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URBANISING FOOD LANDSCAPES: PLANNING FOOD SYSTEMS TRANSFORMATION FOR SUSTAINABLE TOURISM DEVELOPMENT IN PORTUGAL AND THE MEDITERRANEAN AREA

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Urbanising Food Landscapes: Planning Food Systems Transformation for Sustainable Tourism Development in Portugal and the Mediterranean Area

Summary

This thesis explores and problematises the relationship between food and urbanisation processes in the central Algarve region in Portugal and other mediterranean coastal areas. The aim is to analyse and map how these relationships have been and are being shaped through time and space, using, and operationalising the concept of food landscapes. Bringing together approaches from critical urban theory, spatial sociology and landscape studies, the research questions the role of space in food transformation processes and the different approaches that have been developed to study them. To this end, the research proposes a comparative (Tilly, 1984; Robinson, 2011, 2015) case study approach (Yin, 2014) to analyse the transformation processes of food landscapes. A mixed-methods approach is adopted, with qualitative and quantitative data analysis from primary and secondary sources, including semi-structured interviews, interdisciplinary literature reviews, qualitative content analysis of policy documents and spatial data. The findings are then combined to trace main transformation typologies and causal mechanisms driving the spatial and socio-institutional transformations of the selected food landscape. The research identifies key food system transformations mediated by urbanisation and tourism developments in the case studies and interrogates the role of planning frameworks and actors on these processes. The research contributes to the identification of different planning approaches in literature and practice and highlights the different spatial planning trajectories that have taken place in the case studies. Several sectoral and landscape level plans have already been carried out in these regions. The study provides key examples of how food landscapes are, or can be, integrated into current policies, plans and strategies for the development of sustainable tourism initiatives and climate action. Key recommendations for operationalising this approach are provided and implications for an expanded 'urban food question' in regional and urban planning are discussed, outlining potential opportunities, challenges, and possible scenarios for the future.

Keywords: Food Landscapes, Food Systems Transformation, Socio-Spatial Analysis, Urban and Regional Planning, Tourism Developments, Climate Change, Comparative study

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Acronyms

AFOLU	Agriculture, Forestry and Land Use
AEZ	Agro-Ecological Zones
AFi	Accountability Framework initiative
AFN	Alternative Food Networks
AMAL	Intermunicipal Community of the Algarve Comunidade Intermunicipal do Algarve
ANT	Actor-Network Theory
ASLA	American Society of Landscape Architects
CAP	Climate Action Plans
CAS	Complex Adaptive Systems
CBD	Convention on Biological Diversity
CCDR	Regional Development General Commission Comissão de Coordenação e Desenvolvimento Regional
CCDR Algarve	Regional Development General Commission of Algarve Comissão de Coordenação e Desenvolvimento Regional do Algarve
CM Faro	Municipal Council of Faro
CM Loulé	Municipal Council of Loulé
CM Olhão	Municipal Council of Olhão
CM São Bras de Alportel	Municipal Council of São Bras de Alportel
CM Albufeira	Municipal Council of Albufeira
CM Tavira	Municipal Council of Tavira
COP	United Nations climate change conference
COVID-19	COronaVIrus Disease 19
CPUL	Continuous Productive Urban Landscape

CRFS	City Region Food Systems
CTA	Content Analysis
DGADR	Portuguese Directory of Agriculture and Rural Development Direcção-Geral da Agricultura e Desenvolvimento Rural
DGSU	National Direction of Urbanization Services Direção Geral dos Serviços de Urbanização
DGT	General Directory of Territory Direcção-Geral do Território
DRAP Algarve	Regional Directory of Agriculture and Fisheries in the Algarve Direção Regional de Agricultura e Pescas do Algarve
EC	European Commission
ECLAS	European Conference of Landscape Architecture Schools
ESRI	Environmental System Research Institute
EU	European Union
FAO	Food and Agriculture Organization of the United Nations
GCoM	Global Covenant of Mayors
GIAHS	Globally Important Agricultural Heritage Systems
GIS	Geographic Information System
GTP	Gastronomic Tourism Products
HLPE	The High-Level Panel of Experts on Food Security and Nutrition
IDEAlg	Algarve Spatial Data Infrastructure Infraestrutura de Dados Espaciais do Algarve
INE	National Institute for Statistics Instituto Nacional de Estatística
IPCC	Intergovernmental Panel on Climate Change
IPES-Food	International Panel of Experts on Sustainable Food Systems
Istat	Italian National Institute of Statistics Istituto nazionale di statistica
IUUP	Institut d'Urbanisme de l'Université de Paris

MARF	Supply Market of the Faro Region Mercado Abastecedor da Região de Faro
MedECC	The Mediterranean Experts on Climate and environmental Change
MUFPP	Milano Urban Food Policy Pact
NAC	New Asian Cuisine
NCD	Non-Communicable Diseases
NGO	Non-Governmental Organization
NYC	New York City
OCDE	Organization for the Economic Cooperation and Development
PDM	Municipal Master Plan Plano Director Municipal
PDO	Protected Designation of Origin
PGI	Protected Geographical Indication
PGM	Plan of General Improvements Plano Geral de Melhoramentos
PRGP	Landscape Reordering and Management Programme Programa de Reordenamento e Gestão da Paisagem
PGU	General Urbanization Plan Plano Geral de Urbanização
PNPOT	National Spatial Plan Programa Nacional da Política de Ordenamento do Território
PPP	Purchasing Power Parities
PROT	Regional Spatial Planning Plan Plano Regional de Ordenamento do Território
PTCP	Territorial landscape coordination plan Piano territoriale di coordinamento paesistico
PTR	Regional Spatial Plan Piano territoriale regionale
PTM	Process-Tracing Methodology

RAN	National Agriculture Reserve Reserva Agrícola Nacional
REN	National Ecological Reserve Reserva Ecológica Nacional
RUAF	Global Partnership on Sustainable Urban Agriculture and Food Systems
SAPEA	Science Advice for Policy by European Academies
SES	Socio-Ecological Systems
SFS	Sustainable Food Systems
SPLACH	Spatial Planning for Change Research Project
SSI	Semi-Structured Interviews
STB	Singapore Tourism Board
TRANSMANGO	EU Research Project on the Assessment of the impact of drivers of change on Europe's food and nutrition security
TSG	Traditional Speciality Guaranteed
UAE	United Arab Emirates
UFS	Urban Food System
UK	United Kingdom
UN	United Nations
UNEP	United Nations Environment Programme
UN-HABITAT	United Nations Human Settlements Programme
UNWTO	United Nations World Tourism Organization
USA	United States of America
WCED	World Commission on Environment and Development
WGS	World Gourmet Summit

PART 0. INTRODUCTION TO THE PHD THESIS

0.1. Introduction

Our daily need to feed each other remains a critical issue, even more so today as the world's population grows to 8 billion people, half of whom already live in urban areas and 68% of whom are expected to do so by 2050 (United Nations, 2022). Food systems at all stages of the urban and rural value chain, from production, processing, distribution, preparation, consumption and disposal of food, provide employment for some 1.23 billion people worldwide and support the livelihoods of more than 3.83 billion households (Davis et al., 2023). There are currently more than 608 million farms in the world, 90% of which are family farms[1], covering around 70-80% of agricultural land and producing 80% of the world's food by value (Lowder et al., 2021). In addition to providing a steady supply of food, agricultural landscapes perform many other important functions, including soil fertility, carbon sequestration, water filtration and storage, and insect pollination (Bellingrath-Kimura et al., 2021). Nevertheless, despite their essential role in providing food, current food systems still left between 713 and 757 million people hungry and about 2.8 billion (one third of the population) was unable to afford a healthy diet in 2023 (FAO, 2024), with climate change, rising food prices, inequalities and social conflicts posing additional challenges to our ability to achieve the global goal of zero hunger by 2050 (FAO, 2023a). While millions of people go hungry, UNEP reports that 1.05 billion tonnes of food got wasted in 2022, meaning that 19% of the food that reaches the consumption stage is subsequently wasted by retailers, food services and households (UNEP, 2024), while 13% is being wasted in the supply chain from harvest to sale (FAO, 2022c), accounting alone for between 8% and 10% of total greenhouse gas emissions (FAO 2013). With the world population expected to grow to 9.8 billion by 2050 (United Nations, 2019b), recent meta-analysis predict that total global food demand will increase by 35-56% between 2010 and 2050, with climate change raising these needs to 30-62% and reinforcing the risk of hunger by -91% to +30% (van Dijk et al., 2021).

Increasing urbanisation processes are an important equation in this context, representing a key driver of change and presenting challenges and opportunities to ensure a sustainable, nutritious and inclusive agrifood system along the urban-rural continuum (FAO, 2023a). Food demand from a growing urban population is projected to be up to two to four times higher than rural demand, particularly in regions of sub-Saharan Africa and Asia (FAO, 2018; Zhou and Staatz 2016 and Pingali et al. 2019 in de Bruin et al., 2021).This is associated with an overall increase in food demand, as well as a diversification of food types and diets towards more resource-intensive animal products and processed foods (FAO, 2018). The past 50 years have witnessed a substantial and widespread modification of food systems connected to evolving urbanization processes and tourism developments, especially in Mediterranean coastal areas, giving rise to changing land-use patterns, urban-rural migrations and highly differentiated spatial-temporal movements, concentrations, and use of resources by a growing urban, and tourist, population. Global environmental change exacerbates these challenges posing enormous pressure to the populations living around the Mediterranean area, expressed in rising temperatures, agricultural and ecological droughts, and climate variations (Ali et al., 2022; IPCC, 2023). The profound socio-spatial transformations of food spaces reported over this period, can be seen as both determinant factors and resulting expressions of ongoing urbanisation processes, resulting in growing agricultural intensification, rural abandonment, land degradation, desertification, pollution, and declining biodiversity (MedECC, 2020), especially in mountainous and peripheral areas (McDonald

[1] In their analysis, Lowder et al. define family farming as "those farms owned by an individual, a group of individuals or a household where the labour is largely provided by the family", regardless of size, and distinguish it from smallholder farming, which refers to farms of less than two hectares (2021).

et al., 2000). Urban Food Systems are becoming relevant political arenas and scales from which to address, analyse and act upon the complex relationships between food, ecosystems, society, and urban populations. Nevertheless, despite its important nutritional, morphological and cultural role, the 'urban food question' continues to be an invisible and, even, undesirable issue in many urban areas, reinforced by rapid urbanization processes, land speculation and urban conceptualizations being posed in opposition to an agricultural, 'rural', world. This urban-rural dualism or opposition continues to be marked in public policy and planning practices, naturalising specific socio-spatial configurations associated with 'rural' and 'urban' dimensions as discrete qualifiers of an agricultural and city space. Food systems have been at the base of the historical emergence of urban areas, providing basic metabolic requirements to a growing non-agricultural population (Scott & Storper, 2015), while experiencing broader transformations in the way we produce, distribute, consume, and even think and talk about food. Food is also becoming an emerging space in tourism production and consumption, as well as in the emergence of new "prosumption" practices and communities (Ritzer, 2015), with tourism developments becoming a driving force in the transformation of food systems and their ongoing urbanisation processes and socio-spatial organisations (Loda et al., 2022). These transformations have been determinant factors in the very structure of cities, regions and (tourist) landscapes, shaping the socio spatial configurations of contemporary urban food landscapes (Brenner & Schmid, 2015), especially in the mediterranean area. The emphasis on food systems transformation has been widely recognised by the scientific community and international organisations, pointing to both the rapid changes of recent decades and the need for a 'Great Transformation' to improve both human and planetary health and resilience in a changing climate (Béné, 2022; Resnick & Swinnen, 2023; FAO et al., 2023).

The (re)emergence and acceptance of food as an inherently 'urban question' (Morgan, 2015; Deh-Tor, 2021) opens up possibilities for the analysis of food as a space through which to shed light on historical transformations, embedded power dynamics, patterns and specific socio-spatial configurations that can contribute to the planning and delivery of sustainable production, access, distribution, consumption, disposal, socialisation and politicisation of food in both urban cores and their wider food landscapes. This recognition has already helped to inform, integrate and forge concrete actions and solutions to the challenges of an increasingly urbanised world (Cabannes & Marocchino, 2018), raising crucial questions about who holds power, whose voices are heard, and what essential aspects of life deserve (or not) our urban political attention (Deh-Tor, 2021). During the past 30 years, 'food landscapes' (or foodscapes) have become a key concept to analyse and give sense to the complex realities of food systems, with systemic approaches addressing the interconnected social and spatial dimensions of our relation to food in both urban and rural areas. These approaches have opened new opportunities to interrogate the role food has and can play in the way we plan and conceptualize the urban, supported by a growing emergence and integration of food policies and strategies, innovative governance structures and alternative food geographies. This research aims to analyse the interrelationships between food and urbanisation processes in the context of evolving tourism developments, to define how food systems have shaped and been shaped by the urban, and to critically interrogate what this might mean for an expanded view of the 'urban' (food) question. Operationalising and critically analysing urban food spaces from a landscape perspective provides us with a valuable transdisciplinary, cross-sectoral, and holistic tool for interpreting both the socio-ecological interdependencies between urban and rural areas and the socio-spatial transformations that underlie them. In this way, the landscape vision of food spaces links and transcends established dichotomies and traditional geographical divisions. Under this epistemological

approach, urban food landscapes become a fertile terrain and a strategic lens through which to interpret, map, conceptualise and ultimately influence the social, economic, political, and environmental impacts of contemporary urban development processes on food systems.

This research aims to establish a comparative research between a our main case study in Portugal (Algarve) and other Mediterranean costal and mountain areas, going beyond the methodological 'cityism' of urban food studies (Sonnino & Coulson, 2021) with an expanded view of urbanisation and food dynamics along the rural and urban transect. The study will use a socio-spatial analysis that integrates landscape approaches (Piovan, 2020) with a process-tracing methodology (Beach & Pedersen, 2019) to trace the socio-spatial transformations and governance structures perceived and conceived by territorial actors. This analysis will contribute to the study of urbanisation processes in food spaces and problematise their implications for public policy, planning, and urban and rural studies, in particular with regard to sustainable tourism developments and regional climate action[2] in the mediterranean area.

0.2. Relevance, objectives, and methodologies of the research

The first motivation for this study is related to the need to better understand the crucial transformations of Mediterranean (food) landscapes over the last 50 years, linked to urbanisation processes under evolving tourism developments and changing climates. The Mediterranean region has undergone significant environmental, economic, and social changes that have change the livelihoods of its inhabitants, its food supply, nutrition and regional sustainability, especially in mountainous areas (Brand & Pettenati, 2022), as evidenced by the increasing abandonment of its rural hinterland, hydrogeological risks, soil erosion and a changing socio-economic structure increasingly dependent on tourism (McDonald, 2000). As a result of these changes, landscape policies and climate adaptation strategies for the conservation and management of key ecosystem services and their local economies have multiplied over the last three decades. These complex and dynamic processes require a holistic view of the impacts of these changes on food systems. Landscapes are a critical level of analysis, planning and management that links people and key ecosystems, their cultural characteristics, and economies through an integrated analysis of spaces and social structures that underpin the daily food dynamics.

This research aims to explore the relationship between food and urbanization processes in Mediterranean coastal areas shedding light on their constitutive properties, changing geographies and socio-spatial transformations through the geohistorical, institutional, spatial, and social analysis of food landscapes (see discussion on chapter 4). In doing so, four main objectives have been individuated for this study, aiming to:

- Problematise the processes through which food has shaped and been shaped by the urban, how these processes are inscribed in space, and the conditions under which they have been able to develop.

[2] Climate action refers to efforts to address climate change and its impacts. This includes mitigating climate change, contributing to the reduction of greenhouse gas emissions, adapting to the impacts of climate change by building resilience, the associated co-benefits and contributing to the understanding of the causes of climate change. (EC, 2020b). Another definition is provided by Constantino et al. (2022), which refers to "efforts to mitigate greenhouse-gas emissions through personal actions, policy support, or activism and efforts to increase the resilience and adaptive capacity of communities to extreme weather events and other impacts of climate change".

- Discuss and analyse the multiple forms of socio-spatial transformations that emerge from current and historical urbanisation processes in food spaces under evolving tourism developments and climate change.
- Interrogate the role that planning and different actors have played in creating the conditions for the transformation of food spaces and the related implications of an expanded urban food question in public policy and urban studies.
- Explore the role that food landscapes can play in contributing to more sustainable tourism and climate action in our case study.

The study will provide evidence of how the food spaces of Mediterranean coastal areas have shaped and been shaped by urbanisation processes, exploring the relationship between evolving tourism developments, climate change and the transformation of these spaces. The research hypothesis is that urban transformations of food spaces are not limited to urban cores but are shaped by and shape wider territories that can be better analysed and planned through a food landscape approach. Socio-spatial transformations reported over the period from 1989 to 2019 are assumed to be part of urbanisation processes, changing the way food is produced, processed, distributed, consumed, socialised, politicised, wasted, and valorised in Mediterranean areas. Various planning approaches to managing food landscapes have been implemented in urban and regional plans and strategies, but a systemic and integrated view of food systems is lacking. There is still a need to integrate urban and regional interdependencies to improve spatial management, climate action and sustainable tourism development. A food landscape planning approach can contribute to a better understanding of past transformation mechanisms and their associated spatial impacts and opportunities, in order to develop future strategies and informed decision-making for integrated food system management. The research sets therefore the following research question:

- **How have food landscapes (=foodscapes) been transformed, governed, and planned in Mediterranean coastal areas over the past 30 years amidst evolving urbanization processes, tourism developments, and changing climates?**
- **What are the actors, institutional frameworks and causal mechanisms involved in these transformations, and what are the implications for an extended 'urban food question' in public policy, planning, and urban studies?**
- **What planning and governance approaches have been conceptualized and employed in food landscapes, and how have they been integrated into urban and regional policies, plans and strategies, particularly in relation to climate change and tourism developments?**

The research sets forth a comparative (Tilly, 1984; Robinson, 2011, 2015), case study research (Yin, 2014), making use of a socio-spatial analysis based on a landscape approach (Piovan, 2020), semi-structured interviews (McIntosh & Morse, 2015; see chapter 6), literature reviews and qualitative content analysis to understand how contextual conditions have influenced and determined the urban-mediated transformations of food landscapes. The research combines a process-tracing methodology (Beach & Pedersen, 2019) to trace causal mechanisms driving the spatial and socio-institutional transformations of selected food landscapes. The methodological approach undertaken in this research aims, therefore, to operationalize food landscapes through the analysis and conceptualization of the historical socio-spatial transformation of Mediterranean coastal and inland areas, giving sense to and improving the complex realities and interrelations of contemporary urban and tourism development processes, and their related implications for public policy, planning, and urban studies.

The research adopts a mixed-methods approach, making use of both qualitative and quantitative data analysis, as well as primary and secondary sources, from a series of semi-structured interviews, systematic multi-disciplinary literature reviews and spatial analyses. Geographical Information Systems will be used to map and give sense to the historical land-use and land-cover changes, agricultural land-use intensity, terracing systems, abandonment of agricultural productions, evolving tourism infrastructures and human footprints, related to the two Mediterranean food landscapes under analysis, as well as on the representation of related urban processes in a landscape approach (Piovan, 2020). A process-tracing methodology (Beech & Pedersen, 2019) will then be undertaken to trace this process and shed light on the causal mechanisms and social and economic forces triggering the socio-spatial transformation of the Mediterranean coastal landscape in our two case studies. In doing so, this research will aim to define the way extended urbanization processes are taking and have taken place in these spaces. The final part of the research will discuss the implications of results for an extended 'urban food question' in public policy, planning, and urban studies (See Figure 1).

0.3. Thesis structure

The thesis is divided into three main parts. After a brief introduction to the main conceptual and methodological elements, the thesis presents the theoretical foundations of the research, providing an analysis of the problems of food transformation (subsection 1.2), scale (subsection 2.1), space (subsection 2.3) and their social dynamics in relation to food (subsection 2.4). Key elements of a relational spatial sociology are presented and analysed from a critical urban studies perspective. The research presents the concept of food landscape (or foodscapes) as an integrative model of analysis between the different conceptual frameworks (chapter 4) and discusses the main theoretical orientations for the analysis of urban and tourism developments in food spaces (chapter 5). The first part of the thesis concludes by presenting the methodological choices and structure under which the two case studies were analysed (chapter 6). The second part of the research presents the main national and regional contexts of the central Algarve in Portugal (chapter 7) and discusses the main results of the spatial, institutional, and social analysis carried out in the case study compared to other Mediterranean coastal areas. The main conclusions are presented chapter 8), building key lessons and recommendations on urban-mediated food transformation processes. Part 3 (chapter 9), summarises the main findings and conclusions, and discusses future research opportunities.

FIGURE 1: STRUCTURE AND KEY CHAPTERS OF THE THESIS.

SOURCE: ELABORATED BY THE AUTHOR

PART 1. FOOD LANDSCAPES: THEORIES AND APPROACHES

1. (Food) landscape transformation and the urbanization of food spaces

1.1. Current trends and challenges

Food systems have been subjected to rapid change over the past 70 years (Sage, 2022). This has been expressed in new forms of land-use intensification, industrialization, and homogenization of productive landscapes, as well as in the emergence of new distributional infrastructures, higher concentrations of food demands, dietary changes and unprecedented food waste and bio-cultural diversity loss (SAPEA, 2020). Despite the threefold increase in the food availability achieved during this period (FAO, 2015), under the so called 'Green Revolution' (Pingali, 2012; Patel, 2013), hunger and inequality remain common problems, displaying a paradigmatic double burden malnutrition[3] challenge, with one third of the food being wasted (HLPE, 2014) and about 713 to 757 million people being hungry in 2023[4] (FAO, 2024). The growing amounts and diversity of low-cost food, albeit sometimes of inferior nutritional value and health status[5] (Tilman & Clark, 2014; Pagliai et al., 2021), have been seen as major successes of an efficient and highly industrialized global food system that consolidate the dynamics and logic of contemporary food regimes (Friedmann 2006; McMichael 2009; see also subsection 1.2). These progresses are being challenged today by growing trends of urban food insecurity, climate change impacts and vulnerabilities (Vermeulen et al., 2012; IPCC, 2022), environmental degradation and contamination[6] (El-Nahhal & El-Nahhal, 2021), as well as land-use conflicts and changing food prices, with hidden environmental, social and health food costs quantified for the first time at more than US$10 trillion in 2020[7] (FAO, 2023a; FAO et al., 2023). Agriculture and food systems remain today an important economic sector in most parts of the world, with around 1.3 billion people being formally employed and up to 4.5 billion people depending on them for their livelihoods, if including value chain workers, the self-employed, family farmers, informal, migrant and seasonal wage workers (Fanzo et al., 2021; FAO, 2022a). Agriculture is particularly important in low-income countries and for 76% of the rural population living in extreme poverty. However, jobs generated by agrifood systems extend beyond agriculture, especially in high-income countries[8] (FAO, 2022a). However, this role is compounded by an uneven distribution of benefits, with farmers being the weakest link in the value chain, accounting for less than 10% of final value in rich countries and around 30% in low and middle-income countries (Barrett et al., 2022).

Recent studies are providing evidence of the unprecedented environmental impacts and pressures that humanity and food systems are exerting, crossing six of the nine planetary boundaries for Earth

[3] Here, we refer to the World Health Organization's definition of malnutrition as the 'deficiencies, excesses, or imbalances in a person's intake of energy and/or nutrients' (WHO, 2020), which considers both overnutrition and undernutrition trends, with increasing unhealthy dietary patterns and around 2 billion people having no regular access to safe, nutritious, and sufficient food in 2019 (FAO et al., 2020).

[4] This is 152 million people more than on 2019, before the outbreak of COVID-19 pandemic (FAO, 2024).

[5] Dietary consumption patterns that are dominated by ultra-processed foods have been linked to the prevalence of obesity and non-communicable diseases (NCDs) (Pagliai et al., 2021).

[6] Excessive use of fertilisers, pesticides, and herbicides in agricultural production has been linked to groundwater contamination and increased risks to human health (El-Nahhal & El-Nahhal, 2021; Martinez-Dalmau et al., 2021).

[7] Based on purchasing power parities (PPPs) terms, that refer to the rates of currency conversion that try to equalise the purchasing power of different currencies, by eliminating the differences in price levels between countries (OECD, 2024)

[8] In the European Union, for example, about 8.7 million people, or 4.2%, were employed in agriculture in 2020 (EU, 2020b), while about 16 million people were employed in the food industry, contributing with €603 billion, or 6.4%, of the total EU economy (European Commission et al., 2024). In the US, agriculture, food and related industries accounted for 10.4% of employment, equivalent to about 5.5% of GDP in 2022 (USDA, 2024), mainly in food services (60%), food manufacturing (14%), food retailing (14%) and, finally, agriculture (12%).

system stability (Richardson et al., 2023). Of these, climate change, biosphere integrity (genetic diversity), land use change, and biogeochemical (N and P) fluxes report significant increases since 2015 (Richardson et al., 2023). Land use change boundaries, and their relationship to management systems such as food and agriculture, have been identified as one of the most powerful elements to combat climate change and achieve the global goals adopted in the Paris Agreement (Searchinger et al., 2018; Richardson et al., 2023). In fact, agriculture and food systems are major contributors to deforestation and land-use change (Winkler et al., 2021). They are also the main sectors responsible for global biodiversity loss (Benton et al., 2021) and for around 34% of total anthropogenic greenhouse gas emissions[9] (Crippa et al., 2021). Recent studies also indicate that current trends in global agriculture and food systems emissions alone would prevent the achievement of the Paris Agreement's long-term temperature goals of 1.5 and 2.0 degrees (Clark et al., 2020), reinforcing the call for rapid and bold action at all levels. Although agriculture and food systems have the potential to mitigate climate change, they are also highly vulnerable to its effects. Complex and intense climate variations are leading to reduced agricultural productivity, lower incomes, food price volatility, unreliable delivery, and compromised food quality, all of which contribute to food insecurity (Ortiz-Bobea et al., 2021; Vermeulen et al., 2012). According to one the latest report of the Intergovernmental Panel on Climate Change (IPCC, 2022), certain agricultural measures that are considered sustainable may have trade-offs[10], resulting in negative or unintended effects on adaptation or other ecosystem services. A food systems approach is seen therefore as a valuable perspective from which to address linkages and trade-off in a holistic manner, bridging the gap between production and conservation, social, environmental, and economic objectives (Eriksen et al., 2010; Sage, 2022).

These trends have motivated what has emblematically been referred to as a 'new food equation' (Morgan & Sonnino, 2010), signalling the renewed engagement of policymakers, planners, and scholars on the strategic and multifunctional role of food systems in the public agenda. Cities are said to be now at the forefront of this equation, corresponding to around 70% of all the food being consumed, transported, and processed and about 80% of the total value of global food markets[11] (Tefft et al., 2020). Furthermore, food insecurity, once considered a problem exclusive to rural areas, is now also prevalent in urban contexts, affecting approximately 32 to 43 percent of the total urban population in low-income countries (Tefft et al., 2020) and surpassing the rates in some rural areas (Tefft et al., 2017). Urban spaces are starting to be increasingly re-signified as crucial scales of political and ecological action, as well as key social arenas for the achievement of the sustainable development goals in food systems (UN-HABITAT, 2020). United Nation's declaration that more than one half (56%) of the world population is currently living in urban areas[12] and around 68% will in 2050[13] (United Nations, 2019) has reinforced these claims, consolidating what has started to be

[9] Including production, processing, packaging, transportation, and distribution of food.

[10] For instance, mitigation initiatives such as biofuel crops or agroforestry, in dry environments, may increase carbon stocks but reduce water yields and compete for food production and agricultural land (Windham-Myers et al. 2018; Kuwae and Hori 2019; Schrobback et al. 2011 in IPCC, 2022). Similarly, depending on the context, some agricultural practices may contribute to climate change adaptation and mitigation while resulting in lower yields and causing land-use changes elsewhere, which can lead to net increases in GHG emissions (Erb et al., 2016; Pretty et al., 2006 in IPCC, 2022).

[11] Global food markets have been estimated to account for about 10 percent of the USD 80 trillion global economy (Van Nieuwkoop, 2019)

[12] 75% of the population in the European Union was already living in urban areas by 2021 (71% in Italy and 67% in Portugal), compared to 81% of OECD members, and 83% of the United States of America (United Nations, 2019).

[13] This could represent an additional 2.5 billion people living in urban environments with about 90% of this increase coming from Asia and Africa (United Nations, 2019)

represented as an ‘urban turn’ or ‘urban age’ in global discourses. Global population growth is now expected to increase to about 9.7 billion people by 2050 (United Nations, 2022), most of which will be absorbed by urban areas, especially in the global south, carrying on an unprecedented demand for food, water, energy, and materials. In fact, urban areas are considered major consumption spaces (Barles, 2010), corresponding to only about 3% of our planet’s land surface, but reported to be responsible for around 75% of global use of resources and 60-80% of greenhouse gas emissions (Paccione, 2009, Gladek et al., 2016). This progressive concentration of resources, movements and people is manifesting concomitantly with broader territorial transformations, continuously occurring in support or as a consequence of urban densifications through ongoing processes of creative destruction (Brenner, 2014), implosion/explosion (Lefebvre, 2003 [1970]) and contested restructuration, production and rework of new socio-spatial arrangements (Brenner, 2014; see subsection 3.1). The ‘planetary urbanisation’ to which we are confronted under contemporary capitalist industrial development is expressed by a dynamic, variegated and multiscalar process of socio-spatial transformations that can be represented by the various moments of concentrated, extended, and differential urbanization (Brenner & Schmid, 2015).

Food issues were for long neglected and absent from the urban discourse, being perceived as a taken-for-granted issue, grounded, and naturalized on rural settings and conditions (Pothukuchi & Kaufman, 1999; 2000), especially its agricultural production dimension. This historical absence of an ‘urban food question’ (Morgan, 2015; Deh-Tor, 2021) has been reinforced by rapid urbanization processes emerging and conceptualized in opposition to a rural world (Pothukuchi & Kaufman, 1999). This dualism or contraposition between the city and the countryside has furtherly been amplified by traditional divisions of public policies and planning, naturalising specific socio-spatial configurations connected to a ‘rural’ or ‘urban’ that rendered food issues in diverse urban regions imperceptible (Battersby, 2011; Spann, 2017 in Sonnino & Coulson, 2021). As Jane Battersby (2017) discusses for the case of Cape Town, South Africa, this absence has also had unintended negative impacts on food and nutrition security, with urban planning policies, decisions and regulations acting as barriers to the implementation of effective food policies (Huang and Drescher, 2015; Davies et al., 2021) and contributing to the transformation of cities into food-disabling environments (Tornaghi, 2017). This, in turn, has come also with the invisibility of the quite rapid and widespread transformation of food systems, with more intensive, industrialized, and homogenized agricultural practices and landscapes, along with diets, food habits and metabolisms, equated today principally as a ‘rural’ phenomenon. As expressed by Brenner and Schmid (2015), the non-urban realm is now starting to be internalized into the very core of urbanization processes, offering new epistemological orientations that go beyond the classic dichotomy of an urban-rural opposition. The urban and the rural have lost their meanings as adjectives – as simple qualifiers of city and countryside (Monte-Mor & Castriota, 2018) – in a moment when their duality and division is increasingly being complexified by a *rural-urban continuum*, sometimes juxtaposed (Santangelo, 2019), superposed, telescoped, or absorbed into one another (Lefebvre, 1974). On the contrary, the spaces produced out from these processes are now increasingly considered integral components of the urban, included not only in the materiality of ‘city space’ and settlement areas, but also in the resulting connectivity infrastructures, service networks, productive and extractive landscapes, as well as on its (urban) political possibilities, imaginaries and ‘(re)politicization’ processes (Lefebvre, 1992 [1974]). These are all factors and components consenting and reinforcing a complete access and operationalization of broader geographical areas by a growing urban society (Gottmann, 1961; Katsikis, 2018; Monte-Mor & Castriota, 2018).

Urbanization is considered a strong transformative force which is reshaping the world's urban and rural landscapes (UN-habitat, 2017), becoming a determinant factor, and resulting expression of the profound socio-spatial transformations of food systems over the past 70 years (Brenner & Schmid, 2015). Food systems are at the base of the emergence of urban cores, providing basic metabolic requirements to a growing non-agricultural population (Scott & Storper, 2015) while being subjected to enormous bio-cultural changes in support and as a consequence of the increasing urbanization of society, not only in terms of new infrastructures or city farming (Despommier, 2013) but also in terms of new lifestyles, nutrition transitions (HLPE, 2017; Popkin, 1993), consumption requirements, production practices and broader social and spatial transformations in the way we produce, distribute, consume, and even think and talk about food in contemporary urban capitalist developments (Brenner & Katsikis, 2020). These transformations are embedded and materialized in the consolidation of contemporary agri-food systems (Wiskerke, 2009), being determinant factors in the very structure of cities, regions, and contemporary urban food landscapes (Sedelmeier, 2018).

The food issue is re-emerging in this context also as an inherently 'urban question' (Castells, 1977; Morgan, 2014; Deh-Tor, 2021), with entrenched power dynamics, consumption patterns and specific socio-spatial configurations, determining the access, logistics, consumption, socialization, and production of food in both urban cores and operational landscapes[14] (Brenner & Katsikis, 2020). It is in this context that, after a long absence of the food system from the urban discourse (Pothukuchi and Kaufman, 1999, 2000), a renewed interest among academics, planners, civil society and local authorities to engage in integrated urban food policies, strategies and planning has emerged (Sonnino, 2009; Morgan, 2009, 2013; Forster et al., 2022; FoodClic, 2023), consolidating the development of what has been seen as a new 'urban food agenda' (FAO, 2019a) and stronger 'urban-rural linkages'[15] (UN-Habitat, 2017, 2019). In recent decades, social and institutional restructuring processes such as decentralisation, the 'hollowing out of the state' (Jessop, 2000), and multi-level governance have led to local governments, civil society, and the private sector assuming greater responsibility and ownership of the functions, management, and governance of agriculture, health, and food systems (Resnick, 2023). Many cities, regions and supranational authorities have started to develop their own strategies and targets for food, tourism, and climate change, highlighting opportunities to reintegrate food systems into urban-rural agendas, such as tourism, landscape and climate action plans (CAPs) (Sustain, 2022, 2023; Delgado, 2023b, IPES-Food, 2023), with emblematic examples coming from Toronto (Canada), London (UK), Curitiba, Belo Horizonte (Brazil), Rosario (Argentina), Quito (Ecuador), Kansas City[16], New York City (USA), and Milan (Italy), among many others. However, while these efforts are important, there is a need to further strengthen cross-jurisdictional work. Food system challenges require greater cooperation between multiple scales and actors, including cities and their surrounding territories (Resnick, 2023). The materialization of these engagements has been reflected in recent international and regional agreements and initiatives, such as the Milano Urban

[14] Neil Brenner and Nikos Katsikis propose the concept of operational landscapes as a critical dimension for analysing the urban-rural (hinterland) question in contemporary urban capitalist developments (2020). With this concept, the authors delineate the multiplicity of non-urban spaces that are drawn into and 'operationalised' by the needs and complex dynamics of urbanisation processes, including different settlement types (cities, towns, villages, hamlets), land use configurations (agrarian, industrial, extractive, energy, supply, logistic) and ecologies (terrestrial, oceanic, subterranean, atmospheric, etc.). From this approach, the authors refer not only to the spaces surrounding "the city", but also to the extended "non-urban" productive landscapes that are increasingly interconnected "through extended material, operational and informational linkages (...) within the global metropolitan network" (Brenner & Katsikis, 2020).

[15] UN-Habitat (2019) defines urban-rural linkages as the reciprocal and repetitive flow of people, goods, financial and environmental services between selected rural, peri-urban and urban localities.

[16] Regional Climate Action Plan of the Kansas City region (MARC & Climate Action KC, 2021)

Food Policy Pact (MUFPP), the 2019 C40 Good Food Cities Declaration (C40, 2022a) and Accelerator (C40, 2022b), the Global Covenant of Mayors (GCoM), the 2021 UN Food Systems Summit, the urban food system coalition (UFS Coalition, 2022), the Barcelona Challenge for Good Food and Climate (BCN Challenge, 2021), and the Glasgow Food and Climate Declaration. Further engagement is also seen in food city and policy networks, rural-urban food alliances (López-García & González de Molina, 2020) and (urban) food policy councils, such as the sustainable food places network in England, the city network for agroecology in Spain (López-García et al., 2020), the SFS-MED Platform in the Mediterranean area (One Planet Network, 2023), the EIT Food in Europe, the Johns Hopkins' Food Policy Network project and the more than 300 food policy councils in the USA (Center for a Livable Future, 2020). Recent European initiatives represent also important efforts in this regard, such as the FOOD2030[17] and Farm to Fork Strategy (EU, 2020a), the upcoming sustainable food systems legislative framework (EC, 2023), and their food-related projects, such as *Food Trails*[18], *Fussili*[19], *CLEVERFOOD*[20], *FoodShift*[21], *Foode*[22], *FoodCLIC*[23], *Cities2030*[24], *SchoolFood4Change*[25], among others[26].

