planning strategies, the semi-structured interviews allowed for the understanding of rationales and constraints of these strategies. For example, the document analysis showed that publicly-owned land was not a major lever in Dutch planning, and interviews with local stakeholders reinforced the understanding of the reasons behind this. Future studies could also apply and adapt the analytical framework (Table 2) and coding procedure framework (Appendix D) to local agri-food issues. For instance, a broader cross-national or cross-regional comparison of RAA planning strategies could be conducted based on these frameworks.

While France and the Netherlands can learn from each other's experiences, the results could also provide insights for other countries. Not only have we provided an overview of action fields and policy instruments for RAA planning, our findings have also revealed connections between institutional settings, the stakeholders involved, and the approaches taken. These results have policy-making implications for policy design in different contexts and for how to think about institutional design to achieve more effective RAA planning.

While this research examined RAA planning from several aspects of the institutional setting, it was not a comprehensive examination of contextual effects on planning patterns. Increases in planning practices should make it possible for future research to compare the effects of diverse contexts (e.g. the urban functions and planning scales). Research on RAA planning is still in the early stage, and territories are experimenting

with their policy instruments and governance models in the RAA field. Future research on planning implementation will also increase the understanding of institutional impacts on RAA.

Notes

1. Article L. 151-11 of the Planning Code.
2. Food hub: a centrally located facility with a business management structure facilitating the aggregation, storage, processing, distributions, and/or marketing of locally produced food products (USDA 2017).
3. CBS: Statistics Netherland. Insee: National Institute of Statistics and Economic Studies.

Disclosure statement

No potential conflict of interest was reported by the author(s).

Funding

This work was part of Tianzhu LIU's PhD research supported by China Scholarship Council: [Grant Number 201908310135]. The collection of data in the Netherlands was supported by Université Paris Saclay, Graduate School Sociologie et Science Politique: [project Internationalisation de la recherche – comparaison internationale].

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