Increasing urbanisation processes are opening new challenges and opportunities to ensure a sustainable, nutritious, and inclusive agri-food system along the urban-rural continuum (FAO, 2023a). This growing recognition calls for greater efforts to integrate and analyse the multidimensional role of food in current policies and actions, as well as to shed light on emerging initiatives, practices and strategies that are and can provide local responses to contemporary challenges. This is even more relevant today given the growing evidence on the impacts, vulnerabilities and potential improvement of agrifood systems, that are recognised in recent global and national commitments, such as the Sustainable Development Goals (SDGs) and 2030 Agenda, the long-term temperature and adaptation goals agreed in 2015 in the Paris Agreement[27], the COP28 Emirates Declaration on Sustainable Agriculture, Resilient Food systems and Climate Action (COP28, 2023), as well as the environmental targets adopted in the new European Green Deal[28],

[17] EU's research and innovation policy framework supporting the transition towards sustainable, healthy, and inclusive food systems, that respect planetary boundaries (EC, 2024a).
[18] Consortium of 19 partners, including 11 EU cities, 3 universities and 5 food system stakeholders (Food Trails, 2024).
[19] Through cooperation, knowledge sharing and mutual learning, the project supports 12 pan-European cities (and their peri-urban areas) to address the challenges of the food system transformation (Fusilli, 2024).
[20] Facilitate a society-wide mobilisation to transform the European food system in alignment with the EU Food 2030 Policy Framework, Farm to Fork Strategy and Fit for 55 Package (Food 2030, 2024).
[21] Build an ambitious citizen-driven transition of the European food system towards a low carbon circular future, including a shift to less meat and more plant-based diets (FoodSHIFT 2030, 2024).
[22] Accelerate the growth of citizen-led city-region food systems (CRFS) by bringing local initiatives across Europe together, as well as co-developing and disseminating a range of tools (FoodE, 2024).
[23] Create strong science-policy-practice interfaces across eight European city-regions (45 towns and cities), through Food Policy Networks (EC, 2024b).
[24] Bring together urban food systems and ecosystems (UFSE) agents to create a structure focused on the transformation of the way systems produce, transport, supply, recycle and reuse food (Cities2030, 2024).
[25] Promote sustainable and healthy diets in over 3,000 schools and 600,000 children in 12 EU countries (EC, 2024c).
[26] Circwaste, FOODRUS, RURALIZATION, SMARTCHAIN, Strenght2Food, DECISIVE, HOOP, InnoFoodAfrica, i-REXFO LIFE, LIFE FOSTER, SCALIBUR, SiEUGreen, SISTERS, UNaLab, VALUEWASTE, ZeroW
[27] Article 2 of the Paris Agreement to the United Nations Framework Convention on Climate Change (UNFCCC) sets the long-term goal of substantially reducing global greenhouse gas emissions to limit the global temperature increase to well below 2°C above pre-industrial levels and to pursue efforts to limit the temperature increase to 1.5°C above pre-industrial levels. Article 7 sets the global adaptation goal (GGA) to enhance adaptive capacity, strengthen resilience and reduce vulnerability to climate change in the context of the Agreement's temperature goal (UNFCCC, 2015)
[28] EU countries commit to reduce net greenhouse gas emissions by at least 55% by 2030 compared to 1990 levels and to become the first climate neutral continent by 2050 (EC, 2023).

including the National Restoration Law[29], the New European Bauhaus (NEB), and the Farm to Fork Strategy for the agrifood sector. The complexity and dynamics of these processes require the integration of systemic approaches to unravel and understand the impacts and mechanisms of these transformations, linking multiple disciplines and sectors, urban and rural dynamics, in the design of more sustainable food systems. Landscape policies related to food, tourism and climate adaptation strategies have multiplied in the last three decades, representing a critical level of analysis, planning and management of the relationship between people, ecosystems, cultural features, and local economies (Sayer et al., 2013). This chapter begins by exploring the theoretical approaches that underpin the study of food system transformation, providing an initial look at the social spaces and structures shaping our daily access to, production, consumption, distribution and overall relationship with food, that will be addressed here through a food landscapes approach (see Council of Europe, 2000 and discussion in subsection 4.1).

1.2. Food Systems Transformation: a new buzzword?

Deriving from the Latin word (prep.) *trans-*, meaning "across, beyond, through" and the verb *form, formare, "to shape, fashion, build",* and its figurative, *forma*, "form, contour, figure, shape", transformation can be interpreted as a change in shape or metamorphose, or brought to the context of this research, as the change of spatial forms and social relations connected to the way we eat and feed each other. Building on Patterson et al. (2017), Roberta Sonnino defines food system transformation as "a fundamental change in the structural, functional and relational aspects of the food system that leads to new patterns of interactions and outcomes" (2023). As the authors notes, the emphasis on food systems transformation has been recently gaining increasing recognition by the scientific community and international organisations, pointing to both the rapid changes of recent decades, as well as the need for a 'Great Transformation' to improve food systems sustainability and both human and planetary health and resilience (Caron et al., 2018; Willet et al., 2019; Lucas & Horton, 2019; Pereira et al., 2020; EC, 2020a; Benton et al., 2021; Fanzo et al., 2021; Ruben et al., 2021; FAO et al., 2021; Yates et al., 2021; Dengerink et al., 2022; Béné, 2022; Resnick & Swinnen, 2023; FAO et al., 2023).

Food systems have undergone significant transformations over the past 70 years, resulting in rapid modifications of spatial configurations and social relations. These changes have been reported for example in changing food demands (Cockx et al., 2019), land use changes (Winkler et al., 2021), technological innovations[30] and a 'Green Revolution' (Pingali, 2012; Patel, 2013; Barrett et al., 2020; Dengerink et al., 2022), as well as in vertical integrations and 'supermarketization' of food supply and retail (see Crush & Frayne, 2018 in Africa and Anand, 2009 in the Americas); the intensification of arable farming (Stoate et al., 2001); the globalization and homogenization of food biodiversity (Stohlgren et al., 2013; Khoury et al., 2014), the 'westernization' of diets (Pingali, 2007), and their related 'nutrition transitions' (HLPE, 2017; see Popkin & Reardon, 2018 in Latin America). Other authors are also reporting food system changes related to climate change (Campbell et al., 2023), agricultural transformations (Timmer, 1988), rural abandonment (Martí & Pintó, 2012; Serra et al., 2008) and landscapes (Coomans et al., 2019), most of which have been connected to urbanisation processes (de Bruin et al., 2021). In her early seminal book, *The Conditions of Agricultural Growth*

[29] EU countries commit to restoring at least 30% of habitats covered by the new law (from forests, grasslands and wetlands to rivers, lakes, and coral reefs), rising to 60% by 2040 and 90% by 2050 (European Parliament, 2024).
[30] Such as the Haber-Bosch process of nitrogen fixation (see footnote **Error! Bookmark not defined.**).

(1965), Ester Boserup identifies the relationship between population growth, urbanisation and its pressure for agricultural change as the primary cause of land use intensification and the transformation of food production systems. Similar observations were made by J. H. von Thünen (Hall, 1966[1826]) in his regional land use model, in which he presents the relationship between increasing agricultural intensification, with higher labour and capital inputs, the cost of land and food products, and its distance from urban and market centres, organised in so-called concentric zones (see subsection 4.1.5 and Figure 20). These transformations have had both positive and negative impacts on ecosystems, rural-urban linkages, diets and health (Vermeulen et al., 2020), including external costs to society (FAO, 2023a) and a lack of incentives to correct them (Stoate et al., 2001).

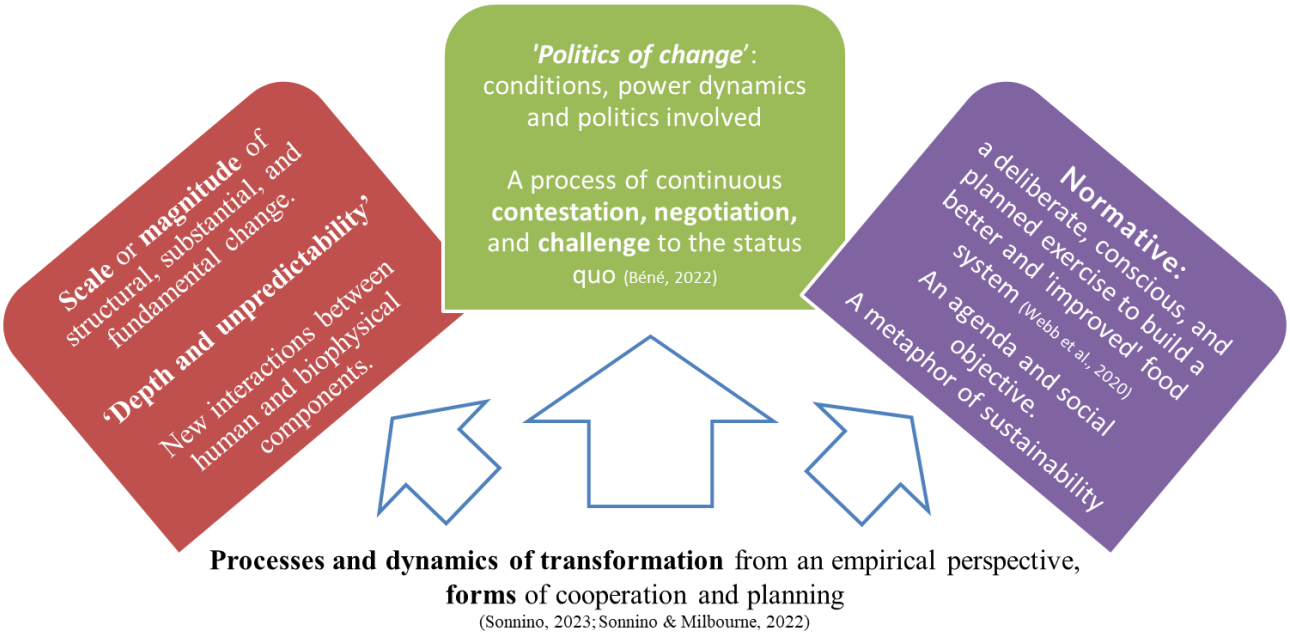
Building on these works, Béné et al. (2019) identify 12 distinct drivers of food systems transformation, grouped in four key food system components (consumption/demand, production/supply, distribution/trade). These include urbanisation, rising consumer incomes, population growth, increased attention to diet and health issues, technological innovations, the intensification and homogenisation of agriculture, the increased frequency and intensity of extreme events, soil degradation and general changes in agro-ecological conditions, improved access to infrastructure and information, trade policies and other related influencing factors, the internationalisation of private investments, and concerns about food security. As presented by the EAT-Lancet Commission, food transformations are also part of complex systems of incentives and regulations involving multiple actors and scales in the way we eat and feed each other. These views highlight the need for approaches that focus not only on single sectoral areas, but on integration, collaboration, and cooperation across multiple sectors to ensure coherent and informed decision-making and trade-offs in policy prioritisation, for example between agriculture, urban policies, environment, transport, health, trade, finance and education (Lucas & Horton, 2019). Achieving the goal of a 'Great Food Transformation' will therefore require the cooperation and commitment of multiple stakeholders and the adoption of an unprecedented range of actions[31] across all food system sectors and actors (Willet et al., 2019; Edwards et al., 2024).

Christopher Béné (2022) traces three different meanings of 'transformation' used in the specific context of food systems: the first, and most commonly used, refers to the 'scale or magnitude' of structural, 'substantial', 'fundamental' and 'drastic' changes that generate new interactions between the human and biophysical components of food systems (Béné, 2022; see subsection 2.4.6 and **Error! Reference source not found.** on social-ecological systems). This meaning emphasises the 'depth' and unpredictability of the outcomes of change rather than its trajectory or normative aspects, describing a food system in continuous transformation (Béné, 2022) with both positive and negative consequences. The second refers to transformation as a ‘political process’, in terms of a *'politics of change*', seeking to interrogate the conditions, power dynamics and politics involved in its transformation, including the causal mechanisms of change (the 'how'), its socio-spatial configurations and beneficiaries. This approach emphasises transformation as a process of continuous contestation, negotiation, and challenge to the status quo (Béné, 2022). Finally, the third and most recent approach focuses on the normative aspects of transformation, as a deliberate, conscious, and planned exercise to build a better and 'improved' food system (Webb et al., 2020). In this sense,

[31] The Lancet Commission outlines specific and actionable strategies to achieve these required transformations, which can be summarised as: 1) seeking international and national commitments to shift towards healthy diets; 2) reorienting agricultural priorities to produce healthy foods; 3) sustainably intensifying food production to increase healthy quality outputs; 4) strong and coordinated governance of land and oceans with zero expansion of new agricultural land; and 5) halving food loss and waste (Willet et al., 2019).

transformation becomes an agenda and social objective, being referred to as a 'metaphor' and 'new policy language' (Scolobig et al., 2023) to describe the sustainability of the system and its development goals rather than an analytical concept or methodological framework for achieving it (Sonnino, 2023). Recent efforts have contributed to moving beyond normative frameworks and establishing analyses that can track and monitor the ongoing transformation of the food system to meet global development, health, and sustainability goals, such as the Collaborative Framework for Food Systems Transformation presented by UN Environment (2019) under its Sustainable Food Systems Programme (SFS), and the holistic indicator framework and monitoring architecture, or so called Food Systems Countdown Initiative[32], proposed by Fanzo et al., (2021), and assessed by Schneider et al., (2023) in a global, multi-stakeholder, multi-institutional collaboration.

FIGURE 2: TYPES OF APPROACHES AND MEANING TO FOOD SYSTEMS TRANSFROMATION FOUND IN THE LITERATURE.



SOURCE: ELABORATED BY THE AUTHOR BASED ON BENÉ, 2022; WEBB ET AL., 2020; SONNINO & MILBOURNE, 2022; SONNINO, 2023.

In his examination of the role and theoretical and epistemological foundations of food transformations within the field of 'transition theories', Poulain (2021) provides a useful and complementary framework based on three different approaches. The first perspective identifies transformations as the processes involved in the transition from one stable state to another. It emphasises the cultural and biological interactions that determine these changes and their consequences, including studies such as the demographic transition[33] (Notestein, 1945) and the food transition (Poulain, 2000). The second perspective presents transformation as a linear evolution[34] distributed across a series of more or less

[32] The FSCI is a collaborative effort to monitor the transformation of global food systems by 2030 towards more equitable, sustainable, and resilient food systems that contribute positively to the achievement of the 2030 SDGs and other global goals. The architecture covers around 50 indicators across five thematic areas related to (1) diet, nutrition and health; (2) environment and climate; (3) livelihoods, poverty and equity; (4) governance; and (5) resilience and sustainability (Fanzo et al., 2021; Schneider et al., 2023).

[33] Poulain (2021) links these perspectives to the theory of 'cultural lag', developed by William Ogburn (1922), which is defined as 'the lag in the adaptation of cultural systems' to technological innovations and their impacts

[34] As Poulain (2021) reports, Livi-Bacci (1987) and Montanari (1993) present a useful critique of the globalising model promoted by demographic and epidemiological transition studies. Their analysis demonstrates that, contrary to the progress indicated by these models, the transformations experienced during the 17th and 18th centuries towards

stable stages, focusing on the analysis of the changes in the structure within each of these stages, in what the author calls a 'theory of stages". In this section, the author identifies and discusses analyses such as the epidemiological transition and the nutritional transition (Popkin, 1993; 2002), as well as the obesity transition (Poulain, 2009). The third and final perspective identified by the author synthesises the preceding two perspectives of transitions and stages. This approach to transformations is characterised by an 'evolutionary and progressive movement', which incorporates the concept of 'reversibility of change'. This includes studies such as the protein transition (Drewnowski & Poulain, 2019), the role of food policies, as exemplified by the case of nutrition transitions (Winson & Choi, 2017) or transformative adaptation to climate change (Few et al., 2017; Vermeulen et al., 2018; Fedele et al., 2023). Poulain (2021) underscores the importance of challenging evolutionary ideological assumptions that identify transformations as 'inevitable' processes, suggesting a stronger empirical link with the social world, while taking into account the variety of empirical situations at the infra-national or territorial scale.

1.3. Food system transformations: recent works and critiques

As seen in Christopher Béné (2022), food system transformations have often been analysed in terms of changes and modifications made to an established base that deviates from its 'original' and/or 'natural' state (similar to the two-step transition identified by Poulain). This perspective can give the impression that something structured and static is being transformed, resulting in a new configuration with unpredictable and (un)desirable outcomes. On the contrary, transformations are better described as ongoing 'dynamic complex processes' (Scolobig et al., 2023), or 'trajectories': a continuous movement, negotiation, conflict and flux between different paths, actors, and interests (as seen in the first and second approaches described by Béné, and in the evolution and 'reversibility of change' proposed by Poulain). At the same time, food systems exhibit a propensity towards a relatively stable configuration of interactions and outcomes. This is what Leeuwis et al. (2021) refer to as a dynamic stability and the formation of '*emergent properties'*, maintained and reproduced by context-specific social and spatial configurations. In their 2021 study, Cees Leeuwis and colleagues identify six key features that are relevant for the evaluation of food system transformations. These comprise the analysis of: 1) *emergent properties* resulting from current food system configurations; 2) *human activities and interactions* as central components operating at different levels and with different trade-offs and path-dependencies; 3) *diversity between and within food systems*, regarding the operation of multiple parallel systems; 4) *diversity between actors'* views, values and interests, leading to the conceptualisation of food systems as social 'constructs'; 5) *self-organizational dynamics* in food systems, with a focus on the spontaneous evolution and emergence of new patterns and orders; and 6) the *dynamic stability and resilience* of food systems.

Taking a third, 'normative' approach to food transformation, Dengerink et al. (2022) emphasise not only the pursuit of change per se, but the influence on the direction in which food systems evolve, and the pace at which this happens, or, in other words, the "governance effort" required "to alter undesirable emergent system properties into desirable properties" (Leeuwis et al., 2021). These processes converge not only at the social-human level, but also in the dynamic and continuous ecological and environmental changes that constantly influence and condition the evolution of a

monocultures and agronomic progress led to a worsening of the quality and availability of a diverse diet, especially at the individual level, in the European populations of this period.

system. For example, in their analysis of urban governance, Coaffe and Healey (2003) identify a number of different levels and dimensions of transformation. These include specific episodes of change, broader governance and mobilisation processes, as well as changing cultures. De Bruin et al. (2021) concentrate on the identification food systems transformations mediated by urbanisation processes (see Figure 31), as well as the enabling conditions that contribute to the improvement of rural livelihoods (see Table 5). Other researchers have also analysed the role of the science-policy interfaces in facilitating transformative pathways (Hainzelin et al., 2023), identifying fundamental paradigm shifts to overcome trade-offs and build synergies (Ruben et al., 2021), as well as the development of new research agendas to improve the understanding of the role of governance in achieving food sustainability (van Bers et al, 2019). These include the need for greater efforts in *comparative research*, the use of *polycentric approaches* for the analysis of complex governance networks, the importance of analysing the conditions and antecedents of *past transformations*, as well as the identification of *adaptation measures* that strengthen or weaken path dependency, and *supporting institutions* for collective action (van Bers et al., 2016, 2019).

In her study on food transformations from an urban approach, Roberta Sonnino (2023) presents a similar critique, identifying a current general focus of the food literature on desirable transformation goals rather than on the analysis of their processes and catalytic elements, highlighting the need to develop more empirical studies that test transformative dynamics and promote better outcomes in their interventions, especially when dealing with urbanisation processes. Sonnino suggests the need to go beyond the third normative approach presented by Bené (2022) and to unravel the complexity of food system transformation by focusing on its processes and dynamics from an empirical perspective (Sonnino, 2023; Sonnino & Milbourne, 2022). In doing so, the author emphasises the need to reorient (urban) food research and policy agendas towards the analysis of forms of cooperation and planning between actors, disciplines, stakeholders and, crucially, the role of their different levels of governance and policy integration in the transformation of contemporary food systems (Edwards et al., 2024; Hebinck et al., 2021; FoodClic, 2023). This can be achieved not only by examining causalities between different elements or sustainability goals, but also by recognising the 'historical context' (Parsons et al., 2021) of the underlying mechanisms (Few et al., 2017) and strategies that have underpinned past, long-lasting, and empirically demonstrable transformations (Sonnino, 2023), with the aim of informing future interventions and trajectories. In their discussion of the issue of transformation in relation to climate change adaptation, Few et al. (2017) identify four main typologies of ‘mechanisms of change’. These are: 1) innovation, which refers to the development and application of new activities; 2) expansion, which refers to the scaling up or intensification of existing activities; 3) reorganisation, which refers to the substantial change in governance structures; and 4) reorientation, related to the reconfiguration of social values and relations. Furthermore, the authors identify three categories of adaptation target outcomes, namely instrumental, progressive, and radical, which are situated within two typologies of transformation objectives: transformational (changing adaptation practices) and transformative (changing different aspects of development through adaptation).

Caron et al. (2018) emphasise the limits of addressing local and global food system challenges through ‘incremental’ change, arguing for the need of a 'transformation' of food systems, not as an expontaneous and fragmented process, but as a 'well-designed and carefully planned social process involving all stakeholders' in its financing, implementation and monitoring, especially at the local level. The authors identify three prerequisites for a successful implementation: 1) the design and testing of *adequate metrics* to support decision-making; 2) greater *political synergies and*

convergence between local priorities and global agendas; and 3) *territorial approaches* to incentivise local adoption and implementation of actions. Furthermore, the authors put forth four fundamental elements that must be addressed in order to achieve the significant changes necessary for a comprehensive transformation of food systems. These are: 1) ensuring that all people have access to *nutritious and healthy food*; 2) reflecting *sustainable agricultural production and food value chains*; 3) mitigating *climate change* and increasing resilience; and 4) fostering the *renaissance of rural territories* and the extraordinary potential of territorial institutions. More recently, the work of Edwards et al. (2024) provide key insights on the contribution of policy integration for food systems transformation. The authors identify a number of key areas of work requiring further attention, including: 1) the need for different *types of knowledge*, 2) critical approaches to overcome the limitations of *siloed thinking*, 3) the promotion of action at different *scales*, as well as 4) the *integration* of food with other sectors. In their literature review, Hebinck et al. (2021) investigate the potential for urban food practices to drive transformative change. They identify key indicators for sustainable food system transformation based on the processes and outcomes of urban food policies, programmes and initiatives. These include the adoption of a *city-region* perspective, the creation of *spatial synergies*, influencing *consumer decisions*, *mobilising* key actors, reclaiming and recreating *urban space*, *strategic planning* and integrated and *participatory* approaches. In a similar exercise, the FoodClic project (2023) identifies the principal facilitators and barriers to the development and implementation of evidence-based and integrated food policies and planning frameworks. These include the fractured nature of food systems, siloed approaches, lack of coordination and competencies, scarcity of resources and inertia of national governance., The authors also identify the following intervention areas: 1) the creation of *political commitment*, 2) the adoption of *endogenous approaches*, 3) the active and meaningful *participation* of actors, 4) *horizontal governance* integration around food, and 5) *multilevel (or vertical) governance* for food policies.

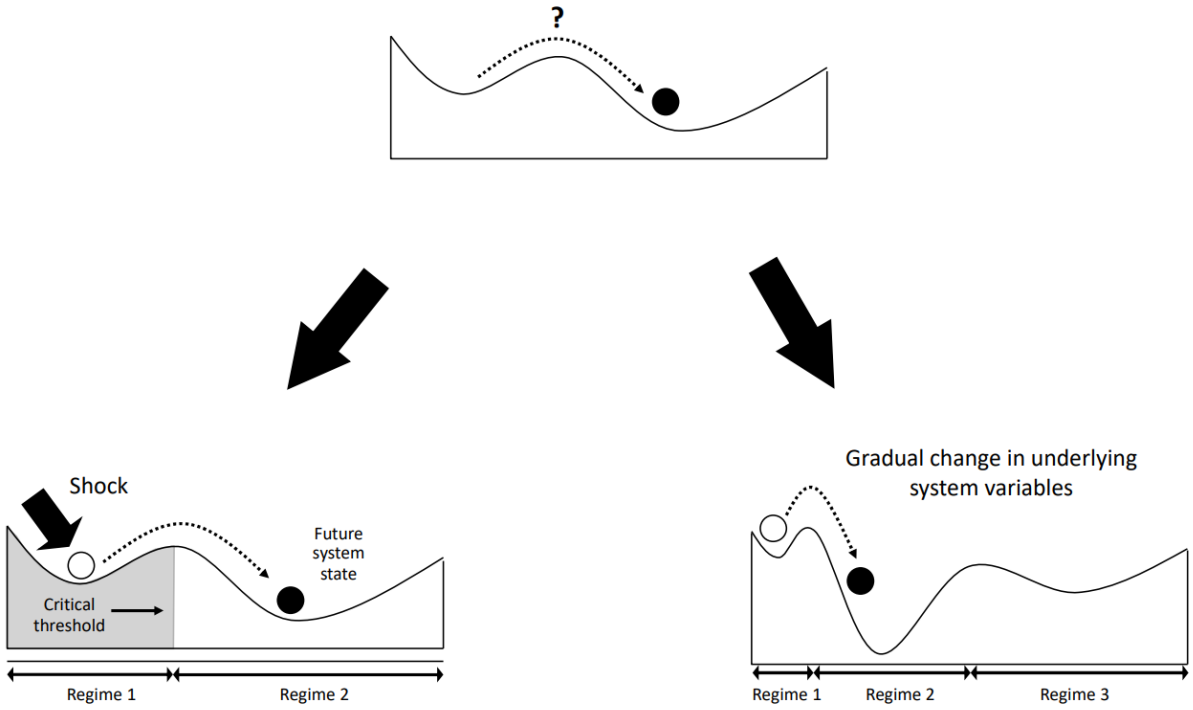
1.4. Theoretical models for the analysis of food system transformations

Food systems are always in a continuous process of adaptation to changing socio-ecological conditions, giving rise to new and innovative practices, knowledge, and ways of acting and living that are repeated and sustained over time. Innovative practices, generated in specific social, ecological, economic, institutional, and political contexts, enable the production and reproduction of specific socio-ecological dynamics and metabolisms. These innovations are often disruptive processes between and within practices, knowledge and 'cultures', leading to a new state of equilibrium, 'stability' or ‘regime’ (Friedmann & McMichael, 1989; Westley et al., 2011; Pereira et al., 2020).

These transformations can be illustrated by the broad social, economic, metabolic, and ecological changes brought about by the industrial and green revolutions, modern urbanisation, tourism and the development of capitalism over the last century, which are today being questioned by the need for a new 'Great Transformation' (Lucas & Horton, 2019; Béné, 2022). Based on their seminal study on *Agriculture and the State System*, Friedmann and McMichael (1989) configured these transformations along two main dominant systems, namely the *diasporic-colonial* (1870-1914) and the *mercantile-industrial* food regimes (1947-1973). In his book, *From Colonialism to Green Capitalism: Social Movement and Emergence of Food Regimes*, Friedmann (2005) identifies an additional transition of what he calls the *corporate-environmental regime*. Drawing on both socio-ecological and political-economic perspectives, Pereira et al., define (food) regimes as “the dominant ways in which processes operate within a system, associated with distinctive system structures” (2020). The author proposes

the analysis of socio-ecological innovations associated with three different 'regime shifts'[35], namely: 1) from a *labour-intensive subsistence agriculture* to a *commercial-industrial agriculture*, supported by the intensification of technologies and the breakthrough discovery of the Haber-Bosch[36] nitrogen fixation process between 1909 and 1913; 2) from *local traders* to the *convenience of global supply chains*, supported by the emergence of supermarkets and fast food chains; and 3) from *anonymous global supply chains* to *alternative food networks (AFN)*, supported by increased transparency and local organisation (Pereira et al., 2020; see Figure 3).

FIGURE 3: (FOOD) REGIME SHIFTS AND FOOD SYSTEMS TRANSFORMATION, INVOLVING GRADUAL CHANGES, SYSTEMIC FEEDBACKS AND SHOCKS IN THE TRANSITION TO FUTURE SYSTEM STATES.



SOURCE: PEREIRA ET AL., 2020.

Building on (sustainable) transition theories, Schot and Geels (2008) present a similar framework in their analysis of strategic niche management and the multi-level perspective, conceptualised as long-term transformation patterns between '*niche*' innovations (small-scale initiatives and knowledge systems), *'landscape factors'* (external pressures that can act as a catalyst for change, such as tourism development or climate change) and *socio-technical regimes*[37] (Geels and Schot, 2007; Fuenfschilling & Binz, 2018; Maye et al., 2023; see Figure 4). The application of transition theory in

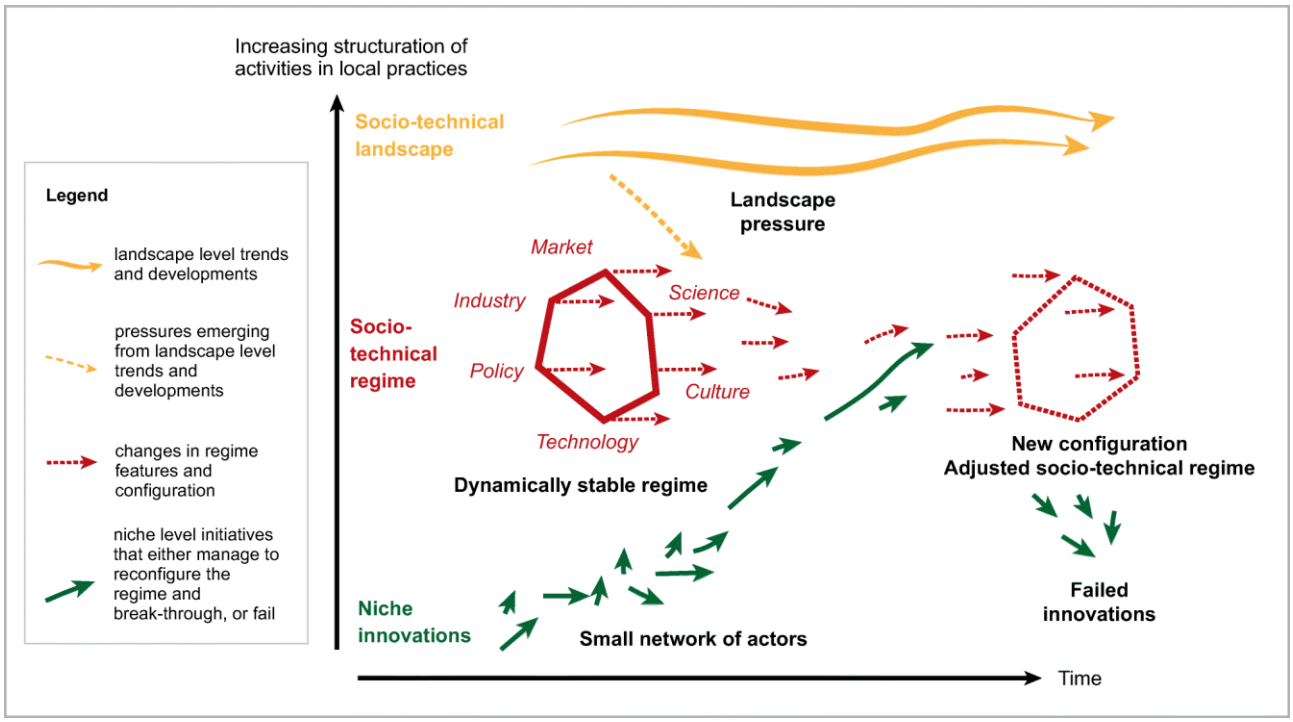
[35] As interpreted by Pereira et al. (2020), "regime shifts" can be seen as structural transformations supported by changes in systemic feedbacks, such as socio-spatial innovations, which can generate new regime 'basins'. Basis are interpreted as spaces of stability and resilience in the system structure, or changes in their depth.

[36] The Haber-Bosch process owes its name to the German chemists and Nobel Prize winners Fritz Haber (1868-1934) and Carl Bosch (1874-1940). Fritz Haber's work on high-pressure chemistry provided the scientific basis for synthetic nitrogen fixation, which was then applied by Carl Bosch to develop the industrial process in 1913, contributing to the production and availability of large quantities of ammonia for agricultural production (Chen et al., 2019). Before the spread of the synthetic Haber-Bosch process of nitrogen fixation, the productive capacity of an agricultural area was strictly determined by its geology, climate, soil types and the natural and organic availability of nutrients to ensure soil fertility. The nutrient cycle of the soil was closely linked to the availability of manure, determined by the local production and animal feeding capacity, and later by the transport of organic fertilisers from other regions (such as guano from South America).

[37] Socio-technical regimes are understood as systems of norms and principles that provide a reference point for social actions and behaviours, with particular attention paid to the processes of change within these regimes (Geels & Schot, 2007; Maye et al., 2023; Ingram, 2018).

food systems has also been the subject of further investigation by a number of researchers, including seminal works by Marsden (2013b), Hinrichs (2014), Cohen and Illieva (2015), Pitt and Jones (2016), Maye and Duncan (2017), Gaitan-Cremaschi et al. (2019), El Bialli (2019), Hebinck et al. (2021), and the series on Food System Transformation published in the Food Security Journal, including the works of Ruben et al. (2021), Leeuwis et al. (2021) and de Bruin et al. (2021), among others. Building on these works, Leeuwis et al. (2021) operationalise the MLP in their analysis of poverty and food system transformation, elaborating seven governance strategies and recommendations: 1) create and support *variation*; 2) capture and support existing *diversity*; 3) support temporary protection of *niche-level initiatives*; 4) develop landscape trend analysis and visioning; 5) promote (positive) *landscape-level pressures* and active regime destabilisation; 6) identify plausible *leverage points*; and 7) invest in *stakeholder processes*, coalition building, collaborative research and media presence.

FIGURE 4: MULTI-LEVEL PERSPECTIVE (MLP) ON FOOD SYSTEMS TRANSFORMATION.



SOURCE: LEEUWIS ET AL. (2021) ADAPTED FROM SCHOT & GEELS (2008).

An increasing number of authors have also begun to conceptualise food systems as *complex multi-dimensional* (Leeuwis et al., 2021), *adaptive* (Hall & Clark, 2010; Monasterolo et al., 2016; Chapman et al., 2017; Jagustović et al., 2019; Carmichael & Hadžikadić, 2019) and *socio-ecological systems* (Folke, 2006; Ericksen, 2008; Pereira et al., 2020). These systems are distinguished by a persistent state of transformation and reorganization, driven by positive (reinforcing) and negative (balancing) feedback loops that influence the formation and evolution of food "regimes" and "niches" through the emergence of new or maintenance of existing enabling factors, socio-spatial infrastructures, innovations, and configurations (see Figure 3; Jagustović et al., 2019 and subsection 2.6). These approaches are consistent with conceptualisations of resilience in ecological stability theory, described as the capacity of a system to return to its original state after a disturbance (Holling, 1973). More recently, resilience thinking has also been applied to the analysis of food, as the capacity of

food systems to achieve desired outcomes in the face of shocks and stressors[38] (Piters et al. 2021), of what has been reported before as the dynamic stability and emerging properties of current food system configurations (Leeuwis et al., 2021). Conceptualising food systems transformations as complex adaptive systems (CAS) and socio-ecological systems (SES) has analytical and conceptual implications, that require a system thinking approach for an adequate analysis of their dynamics and evolution. This means we cannot foresee or predict their precise trajectories, as they unfold along the inherent characteristics of CAS: heterogeneity, multi-causality, non-linearity, and self-organisation (Malden et al., 2015; Leeuwis et al., 2021). However, they share a common direction and path dependencies, also seen as 'emergent properties', through which we can say something about past drivers and mechanisms, as well as current properties and attractors towards which these systems have been and are navigating (Kuhmonen, 2017).

1.1. Towards the analysis of food systems transformation

Today's climate change, *touristscapes* (Amore & Roy, 2020; see subsection 5.3), urbanisation and metabolic imbalances are beginning to reflect the consequences of these transformations. Food systems are thus the tangible imprints of this continuous spatial, social, and temporal evolution, from what constituted the hunter-gatherer structure in many parts of the world, to the agrarian revolution and sedentism, mercantilism, colonialism, (bio)cultural changes (e.g., the *'Columbian Exchange')*, migratory movements, nation-state building and the current urbanisation of society, to name but a few (Lewis & Maslin, 2018). Food systems are the reflection and outcome of all these socio-ecological processes that have determined the forms and types of the food we consume and avoid, as well as the spaces and wider territories that these types of production systems and relations produce. These are dynamic processes that can be traced and analysed in the current socio-spatial configurations, contemporary cultures, and traditions of contemporary food landscapes (Kühne et al., 2023). Food is becoming an emerging space in tourism production and consumption, as well as in the emergence of new '*prosumption*' practices and communities (Ritzer, 2015), becoming increasingly vulnerable to the impacts of climate change (IPCC, 2022). At the same time, urbanisation, climate change and tourism development are becoming driving forces in the transformation of food systems and their ongoing socio-spatial organisation. The Mediterranean region has experienced significant environmental, economic, and social transformations that have impacted the livelihoods of its residents, their food security, nutrition, and regional sustainability. These changes are evidenced by the increasing abandonment of rural areas, hydrogeological risks, soil erosion, and a shifting socio-economic structure that is increasingly reliant on the tourism sector (McDonald, 2000). These challenges have prompted an increasing awareness and commitment among Mediterranean countries to develop clear pathways, strategies and actions that facilitate the transformation of agri-food systems towards sustainability (FAO et al., 2021). These complex and dynamic processes require a systems-oriented approach that considers the interconnections between places, both urban and rural, mountain and coastal, and their social and spatial dynamics.

This thesis seeks to build on the growing agreement and evidence that scholars, practitioners, communities and policymakers are gathering during the past 30 years on the fundamental role that

[38] Piters et al. individuate four key properties of food resilience, namely: 1) *Agency*, as the means and capacity of people to mitigate risk and respond to shocks; 2) *Buffers*, as the resources to respond to shocks; 3) *Connectivity*, as the interconnections and communication between actors; and 4) *Diversity*, referring to the engagement of all different scales, places, and segments of the system (2021).

food systems and their transformation play and can play in addressing the major goals, opportunities and challenges of our time, such as inequality, poverty, hunger, the double burden of malnutrition, climate change, environmental degradation and increasing urbanisation processes, among others (HLPE, 2017; FAO, 2022a; Sage, 2022). To this end, as Christopher Béné and Roberta Sonnino recognise, it is important to understand not only the transformation of food systems themselves, but also of governance systems (Béné, 2022; van Berg et al., 2019), harnessing the transformative capacity of food policies and interventions (Sonnino, 2023; Edwards et al., 2024). Sonnino and Milbourne (2022) also emphasise the role of "active mediators at the meso level" and of multi-level perspectives (MLP) that reintegrate vertical (local-global) and horizontal (sectoral and territorial) relationships to forge sustainable transformation models "across distance" and space through the construction of new (urban) food networks, forms of solidarity, governance and cooperation (Sonnino, 2023). The urban scale, from a place-based and landscape approach (see subsections 3.2 and 4.1.3 respectively), could offer key opportunities in this regard. However, as these authors emphasise, this also requires integrative approaches and analyses that focus on empirical evidence, the 'how', that can shed light on the causal mechanisms of transformation, past and present socio-spatial configurations, power dynamics and infrastructures at the basis of these processes. This includes understanding the drivers of system change, changes in system inputs and/or processes, and identifying leverage points that have already or can strengthen the drivers of system change (Minang et al., 2015). The analysis of these transformations can inform the development of future socio-spatial strategies and interventions, and forge more sustainable transformations of these systems by responding to the conditions, needs and opportunities of each context.

The next chapter problematises the concept of urban scale and space in relation to food, shedding light on food transformations related to urbanisation, tourism development and climate change in the European Mediterranean region from a socio-spatial and landscape approach. Finally, the thesis presents the methodological framework and the results of the analysis in the Central Algarve area in Portugal, and draws out the main recommendations and implications for regional and urban food planning compared to other Mediterranean coastal areas.

2. Urbanising (food) spaces: forms, approaches, and tools

2.1. Food systems and the problem of scale

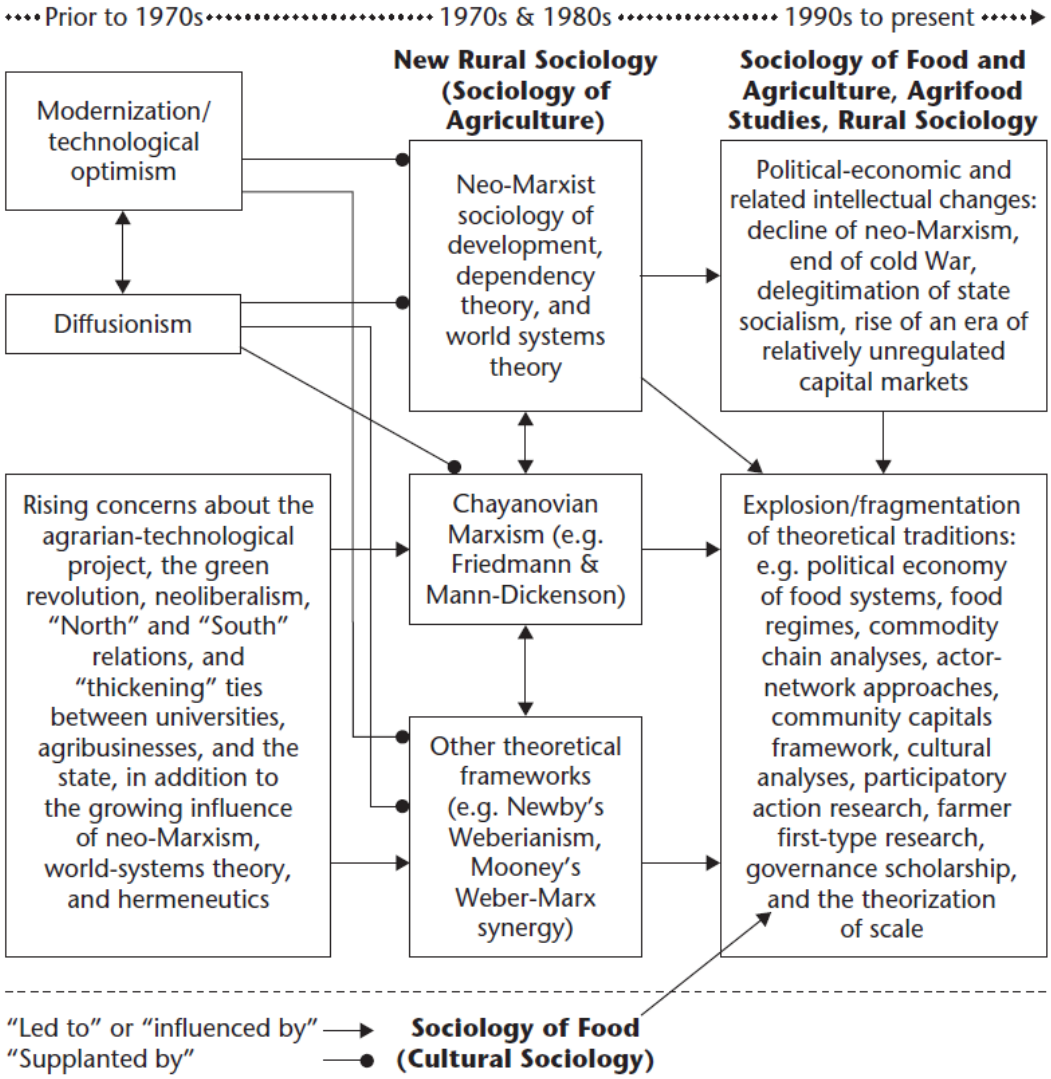
Food systems have been recently conceptualized as dynamic, complex, and mutually interacting socio-ecological[39] and economic systems, involving all human-environmental processes, elements (environment, people, inputs, infrastructures, institutions, etc.), activities and outputs related to the production, processing, distribution, preparation, consumption and disposal of food (HLPE, 2014; SAPEA, 2020; Zhong et al., 2021). Despite these recent comprehensive approaches, food systems have historically been addressed mainly as an agricultural issue, grounded in rural settings, and managed from a national or regional scale (Pothukuchi & Kaufman, 1999). As Michael Carolan describes in his book the *sociology of food and agriculture* (2012: 305), the analytic attention has primarily been centred on the production side, driven by rural sociologists in a so-called *sociology of agriculture.* On the other hand, there has also been a strong interest in consumption, eating culture and diets, especially in cultural studies, on what Carolan frames under a *sociology of food* (see also Poulain 2017[2002]), but noticing a different orientation from the agrarian political-economic basis of the previous approach. Carolan, working under the inspiration of Buttel (2001), maps the transition of food and agriculture in sociological studies, witnessing the reorientation of the literature towards a more systemic analysis, as presented above (HLPE, 2014), and the explosion and fragmentation of theoretical traditions and disciplinary boundaries (Carolan, 2012; see Figure 5). As referred to the case of agroecology, the scales and dimensions of analysis have been expanding from a focus on the field and farm towards a focus on landscape agroecosystems and a larger one on the whole food chain and system (Wezel et al., 2009; van Berkum et al., 2018). Besides the changing scales of conceptualization, authors have also recognised the reconfiguration of political scales and governance of food systems, 'moving up and down' (Borrelli & Marsden, 2018) in a shift from national to subnational (local, urban) and supranational levels, such as in the European Union (Herod, 2010). These changes have also been conceptualized as 'rescaling processes' (Brenner, 2001), 'glocalization' (Swyngedouw, 1997) and in broader institutional transitions of what has been seen as a 'hollowing out of the state' and multi-level governance (Jessop, 2000; 2013).

Scale as a conceptual problem was first addressed in the 1980s, with materialist and idealist approaches debating the ontological status of spatial scales (Herod, 2010). Scales have been generally interpreted as 'levels of representation' and 'organisational orders of the world' and increasingly debated as 'real' and 'mental' constructs. These approaches have tended to a view of scales as separate and distinct entities, or 'natural geographical units', situated within a hierarchy of spatial divisions that contain particular social processes at local, regional, national, or global levels (Herod, 2010). Cash et al., following Gibson et al. (2000), define 'scale' as the "spatial, temporal, quantitative or analytical dimensions used to measure and study a phenomenon". The authors distinguish it from 'levels', which are presented as 'units of analysis' located at different positions on a scale (2006). These debates were followed by more elaborated interpretations of scale, drawing on Marxist theories and political economy, on what came to be called the 'social production of scales' and 'scale-making

[39] Socio-ecological systems are complex, integrated systems in which humans are part of nature (Berkes et al., 1998). The social here refers to the human dimension and actions, including economic, political, technological, and cultural systems, while the latter refers to global ecological systems, including the biosphere and all living things, cycles and their relationships and dynamic interactions of an Earth system as a whole (Folke et al., 2016; see subsection **Error! Reference source not found.**).

processes' (Herod, 2010). These views examined scales not only in size and level but as a relation (Howitt, 1998). As displayed by Neil Smith: "there is nothing ontologically given about the traditional division between home and locality, urban and regional, national and global scales", rather the differentiation of geographical and administrative scales that are established and reestablished through the "geographical structure of social interactions" (1992: 73).

FIGURE 5: GENEOLOGY OF CONCEPTUAL TRANSITIONS IN THE SOCIOLOGY OF FOOD AND AGRICULTURE.



SOURCE: CAROLAN, 2012 (INSPIRED BY BUTTEL, 2001).

The question of scale in food systems analysis has been examined more explicitly in political, economic, and human geography (Hinrichs, 2000; Marston, 2000; McMaster e Sheppard, 2004; Herod, 2010), planning studies (Born & Purcell, 2006; Sonnino, 2010) and social sciences (Carolan, 2012). The discussion across these disciplines has dealt mainly with the problematization of the appropriate level of analysis (Born & Purcell, 2006), governance (Borrelli & Marsden, 2018; Delaney et al., 2018) and sustainability (Brunori et al., 2016; Schmitt et al., 2016), reporting an opposition between localizing and globalizing discourses (Hinrichs, 2003; DuPuis & Goodman, 2005; Wiskerke, 2009; Sonnino, 2010; Carolan, 2012). The discussion around scales has been critically displayed around the 'local' and 'global' trap debate (Born & Purcell, 2006; Sonnino, 2010; Carolan, 2012), alleging a pre-conceived assumption of scholars towards the local or global, as preferred, desirable, and 'inherently' good scales of action. This approach can be situated, as displayed by Wiskerke (2009), in the opposition between two food paradigms: the local, embodied in the alternative food

systems literature (Sonnino & Marsden, 2006; Rocha & Lessa, 2009; Dansero & Puttilli, 2014; Phillipov & Kirkwood, 2019; Kalfaianni & Skordili, 2019; González de Molina & Lopez-Garcia, 2021), and the global, usually equated to the industrialization, intensification and globalization of a highly efficient and modern agri-food chain (Born & Purcell, 2006; Wiskerke, 2009).

Born and Purcell (2006) offer a useful and broadly discussed critique of the problem of scale in food systems, arguing that there are no intrinsic qualities to particular scales, nor are they fixed or eternal. The theoretical approach stressed under these strains reflects, as presented by Howitt (1998), upon the social and relational character of scales. In their view, scales are not to be assumed as an end goal in themselves, nor as a pre-established ontological setting (Smith, 1992), but as a strategy, fundamentally relational and socially constructed through social and political action (Born & Purcell, 2006). Scales tend to manifest itself in the administrative and political divisions of power and territory. As expressed by Marston (2000), scales are 'not necessarily a preordained hierarchical framework for ordering the world', nor simple geographical levels of representation (local, regional, national, and global), but a 'contingent outcome of the tensions that exist between structural forces and the practices of human agents'. In this view, the scalar arrangements created through time and space are not permanent but constantly produced and reproduced, in a continual struggle of agents 'fixing, unfixing, and refixing' scales, sometimes routinized or crystallized in enduring and 'hegemonic structures' (Born & Purcell, 2006) or in relatively 'stabilized geographical hierarchies', also referred to as 'scalar fixes' (Brenner, 2001). Scale can thus be interpreted as both 'fluid and fixed', acting as arenas through and in which specific social, political, and historical processes operate. As Lefebvre makes clear, any spatial fixity necessarily presupposes a broader scalar fixity (Smith, 1995 in Brenner, 1999) with relatively stabilised forms of territorial organisation, such as urban, city-regional, or metropolitan space, both formal (such as those enacted by laws and planning systems) and informal (such as networks of interaction and communication, including virtual ones). In these scalar fixations, different actors, public and private institutions, power, and management dynamics, as well as material and information flows from both the local-regional and global economy flow and interact, leading to the organisation and reproduction of certain spatial relations that "span and transcend the urban scale" in continuous processes of reterritorialisation and deterritorialisation (Brenner. 1999). These processes influence the very configuration of the territorial organisation of the state, as in the processes of re-scaling and decentralisation that have been observed in recent decades in Europe, such as the "*hollowing out of the state*" and multi-level *governance* (Jessop, 2000; 2013), where cities and metropolitan areas have assumed a preponderant role. Re-scaling processes, in turn, transform urbanisation trajectories and processes, limiting and strengthening certain social relations over others, reinforcing the hierarchisation of places and the geographical scope of interaction in unequal development processes, as can be seen in the broad globalised food system, and the re- and deterritorialisation of production and consumption processes influenced by the urbanisation of society. In other words, scales embody specific social relations of empowerment and disempowerment (Swyngedow, 1997), favouring certain groups and agendas over others. This, as Brenner (1999) points out, is an issue that can be resolved through the very *'politics of scale'* in the ongoing struggle for control over place, territory and (food) spaces. In later works, Brenner (2001) differentiates between *singular* and *plural* connotations of the 'politics of scale'. The former denotes the production, reconfiguration, or contestation of a scale *within* a relatively differentiated and self-enclosed geographical unit (singular). Here the scale is understood essentially as a boundary separating the unit in question. On the other hand, the latter denotes the process of production *among* geographical scales (plural), relating to the embeddedness and positionalities of multiple spatial units

to one other, as well as their modality of *hierarchization* and *re-hierarchization* (Brenner, 2001). This *plural connotation of scale* (Brenner, 2001) is constituted by the changing interrelationships between different geographical scales, inseparably defined by and tied to each other (Born & Purcell, 2006). As DuPuis & Goodman noted, scales are a 'mutually constitutive, imperfect political process in which the local and the global make each other on an everyday basis' (2005).

The 'politics of scale' emerging in multi-level, territorial and urban food governance processes (Moragues-Faus et al., 2023) bring together singular and plural scalar relations between human and non-human actors and distant and proximate places that converge in the socio-spatial organisation of our food systems. These new practices and relations constitute a potentially transformative arena of political practice where alternative food networks, plans and (urban) designs can be constructed or, as Lefebvre puts it, where new 'counterplans', 'counter-projects' and 'counter-spaces' are developed (Lefebvre, 1974 in Brenner, 1999).

2.2. Food as a scale

Food consumption is a spatially situated act. Yet the whole set of relationships and systems that interact to bring food to our tables is constructed across different scales, jurisdictions, actors, and norms, in a *singular* and *plural* production of scales (Brenner, 2001). This becomes even more evident when analysed in urban cores, where large-scale interdependent relationships are simultaneously created, forged, and negotiated at local, regional (e.g. urban and peri-urban agriculture), national and global levels. Consider the journey of a coffee bean: inputs such as fertilisers and fungicides are, sometimes, produced and distributed locally (farm compost), regionally or internationally (synthetic chemical inputs); seeds are produced and traded in large production centres or through local exchanges; coffee trees are planted, cultivated, and harvested, and their fruits, or cherries, are processed, fermented and dried on the farm. The green beans are then sold and transported to large collection centres, where they can be further processed and distributed to various markets (national and international). These are then transported (by ship, truck, etc.), collected at ports or distribution centres and taken to industrial plants for roasting and packaging, usually close to main markets in urban or peri-urban areas. Once roasted, the coffee is packaged and transported to supermarkets, bars, speciality shops or other distribution centres to be prepared and consumed in a bar, restaurant, at home, on an aeroplane, at an international airport or on a cruise ship in the middle of international waters. Leftover coffee grounds and related materials (packaging, capsules, etc.) are then recycled, reused, or disposed. The different scales, actors and systems involved in the production, processing, distribution, consumption, and disposal of food, in this case a coffee bean, illustrate the global and local nature of contemporary food systems. This example can be further complicated by the metabolic and socio-economic and ecological implications of our eating behaviours, as well as the risks, impacts and vulnerabilities associated with global environmental changes, global crises, fluctuating prices and regulations that need to be managed and adapted by farmers, associations, companies or even consumers at different scales and periods. As demonstrated by DeLind & Howard (2008) in the case of food safety measures, the scope and magnitude of potential risks vary with the scale of the system, whether it is a conventional global food chain, or an alternative food network based at the local level. This has been particularly evident in recent research reporting on the responses and adaptive capacity of local, regional, and global food systems to the COVID-19 restrictions imposed around the world (HLPE, 2020). Scales in food systems are therefore not closed administrative and geographical units, but relational and political processes that govern the interactions of the complex realities of our

contemporary food systems. There is therefore no single appropriate or 'ideal' scale for the governance and panning of food system, but a variety of scales that can complement rather than compete for a common outcome (Minang et al., 2015a; Carlile & Garnett, 2021). These are not only geographical and institutional but entail also ecological, jurisdictional, management, temporal, network, and knowledge dimensions (Ros-Tonen et al., 2015). This approach becomes especially relevant when defining appropriate scales of action and intervention for the implementation[40] of policies, programmes or projects related to climate change (Minang et al., 2015b; Rosenzweig et al., 2020), food systems transformation (Dengerink et al., 2022), landscape governance (Görg, 2007; Minang et al., 2015a), agroecology (Wezel et al., 2015); social inclusion (Ros-Tonen et al., 2015), environmental conservation and restoration (Donaldson et al., 2017) or, as presented above, food safety measures (DeLind & Howard, 2008).

TABLE 1: SCALES OF ANALYSIS USED IN THE FOOD SYSTEMS LITERATURE AND KEY AUTHORS.

Global	• Godfray et al., 2010; BeVier, 2012; Pretty et al., 2015; Gladek et al., 2016
Supra-National	• SAPEA, 2020 (e.g., European Union)
National	• Heller & Keoleian, 2003; Nussio & Pernet, 2013; Parsons et al., 2018; Parsons, 2020
Agro-Ecological Zones (AEZs)	• FAO, 1996
Regional	• Mathijs et al., 2012; Kissinger et al., 2019
Landscape	• Donadieu, 2013 [1998]; Pettenati, 2017; Bossio et al., 2021
Territorial	• Wiskerke, 2009; Lamine et al., 2012; Forster & Mattheisen, 2016
Bioregional	• Poli, 2017
City-Regional	• Blay-Palmer et al., 2015, 2018 ; Tecco et al., 2018; Vaarst et al., 2018; Santini et al., 2018
Metropolitan	• Bohle, 1994; Gerritsen et al., 2011; Wascher et al., 2015; Dansero et al., 2018; Tecco et al., 2018; Zasada et al., 2019; Calori et al., 2017, 2019
Urban	• Morgan & Sonnino, 2010; Morgan, 2009, 2013, 2014, Moragues-Faus & Morgan, 2015; Pettenati & Toldo, 2015; Haysom, 2015; Calori et al., 2017; Deh-Tor, 2021; Zhong et al., 2021
City	• Steel, 2009; Calori & Magarini, 2015; Brinkley, 2018; Deakin et al., 2019
Municipal	• Morley & Morgan, 2021
Local	• Rocha & Lessa, 2009; Sonnino, 2010; Dansero & Puttilli, 2014; Kalfaianni & Skordili, 2019
Community	• Pothukuchi, 2004; Campbell, 2004; Clark et al., 2017
Village	• Jagustović et al., 2019
Neighbourhood	• Miewald & McCann, 2014
Household	• Maxwell & Smith, 1992; Crush & McCordic, 2017; Boehm et al., 2018
Human Body	• Marvin & Medd, 2006

SOURCE: ELABORATED BY THE AUTHOR

[40] Implementation is the process to integrate an intervention into practice within a particular setting (Rabin et al., 2008); a set of strategies to integrate evidence-based interventions into specific settings (Leeman, et al., 2017)

The current engagement towards localization strategies in food systems (Phillipov & Kirkwood, 2019; Kalfaianni & Skordili, 2019) cannot be analysed in isolation but calls for the interrogation and critical analysis of scales (Sonnino, 2010). As interpreted by DuPuis & Goodman, a 'reflexive localism' or 'glocalism' (Carolan, 2012), rethinking the local "not as a romantic move toward emancipation but as an 'open', inclusive, and reflexive politics in place" (2005: 369). There is no inherently good scale at which food system challenges should be addressed, local nor global, but rather (food) scales are constantly produced and reproduced by the interaction of multiple levels, actors, environmental conditions, and agendas, in so-called 'cross-scale interactions' (Ericksen, 2008), reinforcing the relational character of food systems and the nature of food system actions (Haysom, 2015). This view asks us to rather interrogate the different actors and agendas that are benefiting and being excluded from current scale arrangements and assess their resulting outcomes, in terms of social inclusion, environmental impacts and economic benefits. Different scales of analysis have been operationalized in multiple studies across the food systems literature, going from a global, regional, metropolitan and landscape-scale, up to the community, household, and body. Table 1 summarizes these different scales of analysis, identifying some of their related authors.

The rapid growth of food-related urban analyses seen over the last 30 years requires a critical focus on the nature of 'scale' embedded in the urban vision. Identifying the type of scale termed 'urban' in urban food systems thus becomes a relevant analytical question to define why and from which approach this concept may be an appropriate scale from which to interrogate and illuminate the changing relationships and transformations of food systems in the context of evolving urbanisation processes, climate change and tourism developments. This research proposes a socio-spatial analysis of the urban, questioning the nature of space and its social production as a perspective from which to reflect on how food systems shape and are shaped by the urban as space and process. The following subsection examines the different approaches used in the literature to define space and its relationship to food in order to inform the analysis of tourism as urban space and its associated urban food landscapes, which this thesis addresses through two case studies in Italy and Portugal.

2.3. Food: a social production of space

The so-called 'spatial turn' (Naylor et al., 2000; Warf & Arias, 2008) has come to be recognised as a period of resignification of spatial thinking in social sciences, with a renewed interest of scholars to take 'seriously' the role of space in social phenomena. The invitations to a 'sociology of space' (Simmel, 1997; Löw, 2016) or 'spatial sociology' (Fuller & Löw, 2017) that have been seen in recent years are an expression of the maturation of these discussions, building on the elaborations of relational spatial theory from Henry Lefebvre (1974), David Harvey (1973), Jean Rémy (1975) and Claude Raffestin (1980) to Edward Soja (1980), George Simmel (1997), Neil Brenner (2001), Mimi Sheller, John Urry (2006) and Fuller and Löw (2017), among others.

Space, as a term, derives from the Latin, *spatium*, referring to an "area or extension" or as "time and duration", intertwining both 'spatial' and temporal dimensions (Guest, 2012). Space has typically been associated with a physical, material, and external thing, a 'container' of social processes and actions in time, rather than a structure created by society (Soja, 1980). In the "Philosophy of Nature", Georg Hegel presents space as something external to things themselves, a *self-externality* that defines the relation of things to each other (1970). In this sense, space is not seen as a thing or substance, but as abstract, i.e. it does not exist in opposition to matter, but constitutes the exteriority itself and its spatial relations (1970). As Hegel presents it, this space is always full, and none of its parts is

separated from what fills it. Time, on the other hand, is presented as the negativity of space, the process that determines and unites the immobile totalities of space, materialising its actions in a becoming of present, past and future (1970).

David Harvey distinguishes between three modes of conceptualising space: *absolute, relative*, and *relational* (2006, 1973). The absolute, interpreted as a given and measurable space, remained a predominant concept until much of the 20th century and configured an 'objective' form of analysis for the existence of matter (Soja, 1980). This approach considers space as a self-subsistent, isotropic medium in which objects exist (Schatzki, 1991), a 'thing on itself', with independent existence (Harvey, 1973) and demarcations. Boundaries have traditionally been seen as expressions of this absolute spatial representation, especially for the 'governed space', mediated through statistical analysis and cartographic tools (Fuller & Löw, 2017) and dominated by state-centric and 'methodologically territorialist models' (Brenner & Schmid, 2014). This space as "territory" dominated most of the conceptual analysis until the 1970s and constituted a space mediated by power, controlled by the state, and expressed in the nation-state (Fuller & Löw, 2017). The relative concept, on the other hand, focuses on the viewer's perception and positionality, determining how space is measured and defined (Fuller & Löw, 2017), as expressed in concepts such as experiential (Löw, 2013), conceptualized (Sack, 1980 in Schatzki, 1991) or conceived space (Lefebvre, 1974). This approach reflects upon people's experiences, conceptions, and images of space, proposing an understanding of space as a relationship between objects, existing in the way these are perceived, conceived and relate to each other (Harvey, 1973). Finally, the relational concept regards space as being both contained in objects, as well as containing and representing relationships to other objects (Harvey, 1973). This view holds the idea that there is no such thing as space outside of the processes that define it, meaning that (social) processes do not occur *in* space but define and produce their own spatial frame, they are embedded in or internal to (social) processes and actions (Harvey, 2004). As already discussed for scale, the social production of space refers to the actual transformation of space through people's social exchanges, memories, images, and daily use of the material setting, conveying in turn symbolic meaning (Löw, 2009: 24). Spaces are rendered sensible through bodies and human sensations, forming the world as it is experienced (relative approach), at the same time as space forms and conditions our empirical perception of the world (relational). Using Simmel's words, 'spatial things are real insofar as they form our experience', recognizing the central role of 'meaning-making in the formation of spaces', as well as 'spaces in the formation of meaning-making' (Simmel, 1905). In this sense, space is produced through 'meaning systems' in which space is 'not only supported by social relations and practices, but it is also producing and being produced' (Lefebvre, 2009). They do not simply exist (absolute) or are perceived/experienced (relative) but are rather created in action, through social dynamics such as power, exclusion, and legal frameworks, at the same time as they pre-structure action (relational). (Social) space is thus a (social) product (Lefebvre, 1974), shaped by and shaping (social) action at different scales (Fuller & Löw, 2017). In other words, (social) space is a product of heterogenous, historically specific material, conceptual and quotidian social practices (Stanek, 2008), and the modes of appropriation of space by human beings (Moulaert et al., 2013). This appropriation reflects on the materialization of human relations between other humans and nature (Moulaert et al., 2013). The resulting 'social space' (Lefebvre, 1974) conceptualized under these views, contains a great diversity of objects, both natural and social, that are not only things but also relations, a 'flaky *mille-feuille* pastry' (Lefebvre, 1974) built on and by a 'social reality' (Schatzki, 1991) in a 'theatre of social action' (Mumford, [1937] 1996). This relational view to space, highlights the contestable, processual, and contradictory character of space determining the very way

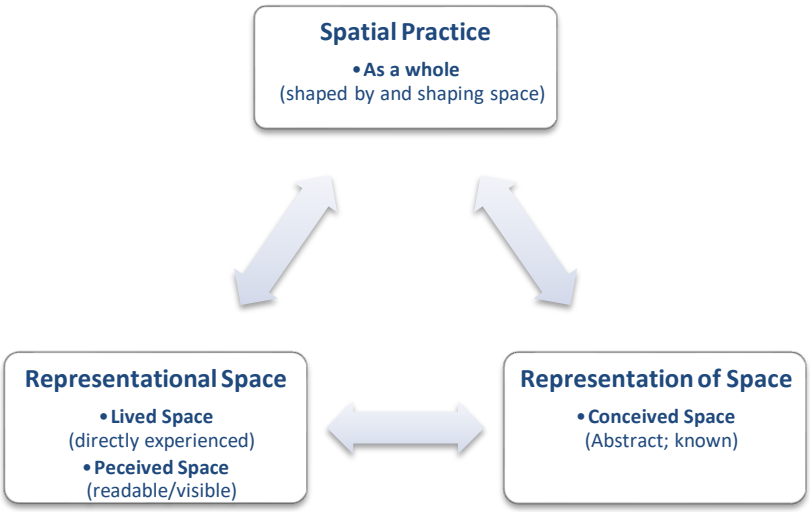
in which societies, or better, each mode of production, produce its own space (Lefebvre, 1974), be this urban or rural, forming what has come to be seen as a 'socio-spatial dialectic' both 'space-forming' and 'space-contingent' (Soja, 1980).

The definition of space as an 'order' constitutes under these views a strategy and expression of 'territorialisation', a space that is transformed, constructed, or produced into 'territory' (social space) through the relation society builds to it (Raffestin, 2012). In other words: a relational construction (mental, geographical, and political) mediated by social relations and actions. Boundaries are processual, always involving the constitution of two spaces and multiple places and relationalities, expressed in the processes of 'bordering', 'de-bordering' and 're-bordering' (Löw, 2016). These are in turn also the result of demarcations of thought, representation, and imagination. In short, a process of theoretical abstraction (Brenner, 2013a) with practical and material consequences in the way we perceive our world and (can) relate to it, and as such, subject to continuous political contestation and mobilization. As suggested by Simmel, the significance of space for social formations lies in this capacity of fixing their contents (1997), giving shape to social dynamics, practices, and relations. Nevertheless, despite this 'fixity' the relational view of spatial 'order', as Fuller and Löw synthesized, is predicated on the processual and changing nature of spaces: "Objects, bodies and borders change, meanings shift, and spaces are no longer what they used to be, they are continuously subject to contestation and can be reproduced and stabilised in a spatial 'order'", that is, they are the result of (enduring) relations (2017). Lefebvre conceptualize here what he calls the 'abstract space' as the space exercised by power and modernity, through the imposition of spatial orders and representations. This space is seen as a logico-mathematical, mental abstraction that becomes true, "concrete", through social, economic, political, and cultural practices (Lefebvre, 1974; Marx, 1953; Santek, 2008) in a set of 'materialities', signs, and their formal relationships. Abstract space is represented by the author in the production of capitalist and neoliberalist relations, including "the 'world of commodities', their 'logics' and world views, as well as the power of money and that of the political state" (1974). These are specific modes of production and social relations that produce their own spaces connecting broader geographies, actors, and legal frameworks. As synthesized by Lefebvre, within this space the town has disintegrated, exploding, and imploding in the growing extension of urban relations and abstractions (1974; see subsection 3.1 on urban space).

The three modes of conceptualisation proposed by Harvey provide different levels and modes for understanding space, but as he recognizes, spatial thinking should keep these in 'dialectical tension' with each other (Harvey, 2004), considering that 'space is neither absolute, relative, or relational in itself, but it can become one or all simultaneously depending on the circumstances' (Harvey, 1973) and nature of the phenomena under investigation (Harvey, 2004). Other conceptualizations provide further perspectives for understanding space, such as Cassirer's model of signification and its tripartite division of human spatial experience between organic, perceptual, and symbolic spaces (in Harvey, 2004), and Lefebvre's proposition of an interconnected perceived-conceived-lived (or directly experienced) triad (see Figure 6). Under his spatial triad, Lefebvre (1974) distinguishes between what he calls *spatial practices* (as a whole), *representations of space* (conceived) and *representational spaces* (lived and perceived). Space is the result of *spatial practices* specific to a society, which produce and condition it in a dialectical interaction (Lefebvre, 1974). In other words, *spatial practices* are a 'socio-spatial dialectic' both 'space-forming' and 'space-contingent' (Soja, 1980). *Representations of space* refers to the conceptualised/conceived space of scientists, planners, urbanists, technocrats, and social engineers, among others, who identify "what is lived and perceived with what is conceived" (maps and plans, transport and communication systems, information

conveyed by images and signs). “This is the dominant space in any society (or mode of production)”, which tend to “a system of verbal (and therefore intellectually elaborated) signs” (Lefebvre, 1974). Finally, *representational space* refers to "the space directly experienced through its associated images and symbols, and thus the space of ‘inhabitants’ and ‘users’ who describe and aspire to do no more than describe” (symbolic, natural, fertile). “This is the dominated - and therefore passively lived - space that the imagination seeks to transform and appropriate. It is superimposed on physical space and makes symbolic use of its objects”, tending “towards more or less coherent systems of symbols and non-verbal signs" (Lefebvre, 1974).

FIGURE 6: LEFEBVRES TRIAD CONCEPTUALIZATIONS OF SPACE.



SOURCE: ELABORATED BY THE AUTHOR BASED ON LEFEBVRE, 1974.

2.3.1. ‘Food social space’: a socio-anthropological approach for the production of space

Building on the previous work on social space by George Condominas (1980), the works of Emile Durkheim on the social fact (see subsection 2.4.2) and starting from a socio-anthropological approach[41] to food, Jean-Pierre Poulain (1999; 2017 [2002]) proposes a comparable methodological and conceptual model for the examination of food patterns and practices and their cultural variations within the social organisation of what he terms the 'food social space'.

Poulain defines this space as a tool for the study of the 'bio-anthropological relationship of a human group with its environment', as a 'total human phenomenon' (Morin, 1973) defining its integration into physical space (Brunhes, 1942) connected to the human biological need for daily nourishment. As discussed by the previous authors presented here, food practices emerge under Poulain’s views not only as a consequence of 'biological or ecological phenomena' but as a fundamental element in the formation of social and spatial organisation (Poulain, 2017 [2002]). In doing so, Poulain elucidates the duality of food spaces, presenting it as both shaped by the conditions of its physical and natural

[41] Poulain (2017 [2002) characterizes the study of the socio-anthropology of food as an investigation of the manner in which cultures and societies populate and structure the "liberated space", in other words, the food decision-making opportunities, that emerge from the “physiological functioning of the human digestive system”, “the techniques employed to harness the resources” of the natural environment, and the “biophysical and climatic conditions that prevail in the biotope”. It is within this liberated food space that the” social sphere plays its role in the construction of identities, the socialisation of the body”, and, as Lefebvre (1991) would posit, the production of (social) space.

environment (Barrau, 1991), at the same time as it influence on these conditions through its own transformative and shaping effects. These effects are themselves influenced by changes in climate and a series of adaptive strategies and decisions at the interface between culture and environment. In other words, (food) spatial configurations can be considered both the products and the producers of social systems (Paul-Levy & Segaud, 1983 in Poulain, 2017). This relationship represents an active factor in the transformation of landscapes and social structures, which can be manifested in various ways. These include alterations to production systems, the selection of certain foods and preparation techniques, recipes and even tastes, collectively constituting the food landscape of a given place.

Poulain presents a multidimensional methodological model of the social food space, encompassing edible spaces[42], the food system[43], the culinary space[44], the spaces of food habits[45], the rhythm of time[46], and the space of social differentiation.[47] Additionally, the author proposes a range of analytical and observational levels, including observed, objectified, reconstructed, and reported food practices, as well as individual norms, opinions, attitudes, values, and symbols associated with the food phenomenon, which can contribute to the analysis and collection of data on the food social space (Poulain 1999). To conclude, the author emphasises the strategic role of the socio-spatial approach in challenging the dualism and determinism between culture and matter. The food social space presents a system of analysis to shed light into the relations between humans and nature, including time in a dynamic and relational perspective of space.

2.3.2. Models of space: bringing together shaped and shaping food spaces

Heynen (2013) proposes an understanding of the relation between the physical, spatial, and social patterns through the definition of three thought 'models of space': 1) space as 'receptor', 2) space as 'instrument' and 3) space as 'stage'. The former, space as 'receptor', coincides with Harvey's absolute space, as a more or less neutral container and background for social activities, mechanisms and cultural processes. Here the focus is aimed at setting the active role of social phenomena and action, continuously shaping, interacting, and leaving their imprints on space (Heynen, 2013). The author ascribes this approach to recent urban sociologists (such as Herbert Gans), anthropologists of space (such as DeBoeck and Plisart, 2004; Simone, 2004), cultural geographers or landscape studies (Jackson, 1997; Mitchell, 2003) that have contributed to broadening the analysis of the social and cultural impacts and expressions on spatial configurations (Heynen, 2013). This approach can be identified in the food literature in '*food deserts*' and '*food swamp*' studies[48] (Walker et al. 2010;

[42] "Rules that contribute to the social definition of an edible foodstuff and of decisions regarding the acceptance of a given nutritional substance" among the entire range available in the natural environment (Poulain, 2017), which can be considered a "shared cultural value of the group as a whole" (Kilani 1992 in Poulain, 2017).

[43] "A series of technological and social structures that facilitate the transformation of raw materials into food products and ensure their safe passage from the field to the kitchen, through various stages of production and processing, until they reach the consumer, where they are recognised as edible" (Poulain, 2017).

[44] "A series of symbolic operations and rituals which, centering on the technical activities that play a part in constructing the identity of a natural food, render it suitable for consumption" (Poulain, 2017).

[45] "The series of rituals that surround food consumption in the strict sense of the word, that is to say, the act of incorporation", as part of a dietary regime of a specific social group (Poulain, 2017).

[46] Socially determined temporal cycles, including those related to productivity, seasonal cycles, life cycles, and daily rhythms (Poulain, 2017).

[47] Boundaries that distinguish the different identities of human groups from one culture to another, as well as those of the different subgroups that make up the same culture (Poulain, 2017).

[48] Food deserts are geographic areas that have limited access to healthy food; while food swamps are described as geographical areas with adequate access to healthy food retail, but that also features an overabundance of exposure to less healthy food and beverages (Chen & Gregg, 2017)

Eckert & Shetty, 2011; LeClair & Aksan, 2014; Chen & Gregg, 2017; Crush et al., 2021) and spatial and socio-cultural approaches to *foodscapes* (see subsection 3.2, Vonthron et al., 2020), relating to the way food relations, behaviours and discriminations actively shape space. The second model, 'space as instrument', reflects in part also Lefebvre's conceptualization of 'representations of space' (1974) referring to the way spatial articulations and organizations are conceived, shaped, and determined, shaping social behaviours and relations (Lefebvre, 1974). This approach focuses on the social effects of spatial configurations, not as 'neutral' or absolute containers of social processes but as active factors imposing, enabling, or disabling social, economic and environmental change, including here power relations of domination and discrimination (Weisman, 1992), as well as the strategies of resistance countering these forces (Heynen, 2013). This second model can be found in the food literature in concepts and analysis such as food environments (McKinnon et al., 2009; Lytle, 2009; Kelly et al., 2011; Caspi et al., 2012; Lytle, 2009; Lytle & Sokol, 2017), spatial planning (Viljoen & Wiskerke, 2012; Illieva, 2016), policies (Dansero & Nicolarea, 2016) and key instruments configuring an active socio-spatial action enabling or disabling a more sustainable or localized food system, such as (urban) *foodsheds*[49] (Zasada et al., 2019) or the *continuous productive urban landscapes*[50] (CPULs) (Viljoen, 2005), among others. Finally, the third model proposes a view to space as a 'stage', a relational and social space (Lefebvre 1974; Harvey, 2004) where social life unfolds, integrating the two previous concepts of space both as a result of social forces, as well as an active agent shaping and structuring social phenomena and reality (Heynen, 2013). This view aligns with the 'spatial turn' in sociological thought mentioned above, presenting a view of space that is both relational, instrumental, receptive, absolute, and relative, as reflected in Lefebvre's conceptualization of social space and spatial practices (1974), both 'space-forming' and 'space-contingent' (Soja, 1980). This space as 'stage' model becomes a fertile ground from which to analyse and interrogate the ways in which food systems have shaped and been shaped by urban processes, bringing together the analysis of human agency shaping (food) spaces, as well as the role that different (food) spaces play or can play as a structuring force of social practices and relations (Heynen, 2013).

2.4. Bridging space and agency: food spaces in social theories

The socio-spatial analysis put forward in the previous views reflects and builds on social theories developed around the relationship between agency and structure. Here we find approaches that emphasise human agency[51] in shaping social action, such as symbolic interactionism[52] (George

[49] Zasada defines foodsheds as "the territory around urban areas which is required to feed the (urban) population and which represents the area of interaction between urban consumption and peri-urban production" (2019).

[50] As proposed by Viljoen et al. (2005), the spatial concept of Continuous Landscapes represents an urban design strategy that seeks to transform the appearance of contemporary cities into economically, sociologically, and environmentally productive open landscapes.

[51] As defined by Schwandt, human agency refers to the ability of individuals to perceive their situation, to reason about it, to consciously control their actions and form motives, among others (2007). Sen (1985) describes it as "what a person is free to do and achieve in pursuit of whatever goals or values he or she regards as important", including the empowerment of individuals to take action, their accessibility to essential resources and voice to shaping decisions and policies (HLPE, 2020). In relation to food, the High-Level Panel of Experts on Food Security and Nutrition define it as "the capacity of individuals or groups to make their own decisions about what foods they eat, what foods they produce, how that food is produced, processed and distributed within food systems, and their ability to engage in processes that shape food system policies and governance" (HLPE, 2020).

[52] Symbolic interactionism focuses on interaction as mediated by the actions and agency of acting individuals, and on the symbols and meanings they attach to these interactions. This field of social research focuses its analysis on the concrete reality of everyday life, viewing society as the set of actions taken by individuals in their social interactions, as precursors and producers of the society to which they belong (Ritzer, 2012).

Herbert Mead, Robert Park, and Erving Goffman), ethnomethodology[53] (Harold Garfinkel), behavioural sociology (B.F. Skinner and George Homans) and individualist approaches[54]. On the other hand, we find structural functionalism and institutionalist approaches, with proponents such as Kinglsey Davis, Wilbert Moore, Talcott Parsons, and Robert K. Merton, who emphasise the role of social structures, systems, or institutions in shaping and determining social interaction. The works from Anthony Giddens (1984), Pierre Bourdieu (1979), Jürgen Habermas (1984; 1987) and Bruno Latour (1993; 1996) are emblematic examples of these discussions, providing key elements for interpreting and bridging the tensions between structure and agency, formed space, and forming space linked to a spatial sociology of food or food social space.

2.4.1. Anthony Giddens and the 'theory of structuration'

The approaches offered by Anthony Giddens in his 'theory of structuration' (1984) focus on the analysis of *social practices* and their mediation in the relationship between action and structures. As Gieryn (2002) points out, drawing on Giddens' thinking, the structuring capacity of spaces comes not from their physical configuration, but from the routinisation and 'modes of utilisation' of space in everyday human interactions (Giddens, 1994: 118), evoking and directing patterned behavioural responses (Gieryn. 2002; Giddens, 1979). Giddens privileges the social practices of agents as producers of space, revealing in these capacities the potential to transform and shape social action, worlds, and processes. In doing so, Giddens rejects the dualism that separates structural determinism of actions and individual interactions, proposing to see social practices as both producing and reproducing structures, made through the continued recreation and habitual repetition of social activities, actions and interactions in time and space (Giddens, 1984). The habitual repetition of these 'tacitly enacted practices' configure the conditions and social forms that make these same practices possible, becoming the 'structuring properties' shaping social action and interactions in an intricately intertwined 'duality' between structures and agents (Giddens, 1984). Social systems, according to this approach, result from recurrent practices and relations between actors and collectivities, being produced and reproduced in a structured social action (Giddens, 1984; Ritzer, 2012). In this way, structure emerges not as an objective and external entity that influences and determines social reality, but as a set of enabling properties and capacities that are enacted in enduring routines or institutions, such as (food) laws, regulations, planning frameworks, or food production and distribution systems. The resulting structures are in turn translated into the organisation of space and social systems and manifested in the production and reproduction of recurrent and systematic social practices, such as eating behaviours, tastes, agricultural practices, and food consumption patterns. These views complement and inform Harvey's relational approach and Heynen's model of space as a 'stage', which converge in the concept of social construction and production of space (Lefebvre, 1974).

In his book *The Consequences of Modernity,* Giddens formulates an important critique, emphasizing the notion of the 'disembedding' of social systems. The author defines this as the "lifting out" or extraction of "social relations from their local context of interaction", gradually re-staged in an

[53] Ethnomethodology is the study of the practical methods of common-sense reasoning that members of a society use to learn, cope, or manage the conduct of their everyday lives (Clayman, 2015; Ritzer, 2012).

[54] James S. Coleman in his theory of rational choice (Coleman & Farraro, 1992) emphasize the role of individuals through an 'utilitarian' view of social systems as constructed by the interdependent actions of actors, each pursuing their own self-interest and benefit as a result of the rational choices they make based on the information available to them. The social system (structure) is presented here both as a determinant of (social) action and as its consequence, explained in primis by the rational choices made by individuals (Coleman & Farraro, 1992; Ritzer, 2012).

undefined and increasingly extended time and space (1990). As Giddens discusses, pre-modern societies were characterized by a greater congruence between space and time, that is, the spatial dimensions of social life coincided with the "presence" of place or 'locale', referring to the localisation and "geographically situated physical settings of social activity" (1990). Giddens' formulation of place becoming increasingly "*phantasmagoric*", leads to a useful critique of what has been seen as the separation and fragmentation (McFarlane, 2018), the "disembedding", of urban space brought about by modernity as it penetrates and shapes places with new spatial forms, social influences and relationships brought about by an absent and locally distant 'other' (1990). The connections between time and space, as well as the 'physical milieus of actions', are, as described by the author, "not just uninteresting boundaries of social life", but, on the contrary, elements "inherently involved in its constitution, predisposition and reproduction" (Giddens, 1984). It is here that practices of the past and possible futures come into contact with the present, and the spaces of interaction with distant 'others' become ever wider, in greater geographical interdependencies (Katsikis, 2018) and separation from local environments.

Food systems, as a fundamental part of our metabolism, landscape, and human condition, become a fertile ground for exploring these different critiques and promoting a mobilisation of social action. Eating is an act that affects us all and reflects social practices that are produced and reproduced through the organisation of social and spatial systems. This can be concretely expressed in the increasing "disembeddedness" of contemporary global food systems and the ways in which these affect our eating habits and relation to food, with a greater and more varied availability of foods that are delivered throughout the year and across increasingly distant spaces of production, distribution, transformation, consumption, and so on. Food practices are also active producers of these systems, generating relations and supporting modes of production that transform our landscapes, bodies, and ways of relating to each other, while at the same time social, ecological and spatial systems condition our everyday practices, modes of utilization, availability and accessibility to food and healthy diets[55]. Food practices are influenced by socio-economic, ecological, and cultural dynamics driving food systems change. The HLPE classify these trends as follow: 1) biophysical and environmental, 2) technology, innovation, and infrastructure; 3) economic and market; 4) political and institutional; 6) sociocultural; and 7) demographic. These factors are in constant evolution and complex interaction with each other at different scales (HLPE, 2020), resulting in multiple dynamics, such as inequality, power, gender discrimination and differentiation; population change and urbanization; legal frameworks and regulations (e.g., land tenure and food safety); economic systems (e.g., trade, supply and demand; subsidies or taxes; agri-food supply chains and financialization); ecological and environmental dynamics (e.g., climate change, food hazards or diseases, pests, and environmental degradation); scientific and traditional innovations (e.g., modes and methods of agricultural production; data and digital technologies; biotechnologies and infrastructural capacities); social media and advertising; food governance (e., weaker and fragmented, a hollowing-out-of-the-state, a broader participation of the private sector and civil society, declining public sector investment, protracted conflict and fragile institutions); among others (HLPE, 2020; SAPEA, 2020). In their systematic literature review and inductive analysis, Béné et al. (2019) identify 12 distinct drivers of

[55] HLPE's definition of food security become a useful framework from which to analyse these relationships, defining it as "a situation that exists when all people, at all times, have physical, social and economic access to sufficient, safe and nutritious food that meets their dietary needs and food preferences for an active and healthy life" (2020). This definition intersects with the six key dimensions of food security: availability, access (economic, social, and physical), utilization, stability, agency, and sustainability.

food systems transformation associated with four different food system components (consumption/demand, production/supply, distribution/trade) that could be linked with the previous framework. These include urbanisation, an increase in consumers' income, population growth, greater attention to diet and health issues, technological innovations, the intensification and homogenisation of agriculture, an increase in frequency and intensity of extreme events, soil degradation and general changes in agro-ecological conditions, improved access to infrastructure and information, trade policies and other related influencing factors, the internationalisation of private investments, and concerns for food security (Béné et al., 2019). The relationships between these drivers and local, regional, national and international actors shape and are expressed in multiple spaces, environments (Kraak et al., 2014) and food landscapes (Vonthron, 2020) that determine the structuring or enabling properties that allow the formation and reproduction of certain types of food practices, relationships, behaviours and diets over others. Nevertheless, as emphasized by Giddens, social (food) practices and actors have also the potential to transform and shape social action, worlds, and processes, building new narratives, relations and alternative forms to organize food in space and time. These theoretical propositions complement the food space as a 'stage' approach, presented above, related to a socially shaped space shaping social actions and behaviours.

2.4.2. Pierre Bourdieu: habitus, field and the social space

Pierre Bourdieu proposes a complementary view to that of Giddens by resolving the contradictions between approaches that tend towards an objectivist view of social structures and those with a subjectivist dimension of individual social action (Ritzer, 2012). The author presents the dialectical relationship between structures and actors through the analysis of social practices and of, what he called, the '*habitus*' and the '*field*' (Bourdieu, 1979). The concept of habitus is described by Bourdieu as the internalisation of mental structures mediated by and expressed in social practices through which individuals perceive, understand, interact, and make sense of the social world in which they live (Bourdieu, 1979; 1985; Ritzer, 2012). Bourdieu takes here both a structuralist and constructivist view, identifying structures (objective and mental) as being interiorized by actors as 'habitus' in a dynamic, interacting, multiple, and continuously adapting process (Lahire, 1998; Sweetman, 2003), both structuring and structurally influenced, varying according to the social, cultural, and economic position and background of each individual (Bourdieu, 1985). Other authors have presented social structures as a "medium through which social relations are produced and reproduced" (Gregory & Urry, 1985), or as Émile Durkheim emblematically emphasised, a "social fact" encountered "in becoming", constantly forming and dissolving: "it is life arrived at a certain measure of consolidation" (Durkheim, 1964). These views represent a more deterministic approach. In contrast, the mental structures of 'habitus' proposed by Bourdieu are seen as ongoing processes of internalisation and deliberation that guide practices not always in an entirely rational way, but also according to the 'logics of practice'[56] (Bourdieu, 1979; 1990[1980]; Ritzer, 2012). Social practices are identifiable 'doings and sayings' (Sahakian & Wahlen, 2023), a mediation between 'habitus' and the social world (Ritzer, 2012), or as synthetized by Crossley, "an effect of actions and interactions which are shaped, simultaneously and in equal measure, by the habitus and capital of agents, as well as the context and dynamism" of a "common game" (Crossley, 2003: 44).

[56] Giddens proposes a similar analysis through his human agency model of 'unconsciousness', 'discursive consciousness' and 'practical consciousness' (Giddens, 1984).

Bourdieu present the ‘fields’ as structured spaces of relations, denoting “arenas of production, circulation, appropriation and exchange of goods, services, knowledge or status" (Swartz, 2020). In other words, a "network of relations between different competitive positions" (Ritzer, 2012), organised around specific logics and types of capital (economic, social, cultural, and symbolic) that define the set of beliefs and practices that compose it. The reflections and theoretical propositions addressed by Bourdieu in the analysis of capitals (Bourdieu, 1986) represent a key dimension in defining the relationships between actors and structures within a specific ‘field’, such as religion, class relations, school, academy, or food systems. Actors compete and interact in a ‘field’ using different strategies and capitals at their disposal, resulting in their varied positions, practices, and relations. The practices adopted here are structured, influenced, and legitimated by the individual's habitus and social position, at the same time as these are readapted by practice, producing and reproducing class and power relations and differentiations[57] (Rooksby, 2005; Ritzer, 2012).

The approaches and concepts proposed by Bourdieu are useful for the analysis of space and its relationship to the social world. Bourdieu’s constructivist structuralist perspective, also seen as a ‘post-structuralist’ approach (Chaffee & Lemert, 2008), presents spatial organisations both as expressions of internalised social practices and structures, ‘habitus’, as well as a structuring and reproducing element of the socio-cultural dynamics of our everyday lives (Bourdieu, 1979). An example of this is provided by Gieryn (2002), who refers to Bourdieu's seminal study of the Kabyle house, domestic spaces of Algerian Berbers (Bourdieu, 1979). Here the author presents Bourdieu's spatial perspective on the organisation of space and their related activities ordering the Kabyle social and cosmogonic divisions, such as in the gendered division of labour and domestic spaces (Gieryn, 2002). Bourdieu's perspective places greater emphasis on the structuring function of space, 'as an instrument', on social practices and relations, emphasising how these processes are aligned in the dialectical relationship between 'habitus', capitals, social practices, and the 'field'. The author gives a preponderant weight to social practice as a mediator between habitus and field. It is through social practices and bodies that mental and social structures are expressed and brought into the 'field', emphasising the importance of analysing the role of structures (objective and mental) in spatial relations (Bourdieu, 1984; Ritzer, 2012). Bourdieu tests these concepts empirically, providing a critical and reflexive analysis of the social and power mechanisms responsible for the various forms of *symbolic violence* perpetrated against the most vulnerable and powerless groups (Bourdieu, 2002 in Rooksby, 2005), revealing how social processes are organised and expressed in the 'habitus', 'field' and practices of a society. In the author's view, these are key tasks for the social sciences, opening up opportunities for the analysis of food systems and their socio-spatial dynamics as concrete fields of research and social mobilisation.

However, as Fuller and Löw analyse, the Bourdieusian notion of the field as 'social space' (Lefebvre, 1974) leads to a view of space as a 'metaphor' (2017), useful for understanding the role of forms of capital and habitus in the co-constitution of spatial structures and organisation, but less effective in illuminating the consequences of the concrete, experienced and lived space (2017), discussed by Lefebvre's formulation of social space (1974). Gieryn (2002) analyses the two approaches of Giddens and Bourdieu through the discussion of space, society and their relationship to the built environment in a 'sociology of architecture'. Gieryn summarises how the contributions of these two authors consolidate a view of structure and agency 'not as autonomous forces linked by cause and effect', but

[57] A key element presented here by Bourdieu is his analysis of *taste* as a social practice embedded in and influenced by ‘habitus’, differentiating and unifying class and cultural relations (Bourdieu, 1982 [1979]; Ritzer, 2012).

as a 'reciprocal relationship in their mutual constitution and presupposition', with actors' practices being both 'substance (medium) and result of structure' (Gieryn, 2002).

2.4.3. Jürgen Habermas: (food) systems, lifeworlds and communicative action

Another useful perspective is provided by the German philosopher and sociologist Jürgen Habermas, who builds on the intellectual and critical traditions developed by the Frankfurt School in what he defines as the theory of 'communicative action' (1984; 1987). The communicative action is proposed as a linguistically mediated action aimed at achieving mutual understanding (*Verständigung*), agreements (*Einverständnisse*) and coordination between actors, setting the basis for the collective construction of social order and reality (Susen, 2020). The processes of communicative action reflect the power of coordination and (potential) participation of citizens through a rational exercise of their discursive potential, speech, and action. This are seen as symbolically mediated relations of reality and social organisation (Habermas, 1984; 1987). In the view of Habermas, social structures and realities are produced and reproduced through discursive and communicative processes of reasoning, argumentation, debate, and disagreement that build on the critical capacity of human actors (Susen, 2020). It is through the discursive power of 'communicative rationality' and 'deliberative democracy' that 'intersubjective orders' and structures can be formed and continually evaluated and negotiated in '*lifeworlds*' (Susen, 2020). These orders are thus expressed and regulated by "historically specific sets of communicatively sustained, and discursively negotiated, normativities" (Susen, 2020).

The critical structure developed by Habermas for the analysis of the relationship between structure and agency is based on what he calls the relationship between 'systems' and the lifeworlds (Power et al., 2020). The latter, first used by the phenomenologist Alfred Schutz, refers to the practices of everyday life (Ritzer, 2012) as an experienced and lived space (Lefebvre, 1974). Lifeworlds, as Habermas explains, consist of three main pillars: 1) 'culture', understood as the background for interpreting the world; 2) 'society', as the background for integration, and 3) 'personality' as the background for identity (Habermas, 1984; Susen, 2020). The 'system', on the other hand, refers to the 'structure' or institutional extension of the lifeworld, which is represented by two main components: 1) the state and 2) the economy. The coercion and influence exerted by structures define what Habermas calls the 'colonisation of the lifeworld', as the capacity of systems, that is the state and the economy, to impose the functionalist and instrumental logics and rationalities of these systems on the key spheres of social reality (Habermas, 1987). This, Habermas argues, conditions and limits the free and rational communication, and related actions, of actors in their 'lifeworlds'. These concepts become useful when analysed through the lens of food: we can see 'lifeworlds' as those actions and practices of our everyday lives, expressed in the culture, identity, and relationships we cultivate with food. Systems, expressed in current laws, logics, and market dynamics, condition the free and rational organisation between actors, forcing their food choices in a new reality where speed, standardisation and low cost have taken over their nutritional, environmental and social consequences.

The 'communicative' and critical approach proposed by Habermas has given way to a paradigm shift promoted by the same author and known in social science and critical theory as the 'linguistic turn', which has had a major influence on contemporary urban planning practice and theory, such as collaborative planning (Allmendinger, 2002; Harley, 2006) and food governance. These theoretical propositions underline the importance of a "critical hermeneutics" that takes into account both the phenomena being interpreted, in this case food transformations, and the interpreters who give meaning to these social dynamics, the researcher and the social actors, implying a "critical reflection"

that is both social (*Sozialkritik*) and self-critical (*Selbstkritik*) (Habermas, 1987; Susen, 2020; see also footnote 73 on the '*double hermeneutics'* proposed by Giddens).

2.4.4. Bruno Latour: actor-network theory (ANT) and food networks as social spaces

The Sociologist Bruno Latour presents another useful approach to this analysis in his Actor-Network Theory (ANT), advocating a "new empiricism" centred on the analysis of "actors as networks of mediation" (Latour, 1999). Latour presents ANT not as a social theory, but as a method of study moving towards a "sociology of associations" to describe the ways societies are assembled by various human and non-human actors. The ANT approach promoted by Latour does not seek to overcome the old contradictions and dissatisfactions of the debate between 'micro' and 'macro', 'agency' and 'structure' or 'actor' and 'system' in the formation of society, but to pay attention to and trace the conditions and movements, the "circulations", between the multiple and complex associations of actors that make these interactions possible (Latour, 1996). In this sense, the author emphasises the perspective of "actor-networks" (together with the hyphen) not as a substitute for 'agency' and 'structure', but to denote two sides of the same phenomenon and movement of transformation, registering and tracing the capacities, metaphysics, and ontologies of actors in their construction of the world through connections and assemblages (Latour, 1996). Latour build on the concept of assemblages from the ideas of Gilles Deleuze and Felix Guattari (1987), who defined assemblages as a multiplicity of liaisons, relationships, and connections in an interactive co-functioning of alliances, symbioses and 'sympathies', forming a whole (Deleuze & Parnet, 1987). It is an (spatial) arrangement and interaction between humans and nonhumans that creates agency, as its French translation emphasises, 'agencement' (Müller, 2016), as well as a relational process of composition (McFarlane, 2011), emergence and becoming (Farías, 2009), generally emphasized as a descriptor of reassembling and disassembling sociomaterial transformations (McFarlane, 2011). As De Landa (2006) presents, assemblages are characterised by "*relations of externality*", meaning that their parts are not fully defined and predetermined by their own (internal) relations, but are self-subsistent and semi-autonomous, and can therefore be separated and connected to other assemblages, engaging in totally different interactions, without losing their defining properties. Assemblage shift attention from singular components to their capacity for interaction and performance in *becoming*. Following Deleuze & Guattari, Müller, like DeLanda (2006), summarises assemblages in five constituent features (2016), noticing the differences, commonalities and cross-fertilisation between assemblage thinking and ANT (Müller & Schurr, 2016): 1) *relational*, uniting different arrangements into a whole; 2) *productive*, generating new behaviours, expressions, actions, realities and territorial organisations; 3) *heterogeneous*, linking both nature and society, human and non-human, in its hybrid character; 4) continuous dynamics of *deterritorialization / de-codification* (increased internal heterogeneity and destabilisation/alienation) and *reterritorialization / re-codification* (increased internal homogeneity and stabilisation) (De Landa, 2006, 2016), in what Latour also calls processes of localisation and globalisation; and 5) *desire*, highlighting its corporeal component. In this sense, the network in ANT does not assume the role of a determining structure of social reality, but a process of associations assembled by different agencies (human and non-human) that 'frame' and 'sum up' interactions through different kinds of forms, formulas, devices, and inscriptions (Latour, 1999). ANT's perspective thus emphasises the analysis of these assemblages close to the places and practices where interactions take place, linking social forms to the production of 'local totalities'

("oligoptica"[58]) and 'total localities' (agencies) (Latour, 1999; 2006). The resulting networks make us of a relational approach to scales, which are not represented by "vertical" geographical levels of interaction, but by the intensity, diversity, and strength of "horizontal" forms of associations. This can be also represented as a (social) space (Lefebvre, 1974), a Society of The And (Toorn, 2008), or as Deleuze and Guattari (1987) put it, a "rhizome", not always purely presential or absolute, but associative and relational, diluting the hierarchies between global and local, time and space, and breaking down the "tyranny of distance and proximity" (Latour, 1993).

Agents have physical, face-to-face interactions in a given space, but they also interact in a heterogeneous network that links them in the simultaneity of time, place and actors (Latour, 1996), Network are at once "real, like nature; narrated, like discourse; and collective, like society" (Latour, 1993). These propositions become even more evident when analysing our relationship with food, as an encounter with multiple actors, cultures, landscapes, and relationships that connect us to different places, spaces, and times. This can be seen in production areas, distribution systems, food industries, kitchens, nourishment spaces and food waste or valorisation, as well as cultures, traditions or food varieties that arise from the intergenerational and interspatial processes of dialogue and interaction linked to our daily need to feed each other. As Latour points out, these interactions can be physical, but above all relational, framed by other actors (also from the past) in active processes of 'localisation' and 'globalisation'[59] (Latour, 1996), reterritorialization' and 'deterritorialization' (Müller, 2016; DeLanda, 2006, 2016). These processes are carried out by bodies[60] in the interweaving of interactions and displacements in distant times and places (Latour, 1996). The task of the ANT researcher is therefore to describe, trace and identify these |different circulations of transformations and connections between actors, highlighting, as Latour points out, the different figurations, ontologies, and metaphysics that they use and identify in their everyday construction of the world (Latour, 1999).

In his landmark book, "*We Have Never Been Modern*" (Latour, 1993), Latour proposes a critique of modernity by exposing the 'false' division, or work of "purification", at the heart of the classical dualism of modern thought between object and subject, nature and society, human (culture) and non-human (nature). Latour reframes these discussions, challenging both objectivism and social constructivism in an attempt to re-establish a symmetry and union between the two branches in terms of networks and associations, advocating a new language and political and epistemological constitution, the 'non-modern', that goes beyond the modern gaze (Latour, 1993). The author proposes and highlights the emergence of a second dichotomy between practices of "purification"[61] and what the author calls "translation" or mediation, referring to the latter as a set of practices in the

[58] Latour presents the '*oligoptica*' as a "sturdy but extremely narrow views of the (connected) whole" made possible "as long as connections hold" (Latour, 2006).

[59] Another useful concept is proposed by Swyngedouw (1997, 1992) regarding the combined process of 'globalisation' and 'local-territorial reconfiguration', also called 'glocalisation', in the conflictual restructuring and differentiated processes of spatial scales. As emphasised by Brenner (1999), capitalist globalisation has also entailed territorial reconfigurations at global, national, and urban-regional scales (1999), as in European decentralisation processes and the growing role of 'world' (Friedmann, 1986) and 'global' cities (Sassen, 1991) in wider production processes.

[60] Lefebvre (1974) also emphasises the centrality of the body in the production of space. As the author describes, the transformations of distant territories can only be explained by their nearest transformations. This is: in the way they pass through and modify our bodies. It is through the body, both passively (through the senses) and actively (through work and action), that social space and its interconnections are prefigured; in short, "(social) space proceeds primarily through the body". In revealing the importance of the "analysis of rhythms" for the restoration of a total body, Lefebvre's approach calls for more than abstract methodology or theoretical conceptualisation, focusing on the analysis of concrete reality to reveal the ways in which space and bodies are transformed and their own spaces produced (Lefebvre, 1974).

[61] Latour (1993) refers to 'purification' as a set of practices creating and reinforcing the divide between two entirely distinct ontological zones, that is, human beings (subjects) and nonhumans (objects).

creation of mixtures and hybridisations between nature and culture, object, and subject, such as the formation of networks (see Figure 7; Latour, 1993). Modern thought has placed them in dialectical tension, separating them as absolutely distinct practices, while obscuring the latter. The author describes these paradoxes in the 'constitution' of modern thought, which ascribe to four different 'guarantees' (Latour, 1993). First, nature as a radical 'transcendence', relative to its universality, absolute character and external social construction and fabric, such as the absolute approach to space presented above. Second, the 'immanence' of society, relates to the social construction and mobilisation of society and, thus its malleability, artificiality and 'free to be changed' (Latour, 1993). The third guarantee ensures the separation between these two, annulling their relationship and placing them in absolutely different positions, practices, networks and products. This separation builds the second dichotomy described by Latour between the 'practice of purification' and 'practices of translation' or mediation (see Figure 7). Finally, the fourth guarantee defines the arbitration function of a "crossed-out God" in stabilising the asymmetrical and dualistic system between these two poles (Latour, 1993).

We have never been modern, in this sense, defends the critique that the modern dualism and 'constitution' do not fully represent our actual way of thinking and *de facto* acting, defining the invisible proliferation of "hybrids" or "socio-natures", such as cities, linking the transcendence and immanence of a non-modernity. Drawing on the theoretical approach of Michel Serres, Latour calls these "quasi-objects" and "quasi-subjects"[62], new mixtures violating the constitutive principles of Modernity and thus officially hidden and banned, as are their networks of translation and mediation (Latour, 1993). On the one hand, the 'quasi-objects' define subjects (society, state, institutions, individual) that become stable and permanent, transcending social relations through the inscription and transformation of non-humans in time and space (Latour, 1993). On the other hand, the 'quasi-subjects' emphasise the construction and mobilisation of objects (nature), leading to a partial immanence and artificiality. In this respect, the authors, in discussing the practices of translation, emphasise:

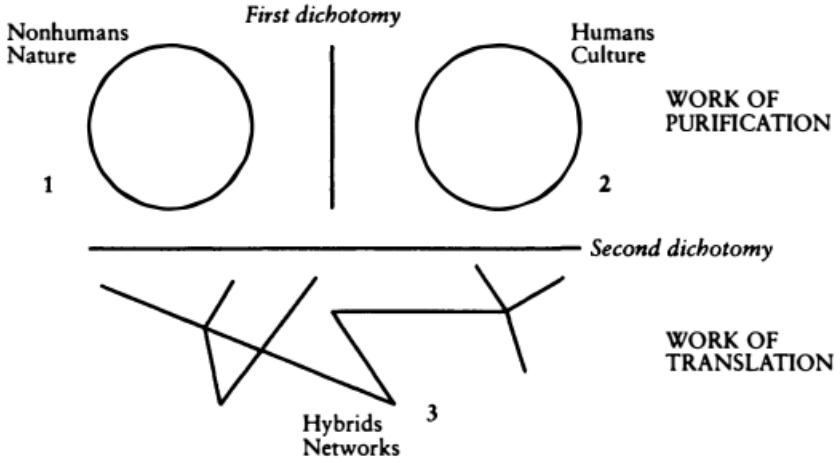
> "*There is indeed a nature that we have not made, and a society that we are free to change; there are indeed indisputable scientific facts, and free citizens, but once they are viewed in a nonmodern light they become the double consequence of a practice that is now visible in its continuity, instead of being, as for the moderns, the remote and opposing causes of an invisible practice that contradicts them*"
>
> (Latour, 1993).

Food itself could be interpreted as both subject (cultural) and object (natural, physical), a socio-nature both quasi-subject/object, representing on the one side the socio-ecological conditions, and 'stabilities', that configure the kind of food (and spaces) that are and can be produced in a given environment, and on the other side the (immanent) cultural practices, knowledge and discourses that hold together our relationship to food. Subjects are constantly transforming and being transformed by their surrounding and distant food spaces, environments, objects and actors, resulting in the production of culturally and spatially specific anthropogenic landscapes, production practices, distribution systems and infrastructures, technological developments, synthetic products or

[62] See also Lefebvre's discussion on "second natures" in footnote 70; and Donna Haraway's 'cyborg' concept, as a cybernetic creation, a 'hybrid', of machine and organism (Gandy, 2005; Haraway, 1991). Proponents of urban political ecology build on these concepts, presenting a critical analysis of capitalism and urbanisation as fundamentally hybrid processes through which social and biophysical elements are assembled, intertwined, and transformed, in the production of socio-natural '*cyborgs*' (Cook & Swyngedouw, 2012; Swyngedouw, 2006) and socio-technical entanglements and urbanisations of interconnecting life support systems (Gandy, 2005; 2018).

genetically modified foods, among others, without forgetting how these also shape our bodies, cities (see also the concept of "*obecity*" in page 62), social interactions and political struggles. This emphasises both fixities and artificialities of food spaces, institutions and practices, and the related translation practices at the base of their continuous production and reproduction. Some examples of the implementation of assemblage and actor-network theory (ANT) in urban food spaces can be traced in Richardson and Whatmore's analysis on Food Networks (2009), Farhangi et al., (2020) and Hosseinifarhangi's et al. (2019) work on technology-driven transitions in urban food production practices[63], López-Cifuentes and Sonnino's (2024) analysis of the assemblage-based approach for the transformation of food environments; as well as in urban theories such as on urban assemblages (Farias & Bender, 2010); the global city (Sassen, 1991), urban re-assemblages (Sassen, 2008); translocal assemblages (McFarlane, 2009); global grids (Rankin, 2016), the Megactiy (More, 2017) and urban comparativism (Robinson, 2022; Le Galès, & Robinson, 2023), among others. The network approach, as analysed by Richardson and Whatsmore (2009), facilitates an empirical understanding of the material forms that connect humans and non-humans, opening up to a politics of a "more-than-human others", through the intercorporeal relationships that are required to feed each other, connecting with Colombino and Ermann's (2022) perspectives on "*non-anthropocentric food geographies*". In their analysis of food networks, such as Fair Trade, Richardson and Whatsmore (2009) draw on ANT to identify four key analytical commitments: 1) *relationality* and *co-production* between nature and society, as mutually constituted actors/entities in a continuous process of interaction and becoming, (in)forming networks; 2) *embeddedness*, referring to the particularity and contextuality of places and socio-natures that locate and inform the interactions of (food) networks beyond global and local notions; 3) *materiality* and *embodiment*, referring to the physical and metabolic relations and transformations that connect bodies in the formation of specific socio-material assemblages; and 4) *topological spatiality*, proposing a view of food networks as active, folded and relational spaces formed by interaction, connections and continuities of socio-ecological relations (Richardson & Whatsmore, 2009).

FIGURE 7: MODERN DICHOTOMIES AND PRACTICES: PURIFICATION AND TRANSLATION.



SOURCES: LATOUR, 1993.

[63] Hosseinifarhangi et al. (2019) demonstrate the active role of agricultural technologies in the transition to High-Tech Urban Agriculture in Shanghai. The authors show how material entities, such as technologies, shape the relationships between actors and social entities, and how these are adapted for local diffusion.

2.4.5. The 'metabolic rift' and Marxist socio-ecological theories

The environmental sociologist John Bellamy Foster, in his discussion of the concept of the 'metabolic rift' (1999), provides another useful approach to the socio-spatial analysis proposed here. Foster draws on Karl Marx's theory of social-ecological metabolism ('*Stoffwechsel*') to describe the whole energy (nutrient) chain and the alienation between human production and natural conditions. As the author describes, it is this rupture that underlies the separation between town and country, agricultural production and consumption, and the nutrient chains (soil fertility, carbon cycles, etc.) that sustain their conditions of reproduction (Foster, 1999). Marx's theoretical approach is based on the central role of the labour process in the metabolic interaction between nature and man (1999). Labour as a process defines the way in which human actions, mediate, regulate, and control metabolism in their relationship with nature, adapting the latter to the needs of the former. Materials and flows of nature represent the natural force or energy that enables human beings to act with their bodies and minds on the external nature, to transform it and to be transformed and conditioned by it (Foster, 1999). A synthetized by Marx: "man is a part of nature" (1974, p. 328 in Foster, 1999) and this relationship is made evident through the analysis of socio-ecological metabolic processes.

Food becomes an ideal and concrete example to describe this relationship. Food is produced and transformed through our dialogue and action with and in nature. Whether in growing, processing, distributing, or disposing of food, this relationship determines how we regulate, control and alter nature to respond to our daily need to feed each other. At the same time, this flow of nutrients transforms our bodies – as demonstrated by the 'nutrient transition' or the 'double burden of malnutrition' (HLPE, 2017; see footnote 3) – and determines the very transformation of (food) landscapes and environments that support our daily access and relation to food[64]. These relationships are embodied both physically and socially in space, through the institutions, laws, actors, and cultures that facilitate the flow of specific types of foods, as well as the infrastructures, technologies and built environments that govern, maintain and locate these different spaces. As Foster summarizes, these are both 'conditions imposed by nature', regulated by natural laws and governing physical processes, and the capacity of humans to influence and be transformed by these processes, "creating new conditions of existence" through "institutionalised rules governing the division and organisation of labour and the distribution of wealth" (1999). Socio-ecological metabolism thus consists of the transfer and exchange of energy and materials ('*Stoffwechsel*') between an 'external' nature and society (Foster, 1999). To quote Cook and Swyngedouw (2012), it is the process by which biophysical matter, such as food, is transformed into "usable, ownable, and tradable commodities" (Coe et al., 2007) through the exploitation of human labour (Swyngedouw, 2006), making it a fundamental process of social reproduction (Foster, 1999), power relations and environmental and social injustices (Cook & Swyngedouw, 2012). The socio-ecological metabolism underpins therefore the reproduction of social relations as well as of the natural conditions that enable their maintenance. These cycles do not end with final human consumption, but continue, as in the disposal of food waste, digested food, and general nutrient cycles. However, these nutrients do not always return to the places from which they were taken (soil), but are treated, sometimes reused, or accumulated in distant and growing *wastescapes* (Amanda & Van Timmeren, 2018), highlighting the current urban imbalances and

[64] We could trace this for example in the historical construction of terraces for hydrogeological stability, waterways, waste management, food markets, soil fertility or erosion, among others.

depletions analysed in the concept of 'metabolic rift' proposed by Karl Marx[65](1976) and re-proposed by Foster (1999).

In his analysis of urban agriculture, McClintock provides additional useful elements by proposing three interdependent theoretical dimensions for analysing the 'metabolic rift': ecological, social, and individual (2010). The first, 'ecological rift', describes the biophysical metabolic relationships (such as nutrient or carbon cycles) and the spatio-temporal restructuring processes they undergo for production, in this case, of food. We can see this in the increasing degradation of soils, ecosystems, and biodiversity loss, resulting from the globalised and disconnected nature of contemporary food systems from the biophysical cycles that sustain their ecological reproduction. The second, 'social rift', relates to the processes of commodification and rupture of the multi-scale social relations that bind us to land, labour, and food. This can be seen in the increasing separation between the different actors in the system, in a highly efficient and almost 'invisible' chain that reduced our relationship to food to mere purchase and choice, separating, and obscuring the multiple kind of relations, politics and networks that bind us to food and all the human and non-human agencies involved. Finally, the 'individual rift' refers to the alienation, distancing or 'dissembedding' (Giddens, 1990) of human beings from nature and the products of their labour (McClintock, 2010). This can be seen in the increasing disengagement and 'illiteracy' of certain sections of the population in relation to food, the unequal access to healthy diets and the low awareness of food quality, impact, preparation, and origin.

2.4.6. Socio-ecological metabolism: Urban food forms, processes, and space

Swyngedouw (2006) emphasises circulation and socio-physical metabolism as entry points for analysing space and its embodied unequal power relations in the making and remaking of the urban. As emphasized by Foster, the socio-ecological circulations and metabolisms are understood as socially driven processes of ecological and technological transformation through nutrient and material flows (Swyngedouw, 2006). These flows are configured by power and social structures facilitating and limiting the access to resources and modes of production under capitalist developments (Cook and Swyngedouw, 2012). Cook and Swyngedouw (2012) highlight the 'scalar form' of metabolic processes connecting and shaping multiple places, spaces, and actors[66] (Swyngedouw & Heynen, 2003). From this perspective, urban food can be seen as a process of geographically arranged socio-environmental metabolisms that underpin the daily nourishment, organic and social reproduction of urban spaces. The circulation of food links numerous actors in different places, both human and non-human, mobilising and connecting networks in the formation of continuously evolving extended spatial organizations (Cook and Swyngedouw, 2012). Urban spaces are interpreted by these theoretical orientations as social and spatial processes in the production of socio-technical 'hybrids' or 'cyborgs', both organic and mechanical "life support systems" (Gandy, 2005; Haraway, 1991; see note 19). Other authors suggest seeing 'cities' as nodes

[65] Building on the groundbreaking discoveries in soil chemistry made by the German agricultural chemist Justus von Liebig in the 1840s, Marx builds an important critique mobilising his concepts of alienation and 'metabolic rift' around his analysis of the loss of soil fertility associated with the productive exploitation and exhaustion of the land brought about by capitalist agriculture: "undermining the original sources of all wealth – the soil and the worker" (Marx, 1976).

[66] Some examples of this can be seen in material and discursive strategies implemented by actors at multiple scales, the consequences of (supra)-national or regional policies and decision-making at the local level, social and institutional restructuring processes such as decentralization, the "hollowing out of the state" (Jessop, 2000) and multilevel governance (Rodríguez-Pose &Gill, 2003), and ecological changes, as climate change, biodiversity loss, and soil degradation, among many others.

in wider geographical networks of flows of people, materials, energy, and information (Amin & Thrift, 2002; De Munck, 2023) circulating at different spatial and temporal scales (Batty, 2013). Hinchliffe and Whatmore (2006) emphasise an approach to socio-ecological processes as 'living cities', organisms where different human and non-human ecologies intersect. Taking and assemblage theoretical approach, urbanisation could be interpreted as a continuous and active process of deterritorialisation (globalisation) and reterritorialisation (localisation), linking different ecologies of urban and non-urban ecosystems and their associated actors (human and non-human) in the formation of particular forms of metabolisms and urban spaces. Urban forms and their associated food metabolisms are thus a reflection of "the political dynamics of urban space" rather than a "neutral" result of the concentration of population in urban cores, linking wider territories, ecologies, and places in highly uneven socio-spatial transformations[67] (Swyngedouw, 2015; Gandy, 2018). Social and physical channels or networks, such as institutions, infrastructures, norms, or technologies, facilitate the circulation of these materials, information and energy, often in uneven and contingent ways, in what Virilio calls 'metabolic vehicles' (1986 in Cook & Swyngedouw, 2012). Inostroza and Zepp (2021) analyse these processes through the concept of metabolic urban networks (MUN), linking extended metabolisms in a space of socio-material flows that result in the production of a growing 'technomass'.[68] Greg Keeffe (2016) puts it in terms of a food hardware (technical) software (biotic) interface (social), as a multilayered urban design strategy based on networks and agents. While Brückner et al. (2019) analyse the 'natureculture' entanglements of alternative food networks, introducing the concept of '*human-animal magnetism'* as the attraction and disassociation between human-animal interactions[69].

The Metabolist approach discussed above opens further views to analyse the urban and food relationship under a socio spatial perspective. These authors invite us to analyse urban relations as socio-ecological networks that transcend the city, linking different scales and places (urban and rural) in complex, heterogeneous and unequal processes of urbanisation, both social and spatial, human, and non-human, in what could be called socio-natural hybrids, 'cyborgs', 'technonatures' (White & Wilbert, 2010) or second natures[70] (Lefebvre, 1974). These authors also emphasise (urban) metabolisms not only as socio-technical processes but essentially rooted in a deeply political dimension (Cook & Swyngedouw, 2012). In doing so, Cook and Swyngedouw call for an examination of the 'urban' through its past and present socio-ecological metabolic flows and circulations, such as food, interrogating the social, political, institutional, and technological infrastructures that have sustained and continue to sustain these (urban) transformations and their consequences in terms of social inequalities and political possibilities (2012). As the authors point out, reclaiming the political character of space allows us to 'think critically' about the kinds of cities (and urban relations) in which we live and want to live in the future, and to begin to consider the kinds of metabolisms and

[67] A useful case is presented by Swyngedouw (2015) in his analysis of the power and politics of water and the resulting hydro-social organization of changing waterscapes in twentieth-century Spain, exposing the power relations through which urban forms and processes are made, or attempted to be made, 'normalised', 'inevitable' and 'universal' (McFarlane, 2011).

[68] Inostroza and Zepp (2021) describe the resulting 'technomass' of urban metabolism as an anthropogenically processed matter.

[69] Similar analysis for foodscapes has been also proposed by Leroy et al., (2020) analysing the human-animal interaction and contemporary narrative on the role of livestock in evolving foodscapes and emerging thoughtscapes.

[70] Nature, as analysed by Lefebvre, is continually being destroyed and reconstructed in what he calls a 'second nature', a produced space, not only material but also relational, witnessing the configuration of an urban (social) reality in the way we act and produce space (Lefebvre, 1974). Urban produced environments are therefore the result of specific historical socio-environmental processes (Heynen et al., 2006), in which the accelerating metabolic transformation of nature becomes most visible, both in its physical form and its socio-ecological consequences (Swyngedouw & Heynen, 2003).

circulations, and hence the associated socio-spatial 'vehicles' and infrastructures, that are needed to shape these new 'urban (food) utopias' (Cook and Swyngedouw, 2012; Heynen, 2013). It is in these new political spaces, or assemblages (Marsden et al., 2018; see subsection 2.4.4), that new alternatives begin to open up for rethinking the way we live, plan and produce the urban in relation to food, reflecting and responding to our individual, collective and ecological purposes for feeding each other (Heynen, 2006).

2.5. Socio-spatial analysis and the 'politics of (urban) space'

Invitations to a *'politics of space*' (Certomà et al. 2012) constitute a call for critical engagement with the inequalities and exclusions that materialise in and through spatial dynamics, practices, and configurations. These proposals question the view of space as a neutral and absolute container, external to our social reality, and reflect on the relations of domination and power. As highlighted above in the space as "stage" approach, spatial configurations actively shape and influence our social relations, at the same time as they are continually given meaning and shaped by social interaction. In Lefebvre's terms, space is "neither a 'subject' nor an 'object', but a social reality", that is "a set of relations and forms" (1974). The resulting "social space is multifaceted: abstract and practical, immediate and mediated", multiple and multiform (1974). Space is not something given or essentially external to human relations, but a result of our social relations, in which nature itself is an active actor. In short, the spatial dimension of our lives is essentially political and subject to constant negotiation, contestation, and discrimination (Cook & Swyngedouw, 2012; Certomà et al. 2012). Lefebvre presents this theorisation of spatial action as a 'project', advocating for a different vision of space in which the very politics of (social) life and its different modes of production are implicated (1974). This vision is concretely embodied in the relationship we forge with food *in*, *through* and *as* a space (see discussion in subsection 3.2), including its different moments (production, distribution, consumption, etc.), networks, actors, behaviours and modes of production and co-production (see footnote 135 for discussion of 'prosumption' and 'co-production').

The politics of space express social relations, but, as Lefebvre points out, it also reacts against them (2003), through 'strategies' or forms of planning that impose ideologies, interests and powers in a homogeneity and rationality that limit their complexity at different levels and dimensions (2003). The urban forms generated here are thus framed in the centrality and dialectical movement of urbanisation processes, linking other places and spaces in networks of production and distribution (as detailed in the socio-ecological metabolism). The resulting urban forms become visible in space, on a morphological and sociological level, but are also opaque and hidden in the relations of power and discrimination it embodies, representing both a 'stage' of struggle and the very target of the struggle (Lefebvre, 1974). The "right to the city" (Lefebvre, 1968) is thus the struggle for centrality, for the political form and possibilities of the urban, for its decisions and actions of power (Lefebvre, 2003).

The politics of space situates these struggles between "science and utopia, reality and ideality, the lived and the conceived", linking practice and knowledge in a struggle for the "possible" and the "impossible" (Lefebvre, 1974). This approach requires a critical view of its current configurations, vehicles, and relations, of both human and non-human actors, as well as of the "close" and "distant" territories that come together in urban reality. To this end, the author advocates for a distinction between "science of space" on the one hand, and the actual knowledge of the "production of space", not only of its singular components, but in the totality of spatial practices (see subsection 2.3 and Figure 6). The emphasis here goes beyond the geographical description of natural space, but rather

on the study of natural rhythms and how they are modified and inscribed (produced) by human action (1974). These struggles include the multi-scalar nature of cities, including urban-rural relations, the wider geographies of socio-spatial transformations, and the range of policies and social infrastructures involved. In short, it defines the critical analysis and engagement with the social practices underpinning the spatial and temporal transformations of nature. These are the results of the appropriation and management of space, as well as the confrontation and continuous negotiation of its social production, both at the 'micro' or 'habiting' (architecture and dwelling), 'medium' or 'mixed' (the city, urban planning, and its dichotomy with the rural) and 'macro' or 'global' levels (markets, spatial and regional planning, national and global policies) (Lefebvre, 1974; 2003).

2.6. Enabling and disabling transformations: spatial qualities and infrastructures

The different fields and approaches outlined above highlight the interconnectedness of the different elements that make up the everyday interactions and lives of individuals and communities, their 'lifeworld' (Habermas, 1987) or 'Lebenswelt' (Weber, 1968), and their related struggles and 'politics of space' (Lefebvre, 1974). Socio-spatial analysis aims to inquire on the specific modes in which space is appropriated by human beings, defining, and being defined by urban forms, experiences and relationships, and to address their specific spatial qualities and socio-spatial configurations (Moulaert et al., 2013; Khan et al., 2014). Spatial qualities can be seen as attributes, metabolic vehicles (Virilio, 1986) or characteristics resulting from the complex socio-spatial arrangements mediated by policies, institutions, strategies, and actions, as well as physical and organisational infrastructures that enable or disable (food) spaces to respond to the (desired) values and needs of their inhabitants (Khan et al., 2014). Moulaert et al. (2013) argue that the quality of a space or place is not determined solely by the intrinsic value of its objects, but also by their experiential value and use on both personal and collective levels. This facilitates the development of certain spatial experiences, practices, and relationships. As noted by the authors, these objects are shaped by the perceptions, ways of thinking, competencies, sensibilities, and socio-spatial and inter-subjective relations of a particular society, defining their attributes and significance (2013).

The quality and infrastructures of space enable or impede certain food metabolisms to flourish locally or expand along global networks and relations. These infrastructures can be both spatial (physical) and social, forming key structuring capacities (Giddens, 1994), habitus (Bourdieu, 1985) and qualities of space (Khan et al., 2014). Infrastructures shape our spatial experiences (Carmona, 2014; Milligan, 2015; see discussion on landscape infrastructures in subsection 4.1.4), as well as the way we eat and relate to food, allowing certain experiences to occur and others to be constrained, depending on the specific conditions, value systems, policies, historical place-based modes of functioning and broader socio-ecological changes (Carmona, 2014). These conditions define the specific 'qualities' of space and the way these respond to the different cultural values, knowledge, and practices (habitus) of groups (Rapoport, 1970), as well as their social relations, networks and organisations (fields), configuring their different modes of production, consumption, reproduction and spatial organisation at both territorial and household[71] levels. These insights can be traced in the analysis of the

[71] Feminist approaches have played a crucial role in highlighting the importance of the (in)visibility of particular food spaces such as the household, the private sphere, domestic work and community relations that underpin the configuration of particular kitchenscapes, tablescapes, platescapes and foodscapes (Christie, 2006; Sobal & Wansink, 2007). These spaces embody and actively shape the reproduction of power relations, socio-economic dynamics, habits and roles, and the intersectional inequalities that cut across our relationship with food, such as gender, race, class, etc.

'conviviality' and 'liveability'[72] of urban spaces (van Kamp et al., 2003; Alidoust, 2023) and the implications of urban designs and policies on food practices in public spaces (Elshater, 2019).

Spatial qualities can be seen along the different moments of food spaces (see subchapter 3.2) in the development of new highways and supply chains (movement and distribution), markets and commercial networks (access and exchange), fertile soils, water supplies, agricultural technologies and infrastructure (production), food industries and restaurants (processing), school canteens or home kitchens (nourishment), composting or urban waste sites (disposal and valorisation), as well as institutional frameworks, governance structures, norms and policies (social and political).

The development of these different spatial elements is not neutral or external to social processes, but are embedded in particular power dynamics, economic interests, social practices, and ecological changes that materialise in particular spatial patterns and landscape configurations as well more localised arrangements such as supermarket layouts and positioning or kitchen set-ups. This is true not only in terms of reterritorialisation processes and hence 'presence' (Giddens, 1990), but also in terms of their wider metabolic 'rifts', 'dissembedding' (Giddens, 1990; see subsection 2.4.1), deterritorialisation (Magnaghi, 2010) and 'decoupling' processes, configuring the (un)equal or (non)existent production of, access to and presence of healthy food in urban and non-urban ecologies, and their growing geographical interdependencies and imbalanced metabolisms with distant 'others' (Giddens, 1990), both socially, culturally and materially.

Food plays an active role in the organisation of (urban) space, influencing and incorporating specific qualities and conflicts between different modes of production (e.g. urban and community gardens, agricultural fields, housing, speculation), infrastructures (e.g. irrigation systems, machinery, distribution centres, waste landscapes), groups and ethnicities (e.g. Chinatown in New York or Toronto and its circumscribed food habits and offer), types of food and accessibility (e.g. food 'deserts', street vendors, fast food chains, restaurant areas, markets, etc.), sensory experiences (e.g. smells, sounds, touches, colours and images of food, and tastes), practices and celebrations (e.g. festivals, local holidays and the foods associated with them), among many others. In the food literature, these qualities have been reflected in the analysis of 'food environments' (Kelly et al., 2011; HLPE, 2020), understood as the immediate and surrounding contexts that influence our practices, habits, availability and access to food; as well as in the concept of *foodscapes* (Vonthron et al., 2020), ranging from spatial perspectives, similar to those of food environments, systemic approaches, and the analysis of policies, socio-economic and cultural dynamics that influence our relationship with food in nearby and distant places (see subsection 4.2).

As these different authors emphasise, spatial analyses cannot simply remain as an abstract conceptual model but serve as theoretical tools for understanding and deciphering the concrete reality in which socio-spatial dynamics are situated, of a '*double*[73] (Giddens, 1990) and *critical hermeneutics'*

[72] The concept of livability becomes particularly useful in this analysis, highlighting the material and social wellbeing, health and quality of life of people in a given space (van Kamp et al., 2003; Alidoust, 2023). It focuses on the viability or 'enabling' factors for the production and reproduction of these conditions, the quality of the 'livable' experience, and the (in)visibility or equity of access to these factors, both individually and collectively (Alidoust, 2023). The focus is on both the social and spatial conditions and infrastructures that provide certain services (access to healthy food), the products and outcomes of their use (healthy nutrition, socialisation, food culture, etc.), and the context-specific requirements of a society, needs and capacities to access these resources (Veenhoven, 2001 in Muñoz-Martinez, M.A., 2017).

[73] Giddens emphasises the bidirectional relationship between the social sciences, in this case sociology, and social life, its subject of interest, as a specific feature of this field of study and as a model of reflexivity. Social science concepts not only describe or seek to understand social reality, but also connect with and influence the very reality they analyse by "re-

(Habermas, 1987; see subsection 2.4.3). These critiques stress the need to avoid the 'reification of space' (Gans, 2002) by focusing on the empirical evidence and concrete ways in which space affects social life and collectivities, and how they actively shape it into "social space"[74] (Gans, 2002). This also means analysing space not only in terms of physical structures or 'objects', but also from its production and 'concrete abstraction' (Lefebvre, 1974; see subsection 2.3) through the social practices, networks (Latour, 1999), qualities (Khan et al., 2014) and socio-ecological metabolisms (Cook and Swyngedouw, 2012; Gandy, 2015; Heynen, 2013) that are created in the socio-spatial dynamics to feed each other every day. As Prachi More put it explaining Latour's thought, this requires a change in the conventional logic of research, embracing an empiricism of a 'new order', more precisely, a shift in focus from 'objectified' 'matters of fact' towards a 'realist attitude' of more complex and historically situated 'matters of concern'(2017). This analysis, as Lefebvre puts it, does not start from the objects or physical spaces of nature, but from an analysis of natural rhythms and the way they are modified and inspcribed in space by human activity, both socially and physically (1974) through our daily need to feed eachother. Socio-spatial analysis thus seeks to shed light on the connections between the physical spatial basis and the social relations it supports by critically interrogating those "institutions, substitutions, transpositions, metaphorisations and anaphorisations" that have transformed the spaces under consideration (Lefebvre, 1974). The socio-spatial analysis is not limited to the application of abstract knowledge *about* space. Instead, it is an analytical tool to investigate the type of (food) spaces in which we currently reside and aspire to live in the future (Moulaert et al., 2013). These inquiries contribute to Soja's proposition to analyse "how relations of power and discipline are inscribed into the apparently innocent spatiality of social life" (Soja, 1989) and how food spaces shape and are shaped by urbanisation processes, as a 'stage' (Heynen, 2013).

The following subsection introduces the main spatial approaches used in the urban food literature, interrogating the concept of urban food systems to explore the relationship between the urban and food from a critical socio-spatial perspective.

entering the universe of what they were originally formulated to describe (Giddens, 1990). Giddens summarises this as "*sociological knowledge spirals in and out of the universe of social life, reconstructing both itself and that universe as an integral part of that process*" (Giddens, 1990).

[74] In his book, *the Production of Space* (1974), Lefebvre questions the social sciences' increasing attention to *relations* as objects of study, asking: "where is the relation if it is not actualised in a highly determined situation?" As the author exposes, the social relation cannot exist without material support. In this sense, *social space*, which represents both 'things and non-things', does not resolve itself only in mental reality, in abstractions, nor as a collection of things in space. It has an 'actuality' distinct from that of the abstract signs and 'real' things it contains (1974). The initial basis or foundation of social space is nature, as natural or physical space, upon which are superimposed (social) forms that "transform, displace or even threaten to destroy it", in layered networks, both material and social, including roads, logistics centres, Internet connections, and so on (1974). In this sense, social relations, as defined by Lefebvre, are 'concrete abstractions' that have their basis in and through space.

3. Urbanisation and the production of food spaces

3.1. Urban Spaces Beyond 'Cityscapes'

'Cityscapes'[75] (Gruen, 1955), identified today on its classic interpretation as a continuously constructed area (Cusin et al., 2016), have come to be referred to as the privileged space of 'collective surplus, power, and fête', as well as of human agglomeration and production itself (Monte-Mor & Castriota, 2018). Throughout time, this unit, as the phenomena producing it, have been significantly transformed, as an expression of the changing circumstances of different historical periods, from the *ancient, political, commercial, commune* or *medieval city* to the *mercantile, colonial, industrial* or *modern* one (Reissman, 1964; Lefebvre, 2003). The *political city*, for instance, is closely related to the establishment of organized social life, agriculture, and village, and is represented as a locus of power, administration, and territorial control (Lefebvre, 2003), while the *western medieval city* can be linked to the concept of *citizenship*, emerging out of the institutionalised associations of burghers – a distinct status groups subjected to special laws in the city (Weber, 1978, 1981 In Allen, 2004). The notion of *citizenship* is directly connected with the development of the *city-state* as a context for debate and policymaking, in the form of the Greek *polis* and the Latin '*civis' 'civitas',* the French '*cité*' and '*citoyen*' and later also in the '*Bürgertum*' (Allen, 2004). These concepts have contributed to consolidating the notion of the city as a unique socio-cultural environment for rational discourse and social and political rights (Turner, 1993; Le Galès, 2002), placing the city in a *revolutionary* and 'special developmental position' (Allen, 2004).

The word *city* was first used in the thirteenth century and generalized only in the Victorian period in contrast to the countryside (Monte-Mór, 2005). The latter, traditionally represented as the privileged space of agrarian life and production, was brought into dialectical tension to the city as its antagonistic co-constitutive element (Monte-Mor & Castriota, 2018) and epistemological condition of possibility (Brenner, 2013a). As described above, the definition of boundaries, in this case, the city space, demarcates and involves the constitution of at least two spaces and multiple places (Löw, 2016), expressed in the historical dichotomy between the "city" and the "countryside". This contraposition, as described in Santangelo (2019), has been useful and common in the historical definition of the urban, as a basis on which it has been recognized and differentiated. The urban[76] and the rural (*rus-*

[75] Gruen's "*cityscape*" refers to the built environment of buildings, paved surfaces, and infrastructure (1955). In his analysis, Gruen subdivides this concept into 'technoscapes', 'transportscapes', 'suburbanscapes' and 'subcities' as 'scourges of the metropolis' (1955). In contrast, Gruen offers a perspective on the "urban landscape" as an environment in which nature predominates, constituting a division between the city and its hinterland that becomes increasingly blurred as the city (materially) expands.

[76] As Monte-Mor and Castriota (2018) explain, the term 'urban' has a double connotation. On the one hand, the word 'urbanum', derived from 'plough', refers to its meaning as a settlement or physical form of space delimited by the furrow of ploughed land, "urbare", holding "the handle of the plow" (Braque, 2011) and marking the territory of Roman production and life. The urban world is born from this agricultural image (Braque, 2011), existing from the separation of its original free space, "countryside". Here the terms "urbe" and "urbs" were born to refer to Rome, the imperial city and centre of the world, which disappeared until the revival of the metropolis in modern times. The term urban reappeared in the 16th century to refer to the imperial city, particularly the urban centre of the British Empire (Monte-Mór, 2005). From the end of the nineteenth century, the term "urban" and the concrete world of urban life came to imply processes of industrialisation, either through the localisation of industrial production in the territory of cities or through its influence on the articulation of industrial and service centres between cities and agrarian regions. However, as Monte-Mor & Castriota show, following Lefebvre, the imaginary of urban life has gone beyond the city to encompass all processes of

ruris)[77] have thus come to be used as qualifiers and adjectives for supposedly distinctive elements and specific socio-cultural characteristics 'contained' in the city, '*urbe*', settlement or physical form of space (Monte-Mor & Castriota, 2018), and in the countryside, '*rus*', '*reous*' or 'free space' (Braque, 2011). These two different spaces are now mostly classified by structural-demographic or functional methods that include, among others, population density or economic activities[78] (Vinci, 2015; Pafka, 2023). Nevertheless, as Santangelo puts it, the "urban" and "rural" do not exist in nature, but they are socially and materially produced through human action (Santangelo, 2019) and theorization (Brenner & Schmid, 2014). They are essentially a 'social product'. As described by Prachi More (2017), rural space is not only an absolute and material setting, but it is also part of the shared or defended values and its strong sense of unity. The urban-rural dichotomy can thus be seen as a 'theoretical construct', helpful to the conceptualization of the urban and rural as specific types of settlements and socio-spatial organizations (Benner, 2013), but problematic today with the progressive expansion of the urban fabric and praxis along an *urban-rural continuum* (Pahl, 1966), both spatially and socially.

Augustin Berque problematises these distinctions in the development of the (urban) notion, invention, and idealisation of 'nature' (2011). The author highlights the construction of the urban as a separation from its original environment, an abstraction from the rural world to mark its existence, between the field and the forest, the "*ecumene*" and the "*ereme*", the world and the desert (2011). Starting from an agricultural image, based on its etymology of "*urbanum*", "*urbare*" or ploughing the land, the city created its own space both materially and symbolically, representing the essence of the *raison d'être* of a world that reinforces the distinction between culture and nature, the city ('the world') and the non-city ('outside the world'). In this way, the city began to 'naturalise rurality', turning it into nature, as the wilder side of our urban world (2011). However, as the author shows, the urban perspective not only invents the distinction between nature and culture, but also idealises it in a contemplative and paternalistic notion that excludes it from the work of the countryside and agriculture, making the latter not only constitutively different from the city, but also a non-natural element (2011). As Berque describes, agricultural work, with all its multisensory realities (sight, smell, sound, ploughing, etc.), in some cases contradicts and conflicts with the idealised and abstract notions of a natural and unspoilt rural landscape based on a contemplative fruitfulness and pleasure, that opposes to the material point of view of its utility applied in the peasant world. It is from this urban viewpoint, as Berque argues, that the landscape was born (2011). The urban implosion and explosion (Lefebvre, 1992), especially in the last fifty years, brings with it these contradictions, between a struggle for its protection and preservation, and its artificialisation and transformation, in the development of '*second natures*' (Lefebvre, 1992; see footnote 70), increasingly dependent on and produced by the spatial and social materialities of urban life.

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industrialisation, production and consumption, as an *abstract space* (Lefebvre, 1974; see subsection 2.3) supporting the reproduction of capitalist relations formed and developed in the urban-industrial context (Monte-Mor & Castriota, 2018).

[77] According to Augustin Braque (2011), citing Gransaignes d'Hauterive (1994), the word "rural" comes from the Indo-European root "reuos", meaning "free space". This was then brought into Latin with "rus" (field), "rusticus" and "ruralis", and to the old German word for "rüm" (free space), now called "raum" (space), similar to the English word "room".

[78] Here we highlight the emergence of the debate on urban population thresholds (UPT), which has taken place since the early 1930s (Brenner & Schmid, 2014), as an exercise in the arbitrary classification of an urban and a rural according to purely demographic and statistical thresholds of population concentration and settlement. Brenner and Schmid (2014) define them as statistical artefacts and a reification of the urban condition that maintain specific metanarratives, discourses and ways of seeing and projecting the urban as a reflection of, in or about the city and its counterpart, the non-urban or rural (Brenner & Schmid, 2014).

The idea of urban space has continually evolved even in recent times, into what has been referred to as a highly dynamic, variegated (Brenner & Schmid, 2015), as well as heterogeneous, historically produced and differentiated process (Robinson & Roy, 2016). The continuous changes and complex realities of these spaces have given rise to multiple definitions and conceptualizations of what we call *urban* and *city* (McFarlane, 2018), with concepts such as the metropolis (Martinotti, 1993), conurbation (Freeman, 1996), city-region or metropolitan regionalism (Dickinson, 1934; Rodríguez-Pose, 2008), megalopolis (Gottmann, 1961; Lang & Knox, 2013), extended metropolitan regions (McGee et al., 2007), horizontal metropolis (Viganò et al., 2018), regional urbanization (Soja, 2014), peri-urbanization (Cusin et al., 2016), urban fringes or peri-urban interfaces (Simon, 2008), among others. These different concepts reflect upon the changing conceptualization of boundaries, morphologies, and scales of human settlement patterns across the compression of time and space (Massey, 1994; Brenner, 2014), expressed in the so-called implosion/explosion dialectic invoked by Lefebvre (1974). In his book, *The Production of Space,* Lefebvre proposed the conceptualization of three layers in space, namely, a 'rural space', 'industrial space', and 'urban space', superposed, telescoped, and sometimes absorbed into one another (1974). The differences that are established in such spaces do not arise from an absolute, physical, and external space as such, but from that which settles there, that acts and produces space (Lefebvre, 1974). The view proposed by the author makes use of a relational approach to space, formed through social action and interactions of specific socio-economic and political conditions. It is not given or only contained, but created and appropriated through the way people experience, produce, practice, and reproduce life in specific contexts, containing and assigning the social relations of production and reproduction (Lefebvre, 1974).

Units are highly contested spaces, concerted and negotiated through ongoing political effort, and brought into coherence as discrete categories. As a unit, the urban is rendered stable and meaningful through social action, holding together a set of changing interactions, flows and circulations that are constructed, reproduced, and institutionalised over time (Löw, 2016; Fuller & Löw, 2017) by what we call an 'urban society' (Lefebvre, 2003). In this sense, the urban can be seen as a node through which multiple metabolic flows between 'nature' and 'society' interchange, coalesce and interact (Cronon, 1991 in Coulson & Sonnino, 2019), taking place at all spatial scales and being defined by the encounter, social interaction, organization and political struggle (Merrifield, 2013). A distinction shall be made here between what we call 'the city', as a particular kind of metabolic, social, and political unit, and 'urbanization', as a broader set of socio-ecological and socio-technical entanglements (Gandy, 2018). The city, as a unit, should not be seen as a pre-given site, space, or natural container of the urban. A notion criticized as a 'cityness' perspective or methodological '*cityism*' by the 'urban age' critique (see Brenner & Schmid, 2014; Sonnino & Coulson, 2021). It is rather the structural product of concrete transformations of space and society, social practices, and political strategies (Brenner, 2013a) that manifest in specific socio-spatial consciousness and morphological forms (Oliveira, 2022). In the words of Harvey, 'the 'thing' we call 'city' is the product of a 'process' that we call 'urbanization', understood as the 'production of specific and quite heterogeneous spatial-temporal forms embedded within different kinds of social action' (Harvey, 1996, 2015). The 'urban' as a process constitutes in this way the "city and the countryside, society and nature". It is a 'unity of opposites' constructed from the integrated, lived world of all human social experience (FitzSimmons, 1989: 108).

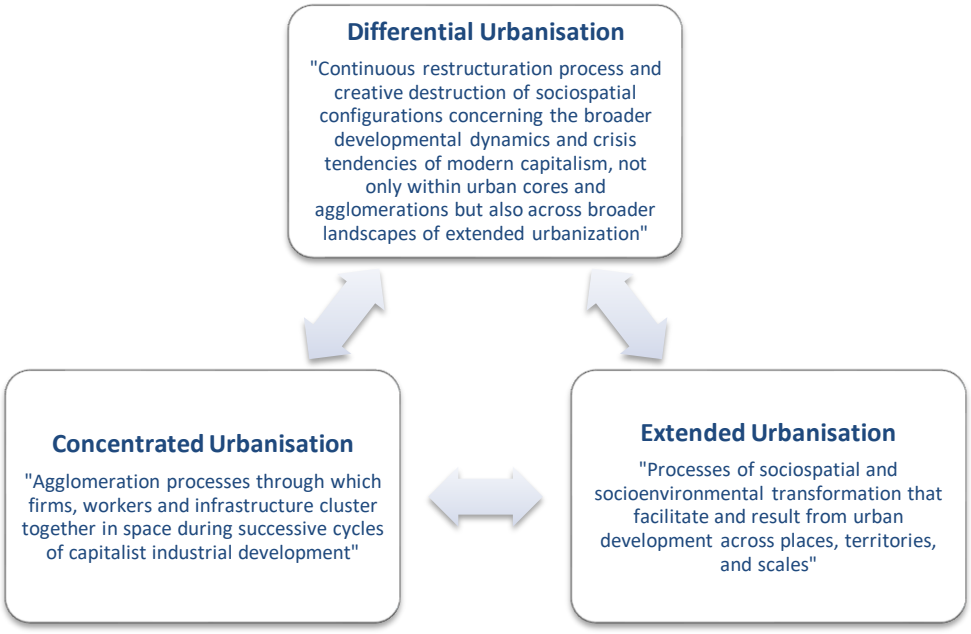
The implosion/explosion metaphor proposed by Lefebvre has been used to express the historical process of both urban concentration and rural exodus, as well as the extension of the urban fabric and complete subordination of the agrarian to the urban (2003), evident in the increasing complexity of

contemporary socio-spatial transformations and compression of time and space (Massey, 1994). Santangelo expresses these phenomena as the 'juxtaposition' of the urban into a 'soon to be occupied' rural (2019), extending its borders, *praxis,* and dominance over the country, and subordinating it to its demands and needs (for food, energy, and other resources). As expressed by Lefebvre (2003), 'the imaginary of urban life has surpassed the city, encompassing industrialization, production and consumption as well as the reproduction of the capitalist relations of production formed and developed in the urban–industrial context' (in Monte-Mor & Castriota, 2018). Urban space concentrates and accumulates, at the same time as it extends and differentiates, into a dialectical, heterogeneous, and highly variegated process of urban implosion (concentration) and explosion, through the extension of the urban fabric, intensification of inter-spatial connectivity across places, territories, and scales (Lefebvre, 2003; Katsikis, 2018). The 'urban' becomes in this way a lens from which to interpret the historical and culturally specific processes of socio-spatial transformations taking place in contemporary capitalist development, a process that not only resides in the city but expands along an *urban-rural continuum* (Pahl, 1966). As expressed by Niko Katsikis, urban space is not only characterized by the concept of concentration, but it can also be explained by the 'shift from a condition of less interdependence to another of complete geographical interdependence' (2018), which materializes in particular forms of 'human occupation' and use of the earth (Philbrick 1963 in Katsikis, 2018). The profound socio-spatial transformations of food landscapes reported in the past 70 years are, under these views, both the determinant factors and resulting expressions of ongoing urbanisation processes (Brenner & Schmid, 2015), no longer grasped by the classic dichotomy of an urban-rural opposition. On the contrary, the spaces produced by these processes are now increasingly seen as integral components of the urban, including not only the materiality of '*cityspaces*' and settlement areas but also infrastructures of connectivity, service networks, productive and extractive landscapes, as well as (urban) conditions and political possibilities, resulting in a '(re)politicisation of space' (Lefebvre, 1974). All these factors and components are specific 'qualities' of space (see subsection 2.6) that allow for the full access and operationalisation of distant and proximate places by a growing urban society (Gottmann, 1961; Katsikis, 2018; Monte-Mor & Castriota, 2018).

The urban can be expressed in this view as a metaphor for the *social space* that is produced and reproduced by an urban society, a process that is extended virtually throughout the territory, encompassing both the 'city' and the 'countryside' (Monte-Mór, 2005). As discussed before, the "urban" and "rural", as qualificators, do not exist in nature, they are socially and materially produced through human action (Santangelo, 2019). They are essentially a 'social product' (Brenner, 2013). The historical urban-rural dichotomy presented in the classical analysis of food spaces can thus be interpreted as 'theoretical constructs', helpful to the conceptualization of the urban and rural as specific types of settlement space (Benner, 2013c), but problematic today with the progressive expansion of the urban fabric along an *urban-rural continuum* (Pahl, 1966). The 'urban' thus becomes a lens through which to interpret and elucidate the historical and culturally specific processes of socio-spatial transformations taking place in contemporary capitalist development, a process that does not only resides in the city but expands today along with a continuously produced *urban food space.* In fact, urban food spaces have largely been analysed only in relation to the city, as central nodes for defining and interpreting the urban, as a generalised condition devoid of exteriority (Peck, 2015; Roy, 2015). However, as we see, urbanisation is a process that transcends any possible boundaries of cities, or post-metropolitan formations, requiring interpretations that go beyond the formation of agglomerations (Katsikis, 2018), in what could be called *horizontal* (Katsikis, 2018) or *extended*

urbanisation processes (Brenner, 2013c; Monte-Mór & Castriota, 2018). The relational approach to space discussed in the previous sections allows us to explore the socio-ecological complexity and ongoing transformation of contemporary urban food systems *as* a space, going beyond the current (over)emphasis that is placed on 'the city' (Sonnino & Coulson, 2021). Urban food dynamics also circulate through bodies, infrastructures, policies and discourses, while being dialectically transformed and reconfigured through contested socio-environmental processes, resulting in highly unequal power dynamics and outcomes between people and places (Heynen, 2006). As observed in the so-called 'nutrition transition' (HLPE, 2017), urbanisation is also linked to changes in dietary patterns, increasing consumption of processed foods, oils, meat and refined sugars (Tilman & Clark, 2014; Pagliai et al., 2021), which circulate not only through cities, but through unequal transformations and relationships between bodies, food and (urban) spaces, in what Marvin and Medd (2006) call the emergence of a *fat or obecity*, and Colls and Evans (2014) analyse under the concept of *'obesogenic environments'*, drawing attention to the injustices and inequalities of food spaces and their embodied spatial politics.

FIGURE 8: RELATIONSHIP BETWEEN AND DEFINITION OF THREE MOMENTS OF URBANISATION: EXTENDED, DIFFERENTIAL AND CONCENTRATED.



SOURCE: BRENNER & SCHMID, 2015.

The progressive concentration of resources, flows, people, and food manifests itself in parallel to broader territorial transformations that are continuously occurring in support of or as a consequence of urbanisation processes. The 'planetary urbanisation' that is beginning to be theorised and analysed in the context of contemporary capitalist industrial development is also expressed in food spaces through a dynamic, diverse and multi-scalar process of socio-spatial transformations that can be represented through the creative destruction (Brenner, 2014), implosion/explosion (Lefebvre, 2003 [1970]) and contested restructuring, production and reworking of new socio-spatial arrangements (Brenner, 2014). Brenner and Schmid (2015) offer a multifaceted conceptualisation of the urbanisation process, structured in three dialectically inter-related and mutually constitutive moments: concentrated, extended, and differential urbanisation (see Figure 8). The authors define extended urbanisation as “those processes of socio-spatial and socio-environmental transformation

that facilitate and result from urban development in different places, territories and scales", while differential urbanisation is described as a continuous process of restructuring and 'creative destruction' of socio-spatial configurations mediated by development dynamics and crisis tendencies of modern capitalism, both within urban cores and across the wider, interconnected landscapes of extended urbanisation (Brenner & Schmid, 2015). Finally, concentrated urbanisation is identified as the most frequently discussed moment in urban studies, describing the processes of agglomeration through which people, food, firms, and infrastructures are concentrated in space along the continuous cycles of capitalist industrial development (Brenner & Schmid, 2015).

The rapid transformations reported on food spaces over the past 70 years are now to be seen as integral parts of the urbanization process, not deeply reflected in an urban-equal-to-city perspective (Sonnino, 2021). Urban food spaces (see subsection below) are both a process and an outcome (Sonnino & Coulson, 2021), 'second natures' (Lefebvre, 1974) or *quasi objects/subjects* (Latour, 1993) produced not only by the metabolic needs but also the relations established by an urban society with food. Urban food spaces are not only expressed in the form of the city as a point of departure or arrival of food but on the whole transformation and operationalization of territories that allow an urban society to be fed; in the way food spaces are acted and produced, as well as in the way the conditions and political possibilities of an urban *praxis* are extended. It is this socio-spatial form that characterizes the contemporary urban phenomenon of food systems, and that we propose to be analysed here under a socio-spatial perspective (See subsection 6.3)

3.2. (Urban) Food Spaces: A Socio-Spatial Perspective

The spatial discussion in urban food systems literature has been addressed by multiple authors in a myriad of perspectives (see Table 2), ranging from place-based approaches, socio-spatial analyses to territorial perspectives, food environments, foodsheds and foodscapes. The concepts of territory and territoriality have played an important role as interpretative tools of space in food studies (Dansero & Puttilli, 2014), following the interpretations of French and Italian geographers as Claude Raffestin (1980), Alberto Magnaghi (1990) and Giuseppe Dematteis (2007). Alberto Magnaghi (1990; 2014) describes the territory as a historical product resulting from the long relationship and co-evolution between environment and human settlements, nature and culture, as stratified cycles of environmental knowledge and wisdom of each civilisation. Raffestin's human territoriality defines the complex set of material and immaterial relations between actors, space (exteriority) and others (alterity), mediating the use of local resources, identity creation and making sense of space in their satisfaction of needs (Raffestin, 1980, 2012; Dematteis, 2007). In these visions, space takes on both a physical (absolute) dimension of places and their multiple networks and relationships, made up of natural ecosystems and all the factors and actors that compose them (Magnaghi, 2014). A space that is transformed, constructed or produced in "territory" (social space) through the relationships and figures that society constructs with it (Raffestin, 2012). Territory is thus the result of the activity and production of actors *in* and *through* space, as also partly reflected in the "social space" conceptualised by Lefebvre (2003).

Another useful concept that is frequently discussed in the urban food literature is the "place-based" approach (see for example Marsden, 2013; Sonnino et al., 2016; and Coulson & Sonnino, 2019 on reflexive and urban food governace; Plieninger et al., 2018 on their analysis of place-based food networks, or, more recently, Sonnino & Milbourne, 2022, and their analysis of food system transformations from a place-based approach). The place-based approach is grounded in the

theoretical frameworks established by social scientist Doreen Massey in her seminal works on the concepts of a "progressive" and "global sense of place" (1991) and her analysis of the "space-time compression" (1994). Massey puts forth a vision of space as a configuration of multiple social relations within the lived world. This vision emphasises the simultaneity of multiple spatialities (both absolute and relative), which are experienced, conceptualised and acted upon in different ways on the basis of each person's own (social) constructions in relation to space. These spatialities intersect, compete and/or align with each other, being inherently dynamic and political. They are imbued with power and meaning and thus in constant negotiation and contestation (Massey, 1994). As outlined by Sonnino and Milbourne (2022), this can encompass dominant and conspicuous food spaces, such as supermarkets, advertising and fast-food chains, as well as alternative, marginal and frequently invisible spaces, including informal food sharing systems, community gardens and food waste sites. In doing so, Massey (1994) interprets the concept of '*place*' as the 'specific articulation' of these different spatial relations, as well as "a particular moment within a network of social relations and understandings". The author notes that this link is not only in the absolute physical or local place itself, a view that Massey critiques as '*space as stasis*'. Rather, it is in the constant becoming of everyday practices, identities, or '*sense of place*' that become an "active mediator" (Sonnino et al., 2016) between the local and the global, individual and collective, interior and exterior. Massey traces a relational view of place as a complex network of linkages and interconnections in the construction of multiple spatialities, calling for a *'progressive sense of place'* that is not only based on the local, but on the particular 'rooteddness, embeddedness and richness of space' (Sonnino and Milbourne, 2022). Another related and widespread concept in food literature is that of *genius loci.* The term has its etymological roots in ancient Roman mythology, related to the notion of 'place' (loci) as the repository of a spirit or deity (genius), serving as the custodian of its unique essence. Over time, the concept has evolved from the notion of a supernatural force or guardian of the local spirit to a symbol of the intrinsic essence of the individuals who serve as the protectors and custodians of place ('loci') (Vecco, 2020). The genius loci as a *spirit of place* has been interpreted and applied from a variety of perspectives and disciplines, notably architecture and geography, but also sociology, psychology, philosophy and economics, among others. One of its main modern proponents, the phenomenologist Christian Norberg-Schulz (1980), emphasises the multidimensional nature of place, comprising both tangible, physical and concrete (absolute) elements, and intangible, perceptual (reflexive) and relational factors. These interact to form the distinctive character of a place, its spirit, which is expressed and influenced by, among other things, landscape, geography, socio-cultural context, economy, spirituality and architecture. In her 2020 study, Marilena Vecco defines genius loci as "the intangible quality of a material place, perceived both physically and spiritually," which serves as "a mediator and medium of social interactions." In similar vein, Norberg-Schulz describes it as "the concrete manifestation of human habitat," linked to the specific interactions that shape identity and a sense of place. As outlined by Sonnino and Milbourne (2022), food place-based approaches provide a useful lens through which to analyse food-space relations. They advocate for the construction of novel 'connectivities' and socio-spatial configurations that are capable of integrating and directing different governance scales (urban and rural, local and global), sectors and domains towards the sustainable transformation of food systems.

Recent analyses of the relationship between food and space have also focused on the concept of *'food environments*', which has been used primarily in the literature on nutrition, public health and preventive medicine (Kelly et al., 2011). Food environment is conceptualized as "the physical, economic, political and socio-cultural context in which consumers engage with the food system to

make their decisions about acquiring, preparing, and consuming food" (HLPE, 2017). This concept describes an external and instrumental view of food space as the surrounding context in which individuals and the food system are situated, shaping social action and dietary behaviour. Building on similar perspectives, an increasing body of research is also promoting the concept of food landscapes (or *foodscapes*; see discussion on subsection 4.2), which are defined as perceived and socially shaped spaces by individuals and policies.

TABLE 2: KEY SPATIAL CONCEPTS USED IN THE URBAN FOOD LITERATURE.

Key concepts	Key authors
Agrarian Urbanism	Duany & DPZ, 2011; Waldheim, 2016
Agriburbia	Sandul, 2010; Newman et al., 2015
Agricultural Park	Cinà, 2016; Fanfani, 2019; Poli & Butelli, 2021
Agripolia / Agricultural Urbanism	Donadieu, 2006; de la Salle and Holland, 2010
Agritecture	Francoi Cointeraux (Marot, 2019)
Agroecological Urbanism	Deh-Tor, 2021
Agronica	Branzi, 1993
Agropolis	Mougeot, 2005
Agropolitana	Ferrario, 2009; Ferrario & Lironi, 2016
Agrourbanism / Agriurbanisme	Vida & Fleury, 2009; Gottero, 2019
Alternative food networks	Renting et al., 2003; Holloway et al., 2006; Brunori, 2007; Dansero & Puttilli, 2014
Bioregional City	Poli, 2017
Carrot City	Gorgolewski et al., 2011
City Region Food Systems (CRFS)	FAO & RUAF (Blay-Palmer et al., 2015, 2018; Santini et al., 2018)
Continuous Productive Urban Landscapes	Viljoen et al., 2005
Food Deserts **Food Swamps**	Walker et al. 2010; Eckert & Shetty, 2011; LeClair & Aksan, 2014; Chan & Gregg, 2017; Crush et al., 2021
Food Environments	McKinnon et al., 2009; Lytle, 2009; Kelly et al., 2011; Caspi et al., 2012; Lytle, 2009; Lytle & Sokol, 2017
Food Landscapes (foodscapes)	See Annex 1; Lake et al., 2010; Morgan & Sonnino, 2010; Brembeck et al., 2013; Miewald & McCann, 2014; Richards, 2014; Moragues-Faus & Morgan, 2015; Goodman, 2016; Roe et al., 2016 ; Vonthron et al., 2020; Morley & Morgan, 2021; Bossio et al., 2021
Food Networks	Richardson & Whatsmore, 2009
Food Policies	Dansero & Nicolarea, 2016
Food Social Space	Poulain, 1999; 2017[2002]
Food Urbanism	Verzone & Woods, 2021; Parham, 2019, 2021
Foodsheds	Zasada et al., 2019
Geographies of Food	Cook et al., 2006, 2008, 2010
Geographies of Urban Food Systems	Kasper et al., 2017
Landscape Urbanism	Waldheim, 2016
Place-based approaches	Sonnino et al., 2016; Sonnino & Milbourne, 2022
Place-making	Marsden, 2013
R-Urban	Atelier d'Architecture Autogérée & Public Works, 2015
Sitopia	Steel, 2009
Socio-Spatial Analysis	Borrelli & Mela, 2017, 2018
Territorial Food Systems	Wiskerke, 2009; Lamine et al., 2012; Dansero & Puttilli, 2014; Forster & Mattheisen, 2016
Urban Agriculture	Tornaghi, 2014
Urban Agroecology	López García & González de Molina, 2020
Urban Bioregion	Magnaghi, 2014
Urban Farmland	Donadieu, 2013 [1998]
Urban Food Metabolism	Bohle, 1994; Barles, 2007; Forkes, 2007; McClintock, 2010; Bognon et al., 2018; Cabannes & Marocchino, 2018

SOURCE: ELABORATED BY THE AUTHOR.

Vonthron et al. (2020) identify four approaches to foodscapes in the literature, delineating what is being described as *spatial*, *social and cultural*, *behavioural*, and *systemic approaches*. The first, spatial, characterizes the diversity of urban foodscapes and their impacts on diet and health, expressed in the spatial distribution of food outlets and the use of statistical and spatial analysis. This approach

mirrors the absolute and instrumental concept of space, seen as a physical and external context in which individuals evolve, equalizing and blurring the separation between *foodscapes* and *food environments* (Vonthron et al., 2020). The second, *socio-cultural*, sees foodscapes as socially shaped, focusing on their structural inequalities and making use of qualitative and quantitative surveys of food procurement practices. This approach reflects in part a relational view of space as a 'receptor', showing how social and cultural factors shape food provisioning practices, access, perceptions and experiences, and their spatial configurations. The third, *behavioural*, focuses on how individual perceptions of foodscapes explain and determine food behaviours and education in places, making use of a relative perspective to define the way food is encountered and perceived. Finally, the systemic approach defines foodscapes as the set of places and spaces linked to the whole spatial distribution of food across (urban) spaces and institutional settings. This last approach has been furtherly divided into three subgroups covering local food networks, urban food policies and territorial marketing, defining a normative dimension towards local and place-based food systems as more sustainable alternatives (Vonthron et al., 2020). Following the four identified approaches, the authors build in part a similar framework to the one proposed before, identifying three key dimensions of foodscape analysis, namely the *material and physical* (absolute and external), *perspectival* (relative and perceived) and *political* (relational, conceived and practised). The urban is seen in this literature as a preferred scale of analysis, with foodscapes constituting in itself a tool for urban planning and community development (Vonthron et al., 2020).

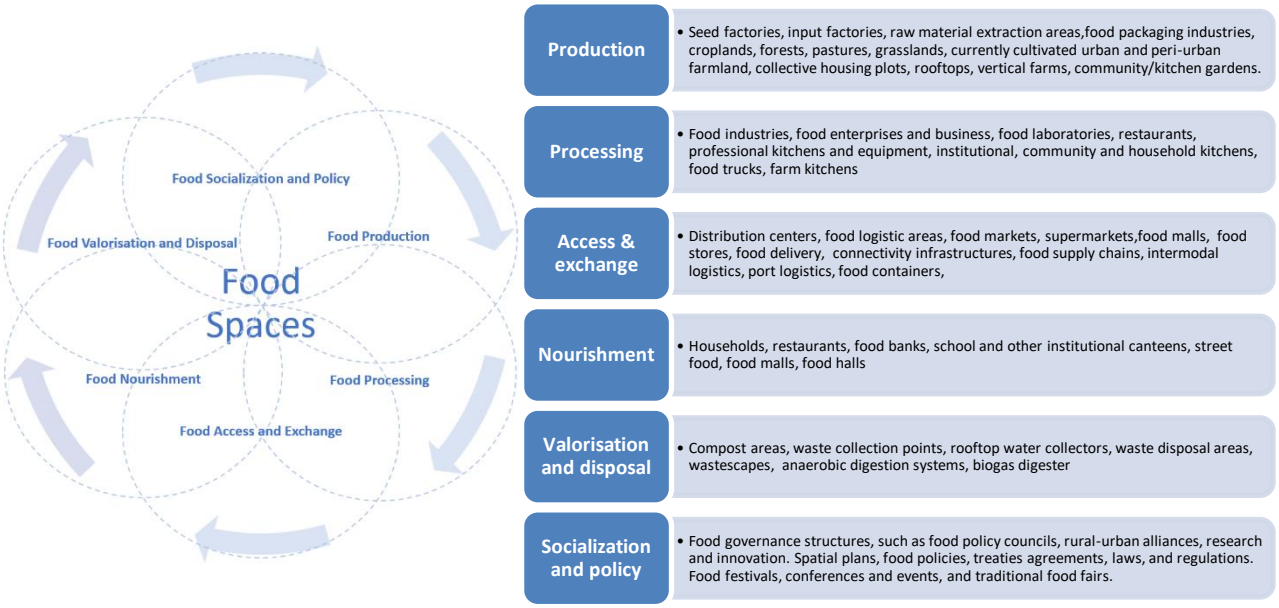
Marco d'Annuntiis in his book, *Food and Space* (2017), provides an additional framework from which to analyse the relationship between urban space and food. D'Annuntiis identifies three fields of human activity concerning food and their spatial implications along the whole value chain. These can be defined as *urban spaces of food production*, *urban spaces of food movement* and *urban spaces of nourishment* (2017). Kasper et al. (2017) propose five spatial components that define our relationship with food and space in urban reality. These are 1) production, 2) processing, 3) distribution/access, 4) consumption, and 5) valorisation/disposal. Similarly, the Spanish Pavilion at the XVIII Venice Architecture Biennale 2023 presented a seminal curatorial proposal on *Foodscapes*[79] as an audiovisual and collective research programme. The proposal presents the agri-food system as a metabolic architecture linking five different spaces: foundation, production, distribution, consumption, and digestion (Castillo-Vinuesa & Ocaña, 2023). Building on these frameworks, here we conceptualize the integration of one additional space, namely *spaces of food socialization and policy*, as a crucial moment in the interaction between food and urban space.

The resulting six moments proposed here integrate a multiscalar perspective to our analysis of space along with an urban food systems approach, which can be seen as moments along the relational and processual interaction between an urban society, space, and food, sometimes superposed and/or juxtaposed to each other (see Figure 9). This can be seen in part in the systemic view theorized by Vonthron et al. (2020) and Kasper et al. (2017), and complementary to the three conceptualizations of space proposed by Harvey (1973) and Heynen (2013). These views can be exemplified in our daily act to perceive, make use and experience food *in*, *through* and *as* space, such as at the on-farm level (soil, production, foundational), food industries (processing), transportation systems, distributional centres or markets (access and exchange), restaurants or canteens (nourishment), food waste and

[79] The curatorial proposal on *Foodscapes* is presented as "a journey through the architectures that feed the world, from the domestic laboratories of our kitchens to the vast farm landscapes that feed our cities. At a time when energy debates are more pertinent than ever, food remains in the background, yet the way we produce, distribute, and consume it shapes our world more radically than any other energy source" (Castillo-Vinuesa & Ocaña, 2023).

bioenergy areas (valorisation and disposal, digestion) and/or food-related events, gatherings, food institutions and (new) political spaces (socialization and policy) (see Hajer, 2003). Figure 9 presents some examples of the socio-spatial typologies identified for each of the food moments.

FIGURE 9: THE SIX MOMENTS OF FOOD SPACES AND KEY SOCIO-SPATIAL TYPOLOGIES.

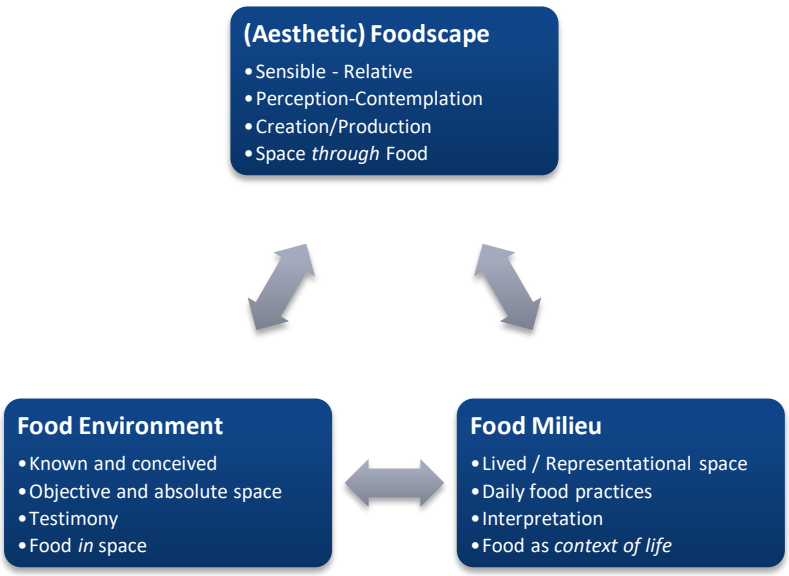


SOURCE: BY THE AUTHOR BASED ON LITERATURE REVIEW.

As explained above, the term (urban) space has been typically associated with a physical, material, and external thing, a 'container' or 'receptor' of social processes and actions, rather than a structure created by an (urban) society (Soja, 1980). The three modes of conceptualising space proposed by David Harvey, as *absolute, relative*, and *relational* perspectives (2004, 2009 [1973]), and by Hilde Heynen, as 'receptor', 'instrument' and 'stage' (2013) or Lefebvre's triad on the *perceived*, *conceived* and *lived* space, delineate key modes of approaching the six interconnected spatial moments of urban food spaces. In this view, absolute space, could be represented as a 'food *in* space', seen as an external, 'neutral' and physical context where food and all its elements are situated in specific spatial configurations. This refers to our daily encounter with food *in* spaces, be this productive, nourishment, processing, access and exchange, socialisation and policy, or disposal and valorisation. On the other hand, a relative and perceived space can be seen as a 'space *through* food', representing the way individuals perceive, think of, and behave in (urban) food spaces, as in the behavioural approach and perspectival dimension of Vonthron et al. (2020). The last, relational, consider the socially shaped and shaping space, embedded in or internal to (social) processes. Here space is seen as both 'receptor' and 'instrument' of social changes and phenomena. This dimension can be defined as 'food *as* space', where food and all its processes are seen as a relation shaped by and shaping and producing space. The social construction of urban food space refers here to the actual transformation of urban space through people's social exchanges, memories, images, and daily use of the material setting entailed in the different moments of food spaces, which are in turn conveying symbolic meaning (Löw, 2009: 24). This view holds the idea that there is no such thing as space outside of the processes that define it, meaning that food elements and processes do not occur *in* space but define their own spatial frame, they are embedded in or internal to (social) processes of conflict, discrimination, and resistance (Harvey, 2004). This perspective configures a space that is continuously being transformed, constructed, or produced into a '*social space*', which is constantly made and remade through the relation an urban society builds to its food system.

These approaches can be also related to the three models of space proposed by Heynen (2013), meaning that absolute and relative approaches can be both '*receptors*', shaped by food perceptions, elements, processes, actions and behaviours, as well as '*instruments*', regarding current spatial configurations shaping food relations, perceptions and behaviours. Finally, food *as* space also represents what Heynen describes as a 'space as *stage*' model, a relational approach that brings together both socially shaped space and spatially shaped social actions and behaviours. Perceptions, cultures and social behaviours can both determine the spatial configuration and conceptions of space ('receptor'), while at the same time current spatial configurations continually define the way we experience and relate to food ('instrument').

FIGURE 10: MODALITIES OF THE RELATION BETWEEN FOOD AND SPACE.



SOURCE: ADAPTED FROM AMPHOUX ET AL., 1991

With regard to the *sound* and quality of urban public spaces, Amphoux et al. (1991) propose a theoretical framework for the representation of sound and (urban) space based on three modalities or ways of relating to the world[80], which can be transposed to our analysis of food *as* space. These could be described as: 1) the food "*environment*", 2) the food "*milieu*" and 3) the (aesthetic) "*foodscape*". These three modalities presented by Amphoux are, in turn, related to three analytical dimensions, respectively: 1) the *known, representation* or *('objectified') analysis*; 2) the *experience* or *lived* space, and 3) the *sensitive* or *perception.* In doing so, the authors present a transdisciplinary method of analysis that includes the *recording/inventory*[81] (of food spaces), the study of *local* (food) *policies* and the *comparative analysis* between different urban settings. In this analysis, the *environment* is conceived as the external, objectified, quantitative, measurable, and therefore, controllable, and

[80] Amphoux is inspired by Berque's theorization, which introduces the distinction between milieu, environment and landscape. In this sense, Berque identifies "the environment as the factual aspect of the milieu", which is "the relationship that links a society with space and nature". On the other hand, Berque sees landscape as "the sensitive aspect of this relationship", that is, a "collective form of subjectivity" (1993). As expressed by Berque (2011), it is from the contemplation of the environment, not from the utilitarian perspective applied in the peasant world, but from its contemplative enjoyment, idle and free from the bonds generated by the urban world, that the landscape is born (Berque, 2011).

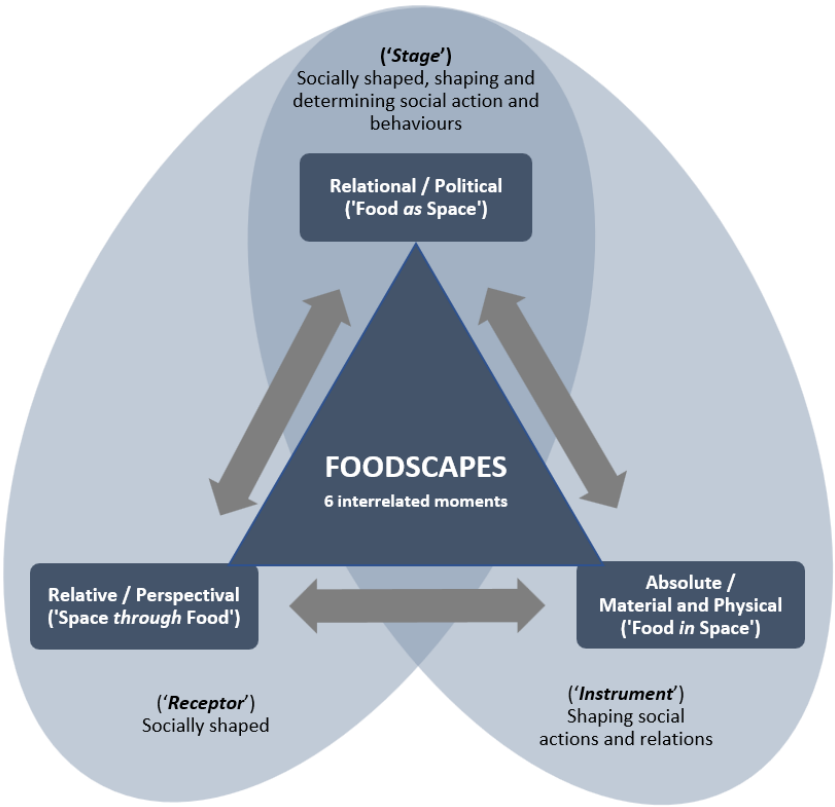
[81] The authors propose different qualitative methodologies, including the development of *sound maps* of the city (that can be transposed to this analysis as food maps) based on several interviews with inhabitants and a focus on the quality of space (see below), identifying (dis)continuities and fragmentation, representation and symbols. Another methodology used by the authors is the *reputational analysis* focusing on most representative places of spatial qualities as interpreted by local elites (1991).

planned space, of what Lefebvre calls the *representations of space* (see subsection 2.3). On the other hand, the authors describe the *milieu* as the interactive, natural, and lived world in which social actors are immersed, reflecting the concepts of *lived space* or *representational spaces* proposed by Lefebvre and discussed above. Finally, Amphoux et al. propose a third modality to approach the relationship between food and space, as *soundscapes*, which concerns the sensitive, aesthetic, and contemplative relation of social actors with the world, both internal and external, always 'delayed' and 'altered', and therefore perceived and conceived, coinciding with an (aesthetic) relative and relational space. We configure this third modality under an *aesthetic foodscape*, which involves a critical engagement with the quality of space, both physical, social, and sensitive (Amphoux et al., 1991), highlighted under a space *through* food approach (see subsection 3.2 and Figure 10).

These different perspectives are also in part represented in the three key dimensions of analysis used by Vonthron et al. for food landscapes (or foodscapes), namely the material and physical (absolute and external), *perspectival* (relative and perceived) and *political* (relational) approaches. The three modes of conceptualisation proposed by Harvey, Lefebvre, Vonthron et al., Berque and Heynen provide different and interconnected levels and modes for understanding space, but as they recognize, spatial thinking should keep these in 'dialectical tension' with each other (Harvey, 2004), considering that 'space is neither absolute, relative or relational in itself, but it can become one or all simultaneously depending on the circumstances' (Harvey, 1973) and nature of the phenomena under investigation (Harvey, 2004). The concept of a 'stage' becomes particularly important in this perspective, seen as a 'socio-spatial dialectic' both 'space-forming' and 'space-contingent' (Soja, 1980) by social, economic, and ecological processes, bringing together the analysis of human agency and the forces structuring social practices and relations (Heynen, 2013). These different approaches provide us with a socio-spatial conceptual framework from which to explore what we will call an *urbanising food landscape*, entailing the six interrelated, sometimes superposed, or juxtaposed moments, the three conceptualizations of food *in*, *through* and/or *as* space, and the three models of spatial thought as a 'receptor', 'instrument' and, overall, a 'stage' of *urban* action and transformation of food spaces.

Our everyday encounter with food is configured by also the production of space, an 'urban food space', with the potential to shape and guide social change. The food landscapes (or foodscapes; see subsection 4.2) proposed here as 'stage' are intended to go beyond urban cores as 'inherent' sites of urban action and impact, allowing us to operationalise food spaces as key 'instruments' with the potential to shape and transform the way we behave, perceive, and relate, both in urban cores and their wider territories. This perspective opens up opportunities for a critical analysis of these spaces as 'recipients' of inequalities, social injustices and processes of marginalisation, with food as a concrete material and relationship through which power dynamics and exclusion are exercised and manifested. A food landscape approach takes into account the historical processes that continually shape and is shaped by our relationship with food in an urban/rural society, allowing us to find connections and interdependencies between spaces that are increasingly urbanised, not only through their physical expansion but also through their operationalisation and subjugation to the needs of an increasingly socially, culturally and materially urbanised society.

FIGURE 11: CONCEPTUAL FRAMEWORK FOR FOOD AND SPACE.



SOURCE: ELABORATED BY THE AUTHOR BASED ON HARVEY, 1973; HEYNEN, 2013; D'ANNUNTIIS, 2017 AND VONTHRON ET AL., 2020. NOTE: RELATIVE AND ABSOLUTE APPROACHES MAY INVOLVE BOTH SPACE AS 'RECEPTOR' AND SPACE AS 'INSTRUMENT' MODEL

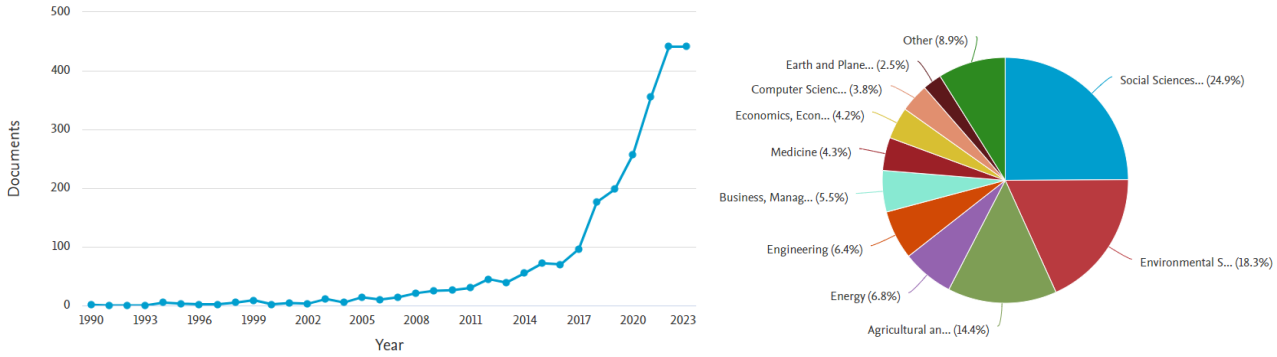
3.3. From (urban) food systems to urban food landscapes

With the growing interest in urban areas, urban food systems (UFS) have started to be used as a relevant and fundamental scale through which to address, analyse and act on the complex networks and dynamics of food actors, processes, and relationships that arise from our daily need to feed a growing urban society (Morgan, 2009, 2015; Blay-Palmer et al., 2015, 2018; FAO, 2019a; Haysom, 2015; Calori & Magarini, 2015; Cabannes & Marocchino, 2018). The term 'urban food systems' is also employed to delineate the complex network of interactions, innovations and place-based actions that collectively shape the multifaceted relationships involved in securing food. These relationships encompass the formation of local (and global) food networks, as well as the formulation of urban food strategies and partnerships that bridge the disparate actors and systems engaged in food, agriculture, urban planning and urban governance (Forster et al., 2022). The resurgence of interest in urban and food studies has resulted in a notable surge in the number of publications dedicated to UFS over the past two decades (see Figure 12), particularly evident from 2015 onwards, coinciding with the launch of the Milano Urban Food Policy Pact. The research output in this field has expanded across various disciplines, including social sciences, environmental sciences, and agricultural and biological sciences (see Figure 12). This encompasses a diverse range of research perspectives, topics and objectives, from the impact of urbanisation on food systems and food waste to policy implications and urban food security (Zhong et al., 2021).

As noted by Zhong et al. in their recent bibliometric review (2021), the initial period of publications was characterised by a focus on nutrition, environmental science, and food technology, which has

now shifted to a predominant view of environmental science and sustainability issues. Three main clusters of analysis have been identified for these periods: the first, related to food production, and driven by themes such as 'food security', 'urban agriculture', and 'sustainability'; the second, categorised as food consumption, and related to themes such as 'diet' and 'nutrition'; and the third, subdivided into food waste, tools and methodologies, including life cycle assessment, input-output analysis and material and substance flow analysis (Zhong et al., 2021). One of the main criticisms that emerges from this review is the limited focus of urban food research on individual cities, predominantly from developed countries, which suggests a lack of comparative analysis between different types of urban processes, scales, and different levels of development.

FIGURE 12: NUMBER OF DOCUMENTS BY YEAR AND SUBJECT AREA ADDRESSING URBAN FOOD SYSTEMS UNTIL 2023.



SOURCE: SCOPUS, 2023A.

3.3.1. Making sense of the urban in urban food systems

Urban food systems have increasingly been interpreted both in terms of the food system dynamics unfolding *in* the city and those related to the dynamics *of* the city (Ilieva, 2016). The former consists of all the people, physical infrastructures, organic and inorganic inputs, and outputs, as well as ideas, discourses, rules, and social practices that make food procurement, consumption, and disposal *in* the city possible (Ilieva, 2016). This first approach explores the ways in which food as nutriment, production, narrative and, in overall terms, a system is being studied in '*city spaces'*, entailing the general idea of the urban as a container, and the city as the inherent space from which to analyse urban food dynamics. Carolyn Steel, in her pioneering book the *Hungry city*, highlighted the phenomenal power of food to transform landscapes, "political structures, public spaces, social relations, cities" (Steel, 2009), reconnecting the role of food (Steel, 2009; Chau, 2022) and demonstrating the multidimensional ways in which it can and has shaped the materiality, culture and embodied experiences of 'cityscapes' (see footnote 75; Gruen, 1955; Hanser & Hyde, 2014; Sonnino, 2019; Coulson & Sonnino, 2019; Kowalczyk, 2020). This approach has predominated in the analysis of food environments (Neckerman et al., 2009; Behrens et al., 2015), urban agriculture (Cohen et al., 2012; Despommier, 2013; Santo et al., 2021), as well as in concepts such as the *edible city* (Bohn & Viljoen, 2011), the *carrot city*[82] (Gorgolewski et al., 2011); the *hungry city* or *sitopia* (Steel, 2009), (urban) food deserts (Beaumont et al., 1995; Eckert & Shetty, 2011; Crush et al., 2021), urban food security (Frayne et al., 2009), *community food assessments* (Cohen et al., 2002; Pothukuchi et al.,

[82] Carrot City, as presented by Gorgolewski et al. (2011), is an urban design proposal that seeks to highlight and promote the role of sustainable food production in the city, helping to reintroduce urban agriculture from an architectural, landscape and urban design approach.

2002; Pothukuchi, 2004) and pioneering urban food policies[83] (Calori & Magarini, 2015), among others. These approaches have served as a starting point for urban food systems research, bringing the food question back into the urban discourse and providing additional tools for representing, experiencing, and planning the city from a food systems perspective (Steel, 2009; Illieva, 2016; Brinkley, 2018).

A growing body of evidence on food transformations has also begun to reflect on the interconnected systems that feed the city, unpacking the dynamics of food systems in 'urban regions'[84] (Magnaghi, 2014), 'transition zones' (Simon, 2008) and urban-rural linkages and networks (Benedetto & Bonaventura, 2020; see footnote 15), building what can be defined as a "food *of* the city" approach (Illieva, 2016). These views on urban food systems have been growing over the last two decades, with concepts such as *foodsheds* (see footnote 49; Kloppenburg et al., 1996; Darrot, 2012; Karg & Drechsel, 2018; Zasada et al., 2019) and *urban food metabolism* (Bohle, 1994; Barles, 2007; Forkes, 2007; McClintock, 2010; Bognon et al., 2018; Cabannes & Marocchino, 2018) expanding the notion of the spatial, socio-ecological and metabolic processes, inputs and outputs that result from the daily need to feed the city. The different perspectives and scales used in these analyses are very diverse, ranging from a city and urban region approaches (Barles, 2007; Forkes, 2007; Urban Design Lab, 2011; Karg & Drechsel, 2018; Santini et al., 2018; NYC Mayor's Office, 2021) to metropolitan areas (Darrot, 2012; Dansero et al, 2018; Zasada et al., 2019), megaregions (Kurita et al., 2009), nation states (Peter et al., 2009; Urban Design Lab, 2010) and global levels (Gladek et al., 2016). Despite their different historical, geographical, and spatial scopes, these analyses share a common methodological basis: they all see the city as the central node of their (urban) analyses, either as part of a metabolic input-output system (Bohle, 1994), food consumption or production (Urban Design Lab, 2011; Zasada et al., 2019), or as central nodes in interconnected networks of global food exchanges. Food is seen here as a flow, chain or system that begins, ends, or is transformed by the city, influencing the socio-spatial transformation of the wider territories that enable its food supply. In this sense, the 'urban' becomes a functional engine that links food to the city, involving, as Illieva (2016) synthesises, all the dynamics that take place in support of, or as a consequence of, the metabolic imperatives that serve and drive 'an increasingly urban world'.

This food *of* the city approach intersects with the growing interest of urban scholars and planners in urban sustainability, reterritorialization, and food self-sufficiency projects (Zhong et al., 2021), aimed at redefining and reconciling urban-rural linkages and "metabolisms" (Gandy, 2018; Gottero, 2019). These engagements propose an integrated approach to the relationship between the city and its hinterland, as seen in concepts such as *the garden city* (Howard, 1902), *urban farmland* (Donadieu, 2013 [1998]), *agrourbanism* or *agriurbanism* (Vida & Fleury, 2009; Gottero, 2019), *agropolitana* (Ferrario, 2009), *continuous productive urban landscapes* (Viljoen & Howe, 2005), the *city-region food system* (CRFS) proposed by RUAF and FAO (Blay-Palmer et al., 2015, 2018; Santini et al., 2018), the *bioregional city* (Poli, 2017) and *territorial* (Wiskerke, 2009; Lamine et al., 2012; Dansero & Puttilli, 2014; Forster & Mattheisen, 2016), *'rurban'* (Vinci, 2015), *metropolitan* (Bohle, 1994;

[83] Emblematic cases can be seen in Toronto (Mah & Thang, 2013), New York City (Freudenberg et al., 2017; NYC Mayor's Office, 2021), Baltimore City (Behrens et al., 2015; Santo et al., 2021), London (Reynolds, 2009), Amsterdam (Vermeulen et al., 2010), Utrecht (Haenen et al., 2018), Turin (Dansero et al., 2018), Milan (Calori et al., 2017), Bergamo (Calori et al., 2019), Paris (Mairie de Paris, 2015), or Belo Horizonte, ""the city that ended hunger"" (Rocha, 2001; Morgan, 2009).

[84] Alberto Magnaghi and colleagues describe urban regions as the "combination of strongly anthropised local territorial systems, interlinked by environmental relations (bioregion) and characterised by the presence of a plurality of urban and rural centres" (Magnaghi, 2014).

Gerritsen et al., 2011; Wascher et al., 2015; Calori et al., 2019; Zasada et al., 2019) or *regional food systems* (Kissinger et al., 2019). These approaches emphasise the importance not only of the macro, global, or micro, intimate and local, but also of the mesoscale: an urban scale that links global flows and dynamics with local actions and practices.

The alternative urban food governance structures and innovations emerging in these spaces (López-García et al., 2020) are beginning to be theorised and discussed also from critical geographical perspectives (Coulson & Sonnino, 2019), describing the emergence of pluralistic and multi-level governance structures (Haysom, 2015; Borrelli & Marsden, 2018; Sonnino & Milbourne, 2022), urban political ecologies (Coulson & Sonnino, 2019) and food networks (Renting et al., 2003; Holloway et al., 2006; Brunori, 2007; Richardson & Whatmore, 2009; Dansero & Puttilli, 2014). These positions have also been recently introduced in the urban and peri-urban agriculture literature, also identified as UPA (Follmann et al., 2021; FAO et al., 2022), shedding light on the ambiguous spaces between city and countryside[85] (Donadieu, 2013 [1998]) and on the 'politics of engagement, capacity and empowerment' (Tornaghi, 2017). Other researchers (Smaal et al., 2021; Sonnino, 2023) have also highlighted the current fractures, barriers and gaps in current urban food policies, pointing to the need for new transformative agendas to reconnect urban and agrarian struggles for food justice (Roy, 2015), leading to new projects such as *'agroecological urbanism'* [86] (Tornaghi, 2017; Egerer & Cohen, 2020; Deh-Tor, 2021), to redefine the social, spatial and political relations between (agroecological) food practices and principles and the way we produce and think about the urban (Deh-Tor, 2021).5

3.3.2. Urbanising food landscapes: analysing the urban beyond cityscapes.

The different visions of space presented above call us to (re)think the 'urban' beyond a focus on 'food *in* the city' and/or 'food *of* the city' approaches, which are seen as crucial nodes of analysis, but which are today rendered incomplete under the progressive compression of time and space (Massey, 1994), implosion-explosion (Brenner, 2013a) and the broader socio-spatial transformations and political possibilities of an urban reality (Brenner, 2018; Monte-Mor & Castriota, 2018). The call to move beyond the methodological 'cityism' of urban food studies (Brenner & Schmid, 2014; Sonnino & Coulson, 2021; Zhong et al., 2021) prompts the identification of a third approach to the urban in food systems, focusing on what can be defined as "*urbanising food landscapes*", referring to urban-mediated transformations of food spaces along the rural-urban transect (BurgosGuerrero, forthcoming). Here the *'urban'-ising* is seen not only as a specific place (the city), but as a process, relationship, and transformation of food *as* a space, bringing together the interdependencies of urban and rural places, local and global, social and spatial, cultural and organic processes (Heynen, 2006) that emerge from our daily need to feed each other

This approach is predicated on the analysis of broader processes of transformation, not only at the city or global level, but also in terms of the ways in which space is appropriated by an urban society, how it is planned, governed and constantly shaping new relationships to nature, bodies and policies through our daily need to feed each other. This approach prompts us to conceptualise the urban as a process, transforming our production, distribution, consumption and disposal of food, as well as its

[85] Formulated in concepts such as the *urban fringe* in England, *zwischenstadt* in Germany, *tussenland* in the Netherlands, *tyrolcity* in Austria, or *peri-urbanisation* in France (Calace & Paparusso, 2022; Cusin et al., 2016).
[86] See also: https://www.agroecologicalurbanism.org/

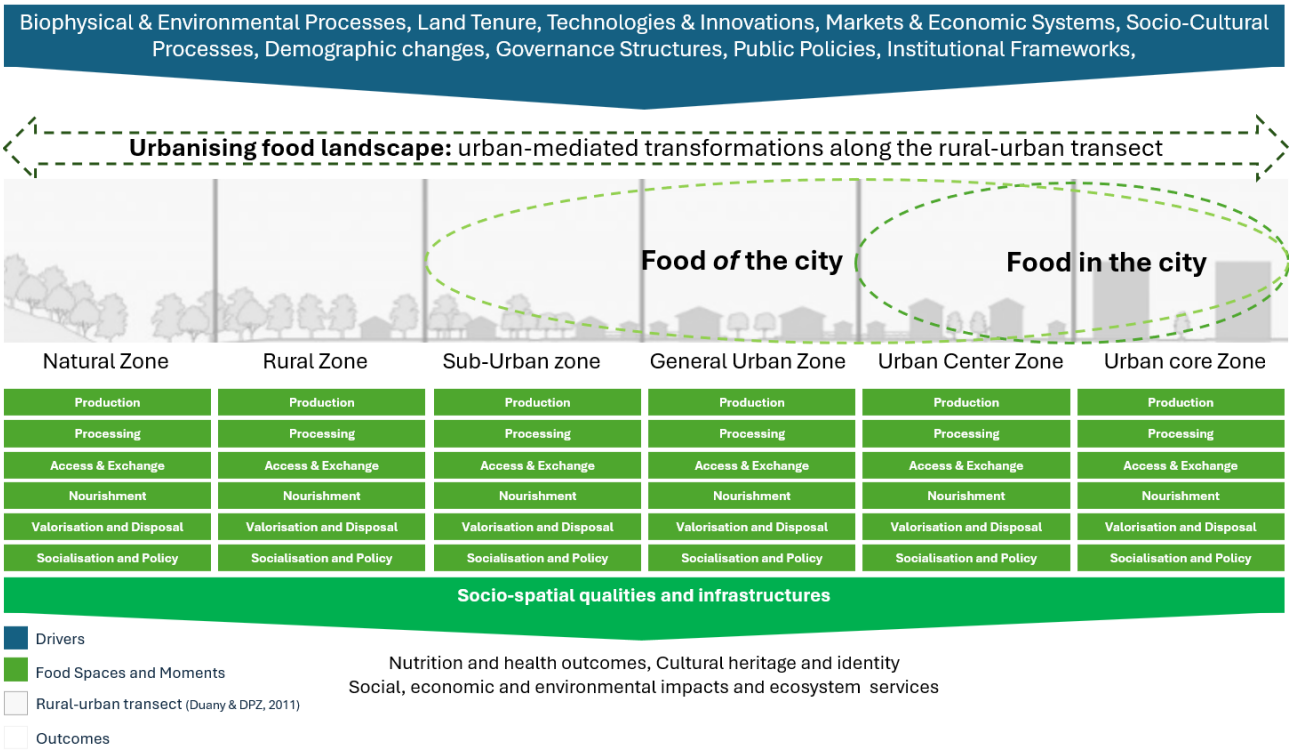
metabolisms, infrastructures, politics and socio-spatial qualities and infrastructures. Urban food dynamics also circulate through bodies, infrastructures and discourses, while being dialectically transformed and reconfigured through contested socio-environmental processes, resulting in highly unequal power dynamics and outcomes between people and places (Heynen, 2006).

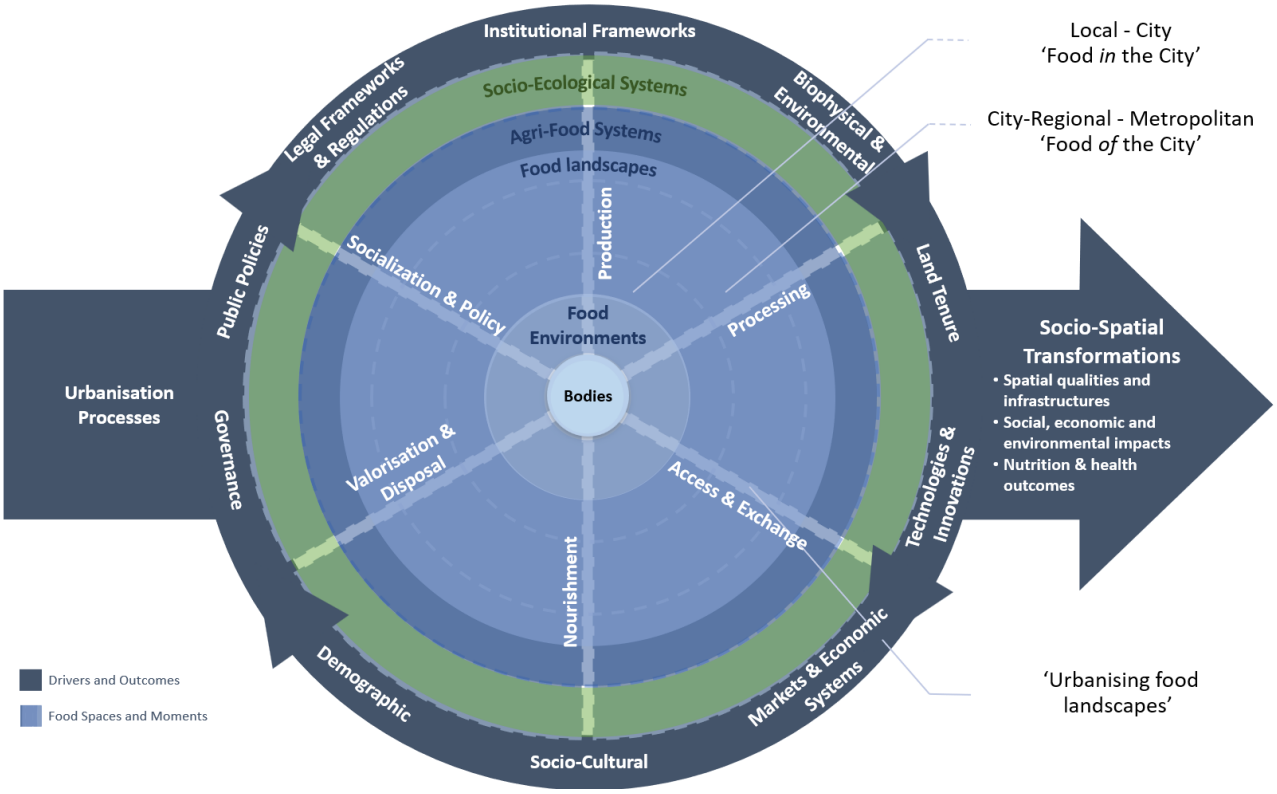
The *urbanising food landscapes* approach highlights the ongoing processes of socio-spatial transformation, geographical interdependencies, modernisation, industrialisation, and separation from our environment. As Lefebvre puts it, the urban fabric expands not only in the built environment, but also through the various manifestations of the dominance of urban priorities, dynamics, imaginaries, and processes over the countryside, advancing and corroding what is left of agrarian life (2003). According to this view, the expansion of the urban built environment is only one expression of the juxtaposition of the urban and the rural. In fact, food production spaces have undergone enormous biocultural changes in support of and as a consequence of the increasing urbanisation of society, not only in terms of new infrastructures or city farming (Despommier, 2013), but also in terms of new lifestyles, consumption demands, production practices and general socio-spatial transformations of operational landscapes in capitalist developments (Brenner and Katsikis, 2020; see footnote 14). Urbanising food landscapes can be seen as both a process and an outcome (Sonnino & Coulson, 2021), as "second natures" (Lefebvre, 1974), produced not only by the metabolic needs but also by the relations and politics of urban society with its (food) spaces, situating urbanisation as an integral part of food transformation processes. This perspective aligns with the methodological proposition put forward by Robinson et al. (2022), focusing on a new basis for a 'comparative urbanism' that takes into account the great diversity of urban experiences and their fragmented, dispersed and divergent territorialities. It moves beyond the comparison of 'cities' and concentrates on their different processes and spatialities across the rural-urban transect, taken in this research through a food systems approach. As described by the authors, a comparative urbanism consolidates the analysis of "the constitutive spatialities of urban (and rural) territories and the actors involved in these urbanisation processes", including their scales and flows, institutional formations and lived experiences (Robinson et al., 2022) in the active production of (food) landscapes.

Food landscapes are thus not discrete spaces isolated from the global dynamics of urban transformations, but integral part of urbanisation processes. The application of a food landscapes approach serves as a conceptual instrument for elucidating the impact, function, and integration of food in the management and evolution of these processes. It facilitates the identification of actions and policies that respond to current and historical pressures and dynamics on space, social structures, and broader landscapes. It also focuses on the socio-spatial relationships and interdependencies between different places, actors, and socio-ecological processes along the rural-urban transect.

Figure 13 illustrates the operationalization of these three different approaches to the urban along the six different moments of food spaces and rural-urban transect (see sub-section 4.1; Duany & Talen, 2002; Duany & DPZ, 2011; Duany & Falk, 2020). These moments are not represented as discrete but as interconnected spaces that are constantly changing and being transformed, as a 'stage', including both views of space as 'receptor' and 'instrument', socially shaped and shaping space, supporting, and reflecting our relationship with food, people and wider ecological processes *in*, *through* and *as* space.

FIGURE 13: THE SIX MOMENTS OF FOOD SPACES IN THE THREE APPROACHES TO THE 'URBAN' IN URBAN FOOD SYSTEMS.





SOURCE: ELABORATED BY THE AUTHOR, BASED ON HLPE, 2020; DUANY & DPZ, 2011; ILLIEVA, 2016; HARVEY, 1973; D'ANNUNTIIS, 2017; KASPER ET AL., 2017; VONTHRON ET AL., 2020; FOLLMANN ET AL., 2021; SOBAL & WANSINK, 2007.

3.3.3. Food citizenship and the politics of urban food space

The processes of spatial production along an urban implosion-explosion are interpreted not only as the extension of the materiality of 'urban space', but also as the reconstruction of the political conditions and possibilities of an *urban praxis* (Monte-Mór and Castriota, 2018), inextricably linked to the 'politics of space' (see subsection 2.5) and the extension of what can be called an *'expanded citizenship'* (Castriota and Tonucci, 2018). Social movements have lost their limited 'urban' territorial dimension, namely the city, and now include broader solidarities and alliances between rural, urban, and indigenous territories (Monte-Mór, 2005). The emergence of social, environmental, and climate change movements, as well as increased trans-scale collaboration between urban civil society, local farming (e.g. Via Campesina), and indigenous communities (e.g., Global-Hub on Indigenous Peoples' Food Systems), is becoming increasingly evident. These movements are empowering communities to participate in the development of agricultural and food policies as a democratic right (Patel, 2009).This 'expanded (food) citizenship' (Renting et al., 2012; de Tavernier, 2012; Gómez-Benito & Lozano, 2014; O'Kane, 2016; Lozano-Cabedo & Gómez-Benito, 2017) integrates what has previously been reported as the 'right to the city' (Lefebvre, 1974; see subsection 2.5), a 'right to the rural' and 'right to food' (Dowler & O'Connor, 2012; FAO, 2019b) into a convergent and solidaristic project or 'rural-urban alliance' (López-García & González de Molina, 2020), where both food and urbanisation, farmers and citizens, scholars and practitioners become part of a same urban (food) question (Tornaghi, 2017; Deh-Tor, 2021).

Urban food systems under this (urban) political ecology and socio-spatial perspective become important political arenas of analysis, raising crucial questions about who has power, whose voices are heard and who is (dis)empowered in current spatial and institutional configurations (Heynen et al., 2006 in Coulson & Sonnino, 2019), defining those aspects of life[87] that are (or are not) worthy of urban political attention (Deh-Tor, 2021). This does not mean a nostalgic recollection of the past, but a critical reflection on the implications and causal mechanisms of current socio-spatial configurations, infrastructures, and qualities sustaining certain (urban) food relations and outcomes while limiting others. Urban transformations are not just passive results of social change, nor a spatial container on which social life unfolds, but the production and reproduction of socio-economic relations, power dynamics, and spatial configurations that sustain and form urban life (Lefebvre, 1991, p. 39 in Purcell, 2002). The political possibilities of uniting the right to food in a "transformed and renewed right to the urban" (Lefebvre, 1996, p. 158) and right to the rural are key political questions that seek to unite and reveal the role and impact of each of the actors in the food system (farmers, distributors, passive consumers, or prosumers) in a common (political) project. Urban food landscapes do not present an analysis of food as a chain that distinguishes and reinforces the divisions between the rural, as purely agricultural and operationalised space, and the urban, as market and consumption. Instead, they focus on the different processes, configurations, and organisation of our food system, as a *social space*, for the design of strategies and perspectives that respond to the challenges and realities of feeding an urban society in a sustainable manner inside and outside the city (climate change, ecological degradation, hunger, etc.).

[87] Chiara Tornaghi and Michiel Dehaene propose a set of different building blocks supporting the integration of agroecological practices and principles as part of an urban (food) question, redefining social, spatial and political relation between agroecological farmers and cities (Deh-Tor, 2021). These are: (i) healthy soil scapes; (ii) land & market access incubators; (iii) landed community kitchens; (iv) political pedagogies; (v) productive housing estate; (vi) territorial food hubs; (vii) Agroecological parks; (viii) farming the fragmented land (Deh-Tor, 2021).

3.3.4. Towards an analysis of urbanising food landscapes

The different urban food landscapes (Vonthron et al., 2020; Kühne et al., 2023) and geographies (Kasper et al., 2017) that are taking shape within these approaches have brought new perspectives and tools for a more systemic understanding and management of food in urban and regional planning, contributing to the development of more integrated and multidimensional (urban) food policies, strategies and interventions, not only at the city level, but also at a regional, metropolitan, global and biocultural one (Santini et al., 2018; Calori et al., 2019; Daviron et al., 2019; Cohen & Illieva, 2020). The urban, as discussed above, is a highly controversial concept, with different definitions of the 'citiy' and 'urban' varying from one context to another (Cabannes & Marocchino, 2018). The different views discussed so far, serve as a building block from which to explore and inquire about the role that the urban, as a unit, quality, and process, that is *social space,* has played and can play in the analysis of food systems, and how these have shaped and been shaped by contemporary processes of socio-spatial transformation. Food issues have long been neglected and absent from the urban discourse, perceived as a taken-for-granted issue, grounded only on rural settings and conditions (Pothukuchi & Kaufman, 1999). The increasing quantity and variety of cheaper, albeit sometimes less nutritious, food has been seen as an important success of an efficient and highly industrialised global food regime (Friedmann 2006; McMichael, 2009). This is being challenged by growing trends of urban food insecurity, the double burden of malnutrition, vulnerability to climate change, ecological imbalances, landscape change, land-use conflicts and changing food prices that link both urban and rural realities in what has been emblematically configured as a 'new food equation' (Morgan & Sonnino, 2010).

The historical absence of an 'urban food question' (Morgan, 2015; Deh-Tor, 2021) has also been reinforced by rapid urbanization processes emerging and being conceptualized in opposition to a rural world (Pothukuchi & Kaufman, 1999). This dualism or contraposition between the city and countryside has furtherly been amplified by traditional divisions of public policies and planning, naturalising specific socio-spatial configurations of a 'rural' and 'urban' that render food issues in diverse urban areas invisible (Battersby, 2011; Spann, 2017 in Sonnino & Coulson, 2021). As Jane Battersby (2017) discusses for the case of Cape Town, South Africa, this absence has also had unintended negative impacts on food and nutrition security. Planning policies, decisions and regulations that have focused solely on achieving urban development goals (Davies et al., 2021) have acted as barriers to the implementation of effective food policies (Huang and Drescher, 2015) and contributed to the transformation of cities into food-disabling spaces (Tornaghi, 2017).

The operationalization and critical analysis of urban food systems under a socio-spatial perspective provide us with a valuable transdisciplinary and intersectoral tool to interpret both the socio-ecological interdependencies between urban and rural and the underlying socio-spatial transformations, linking and overcoming traditional dichotomies and geographical divisions in the analysis and planning of the urban. Urban food systems under this epistemological approach, that is as a *social space* (Lefebvre, 1974), become fruitful terrains and a privileged lens through which to interpret, map, conceptualize and, ultimately, influence the social, economic, political, and environmental impacts of contemporary urban development processes and tourism developments, that will be analysed here under a food landscapes approach.

4. Food Landscapes: Theoretical and Methodological Frameworks

4.1. Landscape: theories and perspectives

Landscape has become a widely used concept, that has become central to geography, architecture, philosophy, arts and humanities, social and environmental sciences. It is seen as a constantly evolving, multidisciplinary and polysemic term that has been subject to many interpretations over time (Luginbühl, 2007; Antrop, 2017). The word 'landscape' derives from the Germanic languages for 'Landscap', 'lantscep' or 'landschap'[88], referring to land as a region or environment (Antrop, 2017). The German word 'Landschaft', in its primitive meaning, refers to 'land' as territory and bounded space, and 'schaffen' for its creation, reclamation and (social) fabrication (Antrop, 2017). More recently, it has been also defined as a '*synthetic space'*, a "composition of human-made or human-modified spaces" serving as an "infrastructure or background for our collective existence" (Jackson, 1984), as well as a "*medium of exchange*" between the human and the natural, the self and the other (Mitchell, 1994). Other authors have also provided further interpretations, defining landscapes as an "a*nthropogeographic*" form of territory (Gregotti, 2009) or as a '*land mosaic*' composed of spatial, social, and ecological elements of both structure and function (Forman, 1995). In this sense, "landscape" has come to represent the territorialised or socio-spatial relationship between man and the world (Donadieu, 2013; 2014), an (organised) land "*shaped by man*" (Stilgoe, 1982) and result of a set of social practices that leave traces and become visible in space (Sampiero, 2008). As emblematically defined by the European Landscape Convention in 2000, it is an area "perceived by people, whose character is the result of the action and interaction of natural and/or human factors"[89] (Council of Europe, 2000). Landscape has also been understood as a social *'imaginary*'[90] (Taylor, 2004) or '*hieroglyph*' (Mitchell, 1994) bringing together the set of practices, actions, and relationships through which individuals (residents or tourists) make sense of, represent, and appropriate their own social existence in space, "naturalizing its conventions and conventionalizing its nature" (Mitchell, 1994). As expressed by Cosgrove (1998), "landscape is not merely the world we see, but a construction and composition of that world". It is "a dynamic synthesis between the natural and cultural environment of a region" (Antrop, 2000), "a way of seeing the world" (Cosgrove, 1988), with strong holistic properties (Antrop, 2000). The social construction of landscape, as seen in the previous chapters, is a dynamic process both spatial (distant and near), social and temporal (present and past), taking physical and concrete forms (material space) as well as imaginary and relative ones (literature, language, myths, maps, paintings, films, etc.) (Corner, 1999). Landscapes do not exist only on a physical, absolute form, but in the relationship individuals or collective subjects build with space: it is "the cultural appropriation of the world" (Besse, 2009), a '*synthesis*' of the complexity of reality

[88] ‚Lantscep' in Netherlands, „Landskab"in Denmark, or ‚landskip' in England (Jackson, J.B). In Western Europe, the term Landskap (Landchap today) appeared in 1462 in Holland, and was followed by Landschaft in Germany in 1502, paisagem in 1548 in Portugal, paysage in 1549 in France, paesaggio in Italy in 1552, Landscape or Lanskipe in England in 1598, and paisaje in Spain in 1708 (Luginbühl, 2007). The latin forms of paysage, paesaggio or paisagem, derive from the Latin *pagus*, meaning a defined rural district (Jackson, 1984)

[89] Similarly, the first Portuguese Environmental Law defines landscape as "the geographical, ecological and aesthetic unit resulting from the action of Man and the reaction of Nature, being primitive when his action is minimal and natural when human action is decisive but maintains biological balance, physical stability and ecological dynamics" (Law 11/87, of 7 April, art. 5, n. 2c.; See Ramos & Freire, 2024 and subsection 7.1).

[90] As Charles Taylor describes, the social imaginary is "the common understanding" or framework that enables us to make sense of the collective practices that shape our social life (Taylor, 2004).

(Cosgrove, 1998), the '*stimmung*'[91] (Simmel, 1913[2007]) and visual manifestation of 'territorial identity' (Antrop, 2017). Berque defines landscape as the '*cultural mediation*' between man and nature, that is, a cultivated representation of the world that influences its transformation and representation, leading to the birth of a *'landscape society'* (1995). The author presents the "*proto-landscape*", on the other hand, as a non-aestheticised and non-mediated space that emerges from the immediate use and visual relationship between man and his environment. (Berque, 1995; Roger, 2017). These different approaches see landscape as both 'reality' and 'ideality', embracing "the practical, the symbolic and the imaginary" (Wylie, 2007). Berque (2013) distinguishes here between two ways of thinking about landscape. On the one hand, what he calls "*landscaping thought*", which refers to the tacit knowledge of places and their people in the social production of landscape through their work; and on the other hand, "*landscape thinking*", which refers to the theoretical and aesthetic attitudes of modern urban dwellers to landscape as an abstract idea[92]. In relation to this first attitude, Jackson's seminal study on the *vernacular landscapes* (1984) becomes relevant, identifying "local customs, pragmatic adaptation to circumstances and unpredictable mobility" as a tacit knowledge of local techniques and environments that builds an image of a *'common humanity'*. Other approaches have shed light on the vision of landscapes as *transitions* (Russo et al., 2023), *migration* (Milligan, 2015), *changing territories* (Boeri et al., 1993) or a *diagonal science* (Bertrand, 1968), which reflect the continuous transformation and movements of our socio-ecological relations between open and dynamic spaces and flows, in which policies, strategies or programmes are defined (DGT, 2020) and new spatial qualities, infrastructures and relations are produced. The evolution of socio-ecological dynamics are closely linked to the transformation of landscapes and of the production and cultural systems that manage them. Dematteis (2010) conceptualises landscapes as a form of 'heritage', delineating it as a 'genetic code' imbued with the 'rules', 'structures', and socio-spatial configurations of past transformations across diverse natural and cultural environments. Landscapes, therefore, emerge as the outcome of historical processes of co-evolution and co-adaptation between local societies and their surrounding environments, as a *common good* ensuring the functionality of the entire territorial ecosystem[93] (Gisotti, 2014; see also Scazzosi, 2020, on urban agriculture, and Branduini, 2021, on the role of agricultural landscape heritage in addressing climate change).

Starting with a strong visual and scenic character during the Renaissance, landscape research has experienced a rich and evolving history of conceptual, methodological, and epistemological debate. This has resulted in the emergence of multiple concepts, approaches and research strains (Antrop, 2004; 2017) that go from systematic descriptions, aesthetic qualities and literary and historical approaches[94] (Paul Vidal de la Blache) to the definition of a landscape science (Alwin Oppel in 1884),

[91] Simmel defines *Stimmung* (also translated as *mood*) as the sense of totality that characterises landscape and gives it its uniqueness (Pagano, 2011). "Landscape exists only through the unifying powers of the Soul" (Simmel, 1913). In other words: "for there to be a landscape, our consciousness has to acquire a wholeness, a unity, over and above its component elements, without being tied to their specificity or mechanistically composed of them" (Simmel, 1913 [2007]).

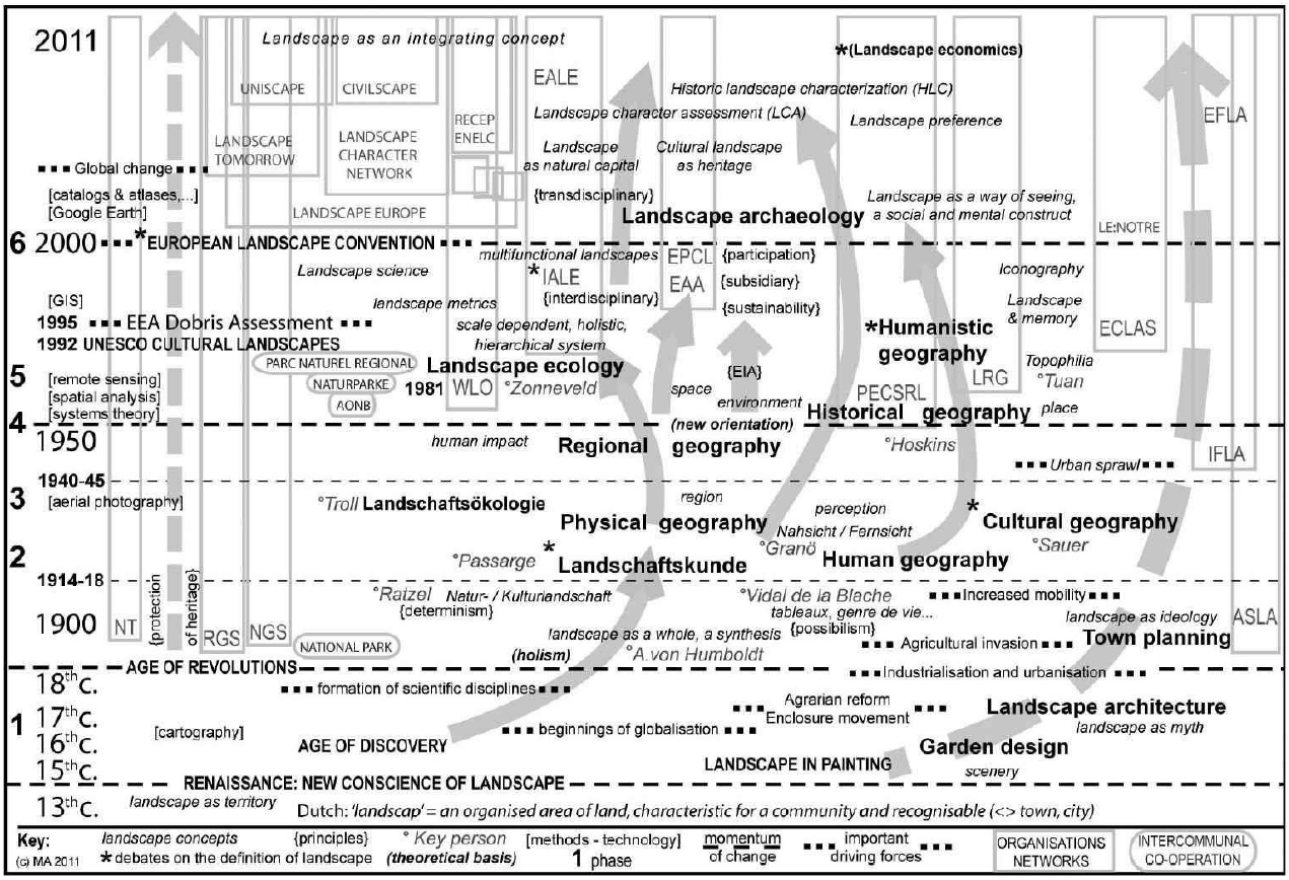
[92]Berque (2011) emphasises that landscape is born from the contemplation of the environment, not from the utilitarian perspective applied in the peasant world, but from its contemplative enjoyment, idle and free from its ties generated by the urban world (Berque, 2011). This can be seen as a consequence of the progressive distancing and alienation of modern urban societies from the totality of nature (Ritter, 1994 in Pagano, 2011).

[93] Citing the work of Saragosa (1998), Alberto Magnaghi presents territorial ecosystems as "an environmental system in which a human society, organised also with evolving urban structures, finds most of the fundamental resources for its own life and develops culturally, producing a system of relations, symbols and knowledge" (Magnaghi, 2014).

[94] Other works on the history of landscapes include those by Fernand Braudel in the Mediterranean, W.G. Hoskins in England, Emilio Sereni in Italy, and Roger Dion in France, as well as regional authors such as Massimo Quaini in Liguria.

landscape architecture (ASLA[95] in 1899; ECLAS[96] in 1991), landscape ecology (Troll, 1939; Zonnenveld, 1995), archaeology (Darby & Campbell, 1962), planning[97] (Selman, 2006) and economics (Oueslati, 2011), among others. These numerous disciplinary exercises have given rise to debates between different approaches: from one side, a socio-cultural, figurative, literary, picturesque and aesthetic dimension, promoted by the Versailles school in the form of a "*paysage*", and, on the other, a "*landschaft"*, promoted by the English school, defining mainly a physical, absolute, technological, scientific and ecological dimension[98] (Antrop, 2017; Sampieri, 2008; see Figure 14). As presented by Antrop (2017), landscape ecologists focus their attention on the relationships between spatial patterns and ecological processes, in what has been seen as the "marriage between biology and geography" (Kienast et al., n.d.). On the other hand, historical geographers and archaeologists focus their analyses on the historical 'genesis' of landscape, regional identity, and its significance as 'heritage'. Cultural and humanistic geographers develop approaches to the social and mental construction of landscape, including its representations, imaginaries, and symbolic meanings. Finally, landscape architects, as presented by Antrop, focus on (urban) scenery and design (2017).

FIGURE 14: CHRONOLOGY OF THE DEVELOPMENT OF LANDSCAPE RESEARCH FROM THE 13TH CENTURY TO 2011. KEY LANDSCAPE CONCEPTS, PRINCIPLES, METHODS, TECHNOLOGIES, AND AUTHORS FOR EACH.



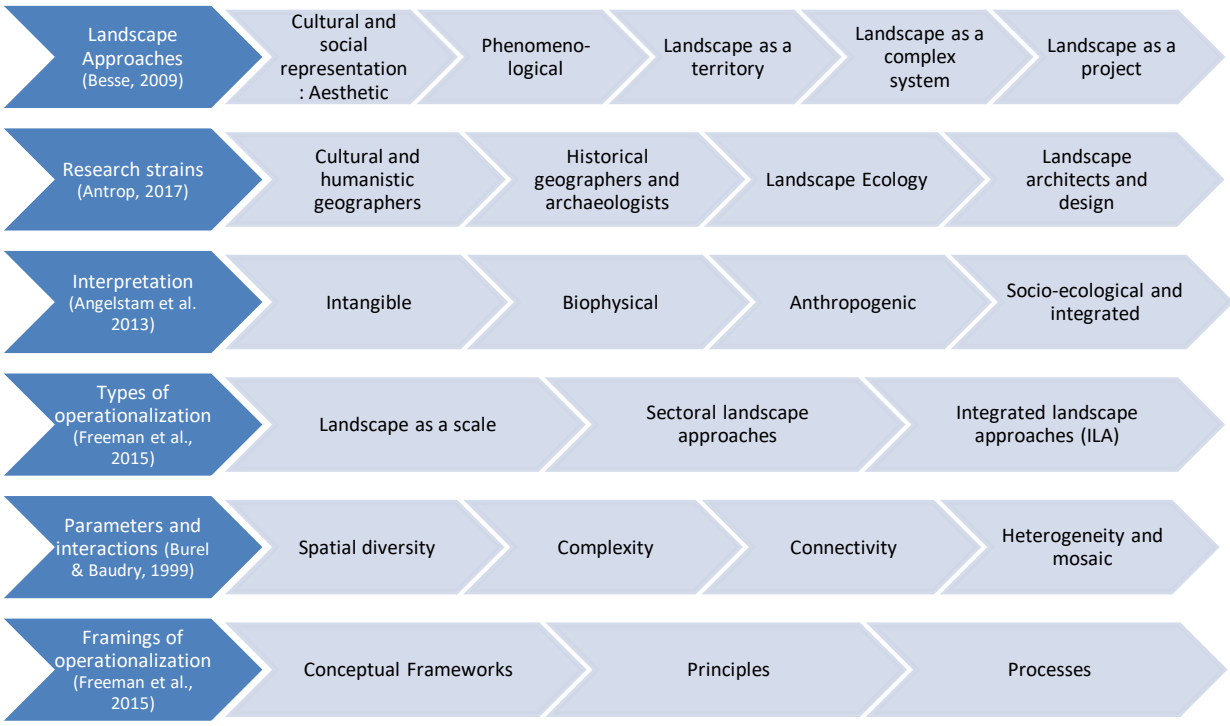
SOURCE: ANTROP, 2017.

The French philosopher Jean Marc Besse (2009) summarises these different debates in five main approaches: 1) landscape as a *cultural and social representation*, as represented by art historians in

[95] American Society of Landscape Architects
[96] European Conference of Landscape Architecture Schools
[97] The European Landscape Convention defines landscape planning as a "strong forward-looking action to enhance, restore or create landscapes" (2000).
[98] This can be exemplified in the emblematic works of the American landscape architect Ian McHarg (1969) and his book Design with Nature; and by Landscape Ecology scholars such as Richard Forman (1995)

an *aesthetic dimension*; 2) landscape as a subjective and perceptual experience, driven by *phenomenological approaches* (see Amphoux's view on soundscapes in subsection 3.2); 3) *landscape as a territory* constructed, inhabited and transformed by humans, promoted by human geographers[99], historians and archaeologists; 4) *landscape as a complex system* between natural and cultural elements that form the relationship between spatial patterns and ecological processes in an objective *totality*, as promoted by natural sciences such as geology and landscape ecology; and finally, 5) *landscape as a project*, promoted by (urban) landscape architects, planners and designers (2009). Between these different schools, there are numerous transdisciplinary exercises that have given rise to hybrid and more applied and pragmatic approaches that emphasise this last dimension, in what Angelo Sampiero calls the '*slippage*' of landscape as a place or territorial project (2008), such as the integrated landscape approach (Pedroza-Acero et al., 2022) or the definition and commitment agreed in the European Landscape Convention in 2000.[100] Angelstam et al. (2013) propose other four categories of interpretation for landscape analysis that complement this framework. The first, *intangible*, considering landscape from its individual and social perception and representation; the second, *biophysical*, focusing on landscape primarily as a natural phenomenon; the third, *anthropogenic*, referring to landscape as a natural and human-made element; and finally, the fourth category, the *socio-ecological or integrated approach*, which considers landscape as a *totality* encompassing both natural, human, and spiritual dimensions (2013).

FIGURE 15: DEFINITION OF LANDSCAPE APPROACHES AND CONCEPTUAL FRAMEWORKS.



SOURCE: ELABORATED BY THE AUTHOR BASED ON BESSE, 2009; ANGELSTAM ET AL., 2013; FREEMA ET AL., 2015; ANTROP, 2017; BUREL & BAUDRY, 1999.

[99] See for example key authors such as Armand Frémont and his book "*La région, espace vécu*" (1976). As summarized by Frémont (1980), this idea gathers the concepts of lived space and social space (Lefebvre), including the psychological values of the places, expanding the concept of (human) region (and landscape).

[100] The European Landscape Convention emphasize also the "identification and assessment" of landscapes (Article 6.C), "taking into account the particular values assigned to them by the interested parties and the population concerned" (Article 6.B). And "to define landscape quality objectives for the landscapes identified and assessed, after public consultation in accordance with Article 5.C" (Article 6.D) (Council of Europe, 2000).

4.1.1. Landscape approaches as an urban project

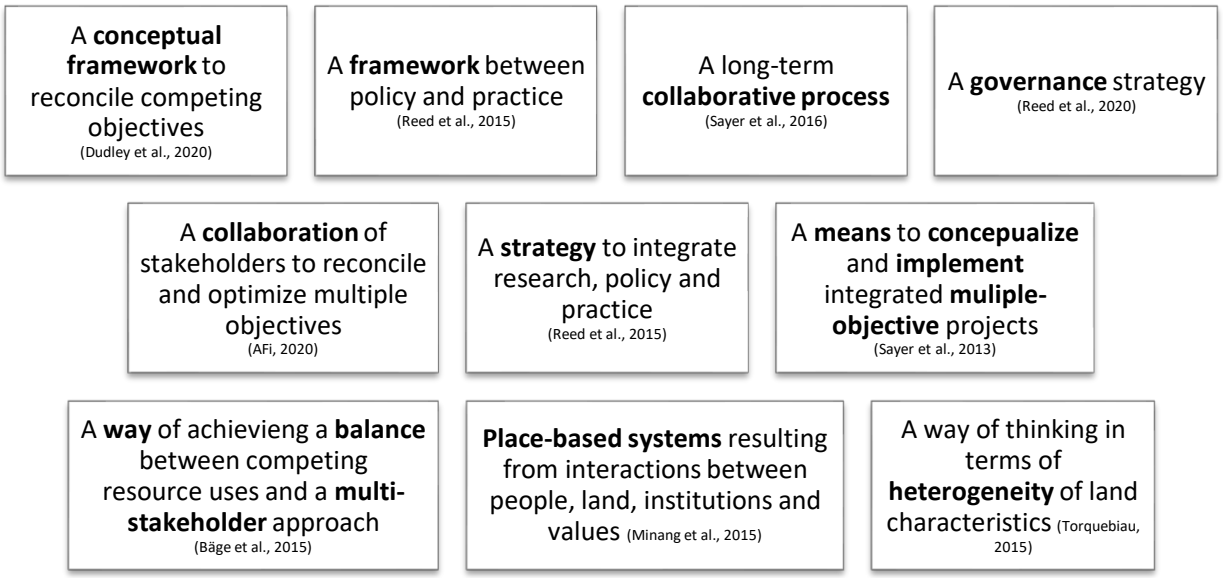
Since the mid-1980s the landscape has acquired a relevant form in the international, national, and academic debate. This growing recognition and institutional operationalisation have materialised in numerous publications, programmes, and legal frameworks, facilitating its transition to an increasing use and identification within contemporary urban and territorial planning practice and methodologies (see Table 6). In his essay "*Nel Paesaggio*" (2008) Angelo Sampieri addresses the various relationships between humans and territory through the concept of "landscape", recognising a return to holistic[101] and organicist approaches[102] of greater openness, flexibility, resilience, and adaptability in the management of space (Reed & Lister, 2014). As analysed by the author, these views diverge from the fragmented spatiality of modernity (Mitchell, 1994; see subsection 2.4.4 on Latour). Landscape approaches are linked to different ways of thinking about time, space, practice, knowledge, and their changes, in what the author calls the "slippage", "communication", "holism", "humanism" and "suspension" of the landscape discourse (Sampieri, 2008). Landscape approaches are increasingly employed as conceptual and practical frameworks (Reed et al., 2015) to reconcile and optimise the utilisation of multiple competing resources (Bäge et al., 2015) and objectives (Dudley et al., 2020; Sayer et al., 2013), contributing to an understanding of spatial heterogeneity, functions, linkages and interactions (Torquebiau, 2015). The multifunctional nature of landscapes encourages the establishment of long-term collaborative processes (Sayer et al., 2016) and governance strategies (Reed et al., 2020), integrating research, policy and practice in the enhancement of social-ecological processes and outcomes in joint multistakeholder projects and actions (AFi, 2020). Freeman et al. identify three different kinds of operationalization of landscape approaches, emphasizing that their application can widely vary in its focus, use and content based on the specific context, objectives and circumstances (2015; see Figure 15): 1) *landscape as a scale*, aiming to understand patterns and processes using landscape as a scale of inquiry (see below); 2) *sectoral landscape approaches*, using landscape with regard to one or few primary objectives such as conservation, watershed management or (food) supply chains, among others; and 3) *integrated landscape approaches* (Reed et al., 2021), framed around "multifunctionality and driven by participatory, transdisciplinary and cross-sectoral processes that define a complex social-ecological system", usually shaping "a mosaic of different land uses" (Freeman et al., 2015; see **Error! Reference source not found.**). Building on a landscape ecology approach, as exemplified by the seminal works of Richard Forman (1986, 1995, 1996), Burel and Baudry (1999) and the British plant ecologist A.S. Watt (1945), Torquebiau (2015) identifies common parameters used in the comprehension of landscapes, including their *spatial diversity* (the

[101] Jan Smuts, in his book *Holism and Evolution* (1926), presents one of the first uses of the holistic concept, using the term to describe the organisation of nature in terms of "wholes" that are greater than the sum of their parts (Smuts, 1926). The holistic approach thus implies the analysis of the elements as a whole, as well as the relationships between them. As the authors put it: "a whole is a synthesis or unity of parts, so close that it affects the activities and interactions of those parts, impresses on them a special character, and makes them different from what they would have been in a combination devoid of such unity or synthesis" (Smuts, 1926).

[102] As Augustin Berque (1990) explains, these concepts have played a central role in East Asian landscape thinking, as in the paradigm of *shanshui* (landscape) in China. The author situates these concepts in opposition to the 'mechanistic' and 'rational' world view of the modern classical Western paradigm. Berque examines the modern approach to landscape from two perspectives. The first perspective concerns the distance between the subject and its environment. This distance allowed the environment to be objectified and analysed as a separate, objective unit. A second distancing in European landscape thinking concerns the objectification of the subject in relation to itself. This concept defines an environment that is part of and made by the subject. As Berque outlines, the initial distancing occurred concurrently with the advent of the natural sciences, whereas the subsequent one was predominantly advanced in the social sciences. The *Shanshui* as analysed by Berque thus represents an organic and aesthetic world, wherein the subject is not absent from its environment and wherein space is not fragmented into abstract and analysable objects (1990).

variety of landscape unit categories), *complexity* (the number and type of interactions between units), *connectivity* (relationships between units), and *patch dynamics* (structures), leading to what Forman (1995) calls a '*structural*' and *'functional'* (socio-spatial) heterogeneity with particular ecosystem services and outcomes that result in the formation of landscape "*mosaics*"[103]. That is, the socio-spatial organization of different landscape units. In addition, Freeman et al. (2015) identify three distinct framing approaches employed in the operationalisation of landscape methodologies, encompassing *conceptual frameworks* and *principles*, as well as the delineation of specific steps and *processes*.

TABLE 3: TYPES OF DEFINITIONS OF LANDSCAPE APPROACHES.



SOURCE: ELABORATED BY THE AUTHORS BASED ON SAYER ET AL., 2013, 2016; MINANG ET AL., 2015; BÄGE ET AL., 2015; TORQUEBIAU, 2015; REED ET AL., 2015, 2020; DUDLEY ET AL., 2020; AFI, 2020; PEDROZA-ACERO ET AL., 2022.

These new approaches have mobilised a dynamic and constantly evolving concept of landscape that goes beyond the previous equation of landscape and conservation theory (Sayer et al., 2013). These previous conceptualizations were particularly evident in contemplative views of landscapes, as 'exceptional' places of high natural and cultural value that require protection and preservation from human intervention and artificialization. In fact, as Sampieri (2008) points out, landscape has moved, or "slipped", from its pictorial and romantic conception to become a primary *project* tool and framework for *territorial* action, governance, and collaboration. Landscape approaches are gaining greater relevance as a medium of design and transformation (Waldheim, 2016), moving towards a new emphasis on the socio-spatial production, management and planning of 'urban' and 'everyday' forms and livelihoods, and their related power dynamics, assemblages and infrastructures, connecting both local, global[104] and socio-ecological processes and practices in a "forward-looking action to enhance, restore or create landscapes" (Council of Europe, 2000). This engagement can be exemplified by concepts such as *vernacular landscapes*, and their renewed focus on local customs and adaptative practices and architectures (Jackson, 1984), the promotion and conservation of *cultural landscapes* (Sauer, 1925; Antrop, 2005), the plural and *projective* potential of *ecologies* for contemporary design (Reed & Lister, 2014), the adaptation, evolution and *emergence* of *landscapes* (Barnett, 2013), an *integrated landscape management* (Bäge et al., 2015; AFi, 2020; Dudley, 2020)

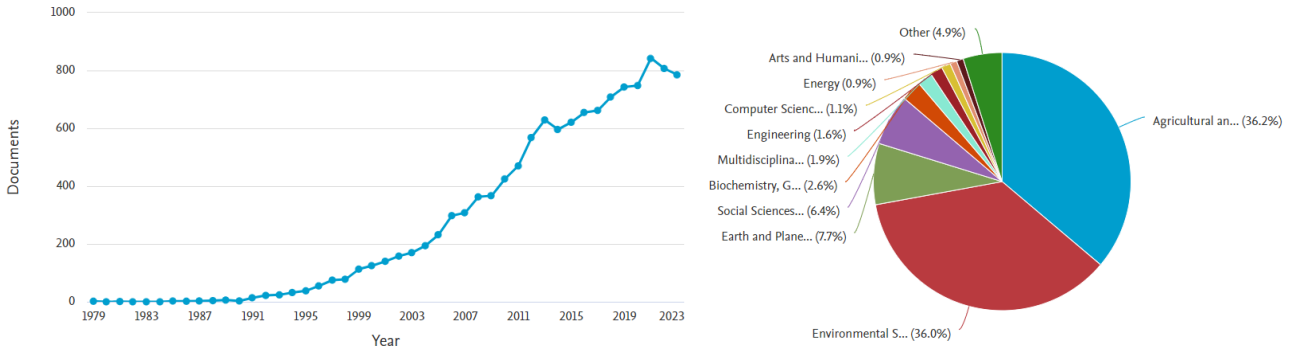
[103] Richard Forman, considered one of the 'fathers' of landscape ecology, describes mosaics as "a pattern of patches, corridors and matrix, each composed of smaller, similar, aggregated objects" (1995).
[104] As emphasized by Pagano, citing the Italian landscape theoretician Massimo Quaini, the strength of landscape resides in its "*liminality*" or "*betweenness*", oscillating on the edge between land and sea, local and global (2011).

and *approaches* (Reed et al., 2014; Reed et al., 2016; Reed et al., 2021; Bürgi et al., 2017), *climate-smart landscapes* (Minang et al., 2015), as well as in provocative views, such as *landscape urbanism* (Waldheim, 2016; Castro et al., 2013; Donadieu, 2006).

4.1.2. Principles and scales of a Landscape Approach (LA).

Over the last 30 years, landscapes have gained greater consensus as a relevant scale of analysis, governance (Gerber & Knoepfel, 2008) and management, linking local socio-economic interests with global environmental objectives and reconciling conservation and development goals (Sayer et al., 2013). Landscape scales have been especially prominent in the fields of conservation theory, agricultural and biological sciences, environmental, earth and planetary sciences, and social sciences (see Figure 16). Considering these broad conceptual interpretations, a wide variety of landscape approaches (LA) are applied under very different spatial scales and configurations, determining different (food) practices, provision systems, production areas and metabolisms.

FIGURE 16: NUMBER OF PUBLISHED DOCUMENTS BY YEAR AND SUBJECT AREA FOCUSING ON THE LANDSCAPE SCALE.



SOURCE: SCOPUS, 2023B

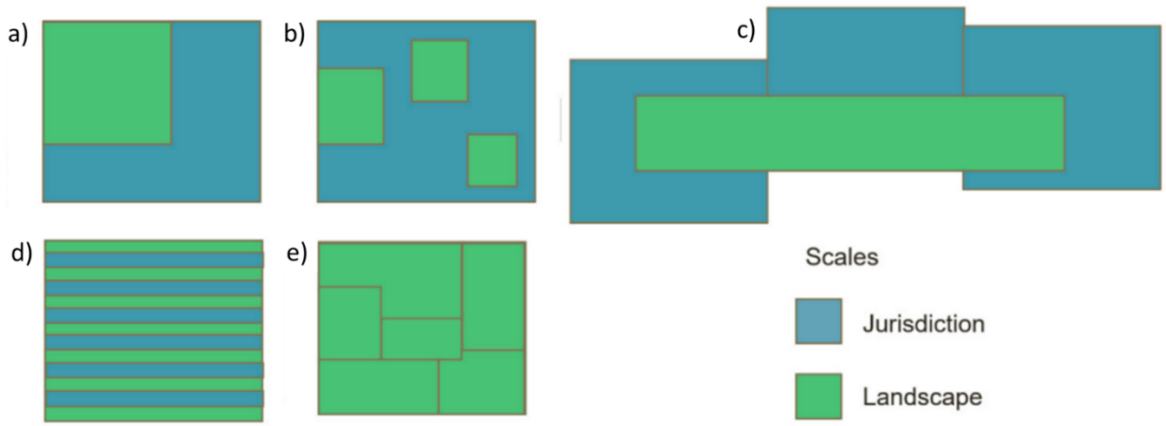
The increasing use of 'landscape approaches' in the development of international, national, regional, and local initiatives has resulted in a rich and wide variety of interpretations characterized by a broad conceptual arena (Sayer et al., 2013). Following the models presented above, Freeman et al. (2015) proposes to describe it as: 1) an approach that addresses social-ecological systems at the *landscape scale*, 2) an approach that relates to *resource management* and/or environmental objectives, and 3) an approach that is framed by the concept of *multifunctionality* and addresses *multiple objectives*. Sayer et al. (2013) propose to see landscapes as "an area delineated by an actor for a specific set of objectives", with landscape approaches (LA) providing the social-ecological systems' framework to address the complex problems that unfold. Minang et al. (2015b) describe landscapes as place-based systems[105] resulting from interactions between people, land, institutions and values, and refer to LAs as "a set of concepts, tools and methods to achieve multiple economic, social and environmental objectives (multifunctionality)," that involve multi-stakeholder processes and the management of trade-offs to "recognise, reconcile and synergise the interests, attitudes and actions of multiple actors". The authors present landscapes through three key interactive aspects*: functional interactions* (environmental, economic and social); *negotiated spaces* (between different perspectives, interests and ambitions); and *multiple scales*, containing the heterogeneity of biophysical, social, economic, political and cultural dimensions, but small enough to be socially coherent (Minang et al., 2015c).

[105] In this regard, we recall Edward Casey's (2002) definition of landscapes as *'place-scapes'*, which he defines as 'congeries of places in the fullest experiential and represented sense'. Jeff Malpas builds on these propositions by defining landscape as a representation of a place and, as such, the re-presentation of a *relatedness to place* and of a particular *mode of 'emplacement'* (2011).

In this context, Pedroza-Acero et al., (2022) present five types of interconnections that becomes useful for the operationalization of the landscape scale according to different jurisdictional boundaries (see Figure 17):

- Single landscapes (a): A landscape within jurisdictional boundaries, but not covering all the area. (e.g., specific landscape or city project inside a regional or municipal jurisdictional area)
- Multiple landscapes (b): Two or more landscapes within jurisdictional boundaries, but not covering all the area (e.g., multiple landscape projects inside a regional jurisdictional area, involving different cities, food sites and agricultural areas)
- Multi-jurisdictional approach (c): the landscape includes multi-jurisdictional settings for its implementation, covering all or part of the different regional or municipal jurisdictions (e.g., trans-regional, trans-national or inter-municipal landscape projects, such as the European Interreg, intermunicipal communities, natural parks or bio-regional food systems)
- Landscape/jurisdictional approach (d): the landscape itself is delimited within all the jurisdictional boundaries. (the landscape coincides with all the regional or municipal jurisdictional area, e.g. city-region, metropolitan area, regional food system approach)
- Nested jurisdictional approach (e): a complete jurisdiction covered with several nested landscapes or compacts at smaller scales. (e.g., multiple watersheds, city-region, valleys or agroecosystems covering all the regional or municipal jurisdictional area).

FIGURE 17: OPERATIONALIZING THE LANDSCAPE SCALE. INTERCONNECTIONS BETWEEN JURISDICTIONAL AND LANDSCAPE APPROACHES.



SOURCE: ADAPTED FROM PEDROZA-ACERO ET AL., 2022.

Based on a study of seven case studies from around the world, and in consultation with various organisations and the Convention on Biological Diversity (CBD), Sayer et al. outline a set of ten principles (2013) and conditions for success within a landscape approach (2015) to guide decision-making processes when reintegrating agriculture, conservation and other competing land uses, and reconciling local planning and socio-economic development. As the authors point out, this set of ten principles should not be seen as a pre-configured list of actions, but as a policy foundation to be adapted and applied according to the particular needs and challenges of specific local conditions, shifting the focus from 'what' and 'where' to 'how' and 'why', and putting decision-making in the hands of local people (2013; see Table 4). Building on these findings, Sayer et al., (2017) also propose a set of metrics to measure the effectiveness of landscape approaches, both at the level of the management process and at the level of their conservation and development outcomes.

TABLE 4: KEY PRINCIPLES AND CROSS-CUTTING CONCEPTS FOR A LANDSCAPE APPROACH.

Principles for a landscape approach (Sayer et al., 2013)	1.Continual **learning** and **adaptive** management **2.Common concern** as entry point **3.Multiple scales** **4.Multifunctionality** **5.Multiple stakeholders** **6.Negotiated** and **transparent** change logic 7.Clarifications of **rights** and **responsibilities** **8.Participatory** and user-friendly **monitoring** **9.Resilience** 10.Strengthened stakeholder **capacity**
Preconditions for success under a landscape approach (Sayer et al., 2015)	1.Inspired **leadership** is essential 2.Long-term adaptive **commitment** **3.Facilitation** is necessary but not sufficient to achieve landscape-scale outcomes **4.Value propositions** will motivate engagement **5.Conflict** and entrenched views must be openly addressed 6.Strong **systemic governance** is essential **7.Private sector engagement** is a key element of success 8.Policies without **budgets** and **implementation** commitments do not work 9.Formalisation and **monitoring** of process outcomes is eventually needed 10.Develop **metrics** to establish values, track progress and enable adaptive management
Interactive aspects of landscape approaches (Minang et al., 2015)	**1.Functional interactions**: ecological, economic and social processes in a mosaic of components **2.Negotiated spaces:** between different perspectives, interests, power and ambitions **3.Multiple scales**: large enough to contain the heterogeneity of biophysical, social, economic, political and cultural dimensions, but small enough to be socially coherent
Cross-Cutting concepts for landscape approaches (Freeeman et al., 2015)	**1.Systems thinking** and positive and negative **feedback loops** 2.Identifying **leveraging points**, **planning** and **emergent** features **3.Buffering**: identifying and enhancing system properties that reduce exposure **4.Multistakeholder governance** that take into account heterogeneity in perspectives, interests and functions **5.Collaborative learning and action** for an adaptive managemenminang
The five E's of Landscape Approach (Reed et al., 2016; 2021)	**1.Evaluating** progress 2.Establishing good **governance** **3.Evolving** from panacea solutions **4.Engaging** multiple stakeholdders **5.Embracing** dynamic processes 6.Re-integrating **ecological f**actors (Reed et al., 2021)

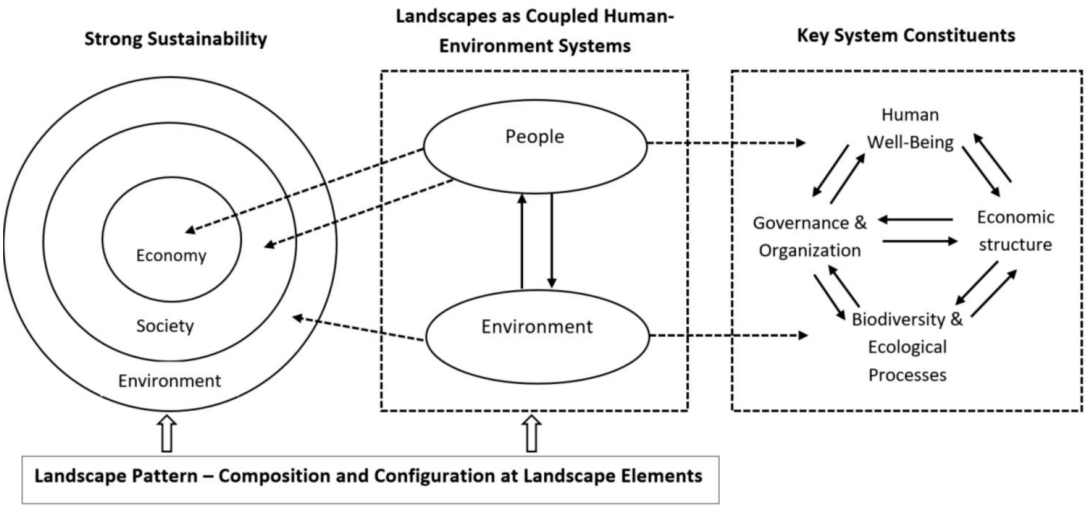
SOURCE: ELABORATED BY THE AUTHOR BASED ON: SAYER ET AL., 2013; SAYER ET AL., 2015; FREEMAN ET AL., 2015; MINANG ET AL., 2015; REED ET AL., 2016; 2021.

4.1.3. Landscapes as Socio-Ecological Systems (SES)

Landscape approaches have been extensively examined as complex adaptive (CAS) and social-ecological systems (SES), providing numerous avenues for addressing the complex challenges and relations inherent to agriculture, food and environmental systems (Sayer et al., 2013).

Social-ecological systems (SES) are complex and integrated systems that adopt a holistic view of humans as part of nature (Berkes et al., 1998; Berkes & Folke, 2002). This encompasses social practices, economic, political, technological and cultural systems, in addition to global ecological processes, including the biosphere, natural cycles, living organisms and their interactions with the dynamic Earth system (Folke et al., 2016; Pedroza-Acero et al., 2022). In their seminal work, Berkes and Folke (1998) present one of the most widely used definitions of social-ecological systems (SES), which they describe as nested multi-systems that provide essential services (such as food, fibre, energy, water, and habitat) to the societies associated with them (Minang et al., 2015). Another key concept is provided by Elinor Ostrom (2009) in her general framework for analysing sustainability in multilevel social-ecological systems, or SESF, comprising four basic components that integrate both biophysical/ecological and social systems. As proposed by Ostrom, SES are composed of *resource systems* (such as agroecosystems, hydrological systems, watersheds, forests, protected areas and wildlife), *resource units* (such as food, plants, trees, or species of flora and fauna), *users* (individuals or citizens who benefit from these systems (nourishment), including their socioeconomic attributes, location, leadership, social capital, knowledge, technology) and *governance systems* (institutions, rules and regulations that determine the right for the use of resources, such as food, including government organizations, NGOs, network structures, property-right systems, among others). These four basic components interact with each other (e.g., information sharing, deliberation, conflicts, investment, networking, self-organization, among others) to produce both positive and negative outcomes (social and ecological performances and externalities, as food security), which are linked and integrated with two additional systems: the *social, economic and political settings* (economic development, demographic trends, political stability, resource policies, market incentives, media) and the related *ecosystem* dynamics (e.g., climate patterns, nutrient flows, pollution patterns). Building on Wu (2013), Pedroza-Acero et al. (2022) operationalise these concepts by proposing a conceptual framework of SES under a landscape sustainability approach (see Figure 18).

FIGURE 18: LANDSCAPE AS SOCIO-ECOLOGICAL SYSTEMS UNDER A LANDSCAPE SUSTAINABILITY APPROACH.



SOURCE: PEDROZA-ACERO ET AL. 2022 BASED ON WU, 2013.LANDSCAPE approaches have been extensively examined as complex adaptive (CAS) and social-ecological systems (SES), providing numerous avenues for addressing the complex challenges and relations inherent to agriculture, food and environmental systems (Sayer et al., 2013).

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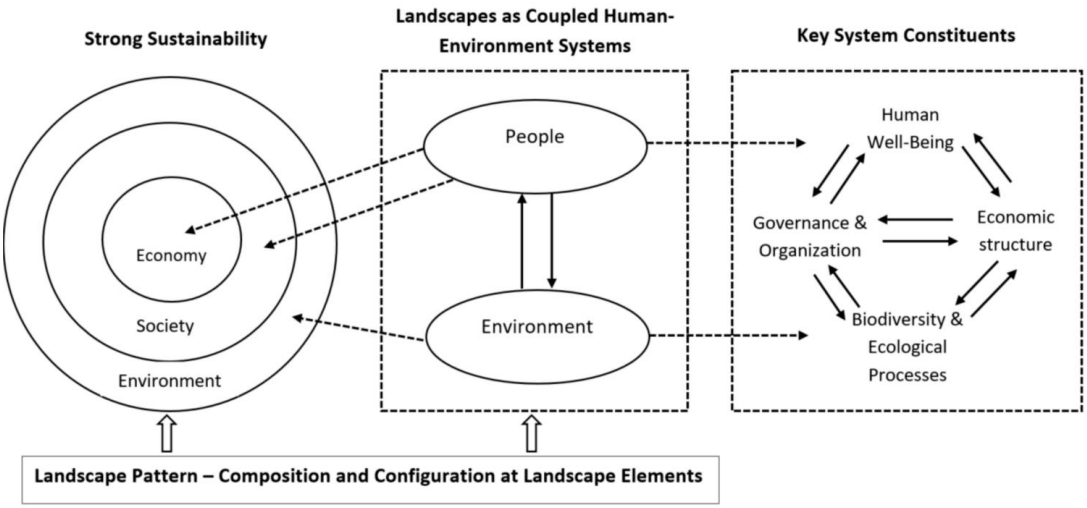
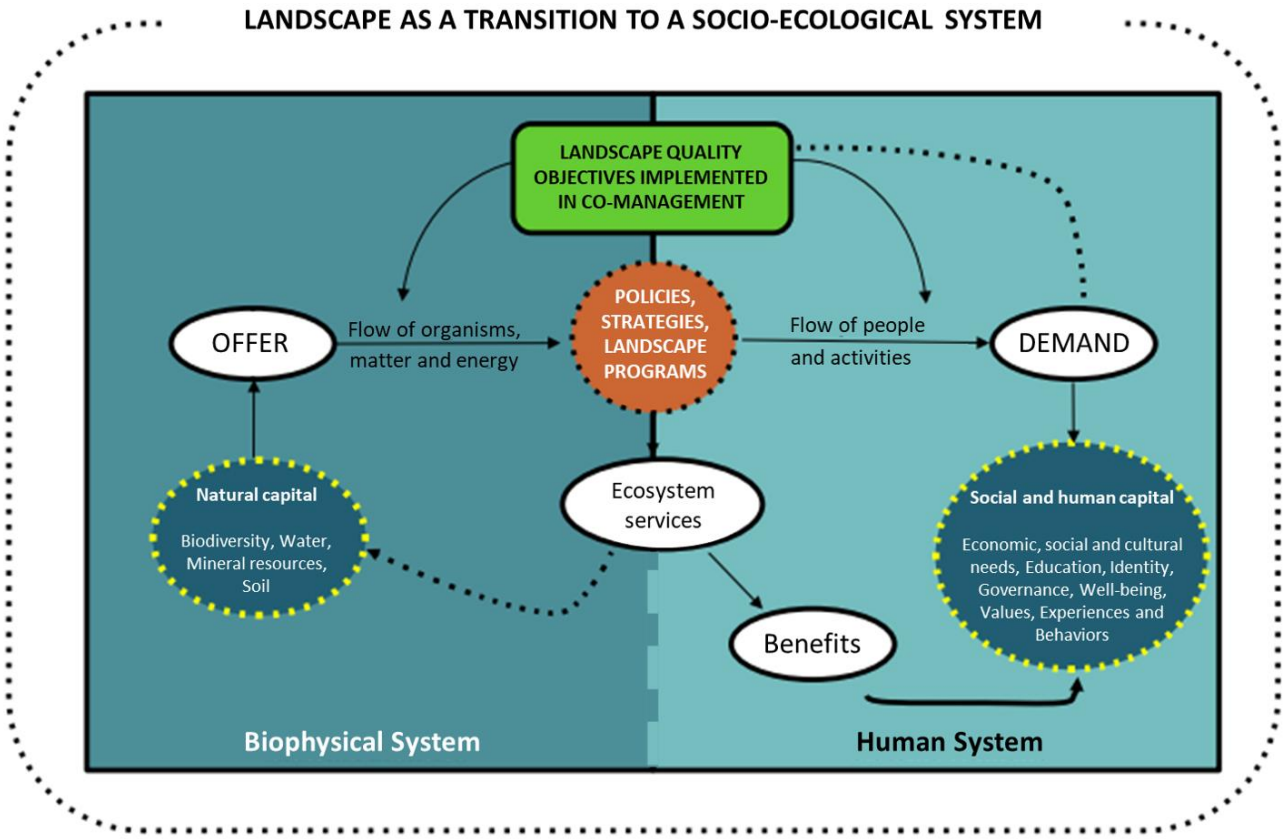


SOURCE: PEDROZA-ACERO ET AL. 2022 BASED ON WU, 2013. illustrates the conceptual framework of landscapes as socio-ecological systems, which are displayed in a continuous transition or transformation process (see subsection 1.2 on food systems transformation). This process links both ecological and biophysical elements (natural capital and processes), ecosystem services, and human systems (landscape policies, strategies, laws, and programmes; social and human capital and economic systems) (DGT, 2020).

FIGURE 19: LANDSCAPE AS A TRANSITION TOWARDS A SOCIO-ECOLOGICAL SYSTEM.



SOURCE: TRANSLATED FROM DGT, 2020.

4.1.4. Landscape as a (food) infrastructure and assemblage.

Landscape has become a broad, heterogeneous and polysemic concept that unites a plurality of views and positions in what Sayer et al. (2013) call a "*constructive ambiguity*", a 'multiform' and 'intersubjective' homogeneity and 'common good' (Sampieri, 2008; see also Latour, in his approach to interobjectivity Latour, subsection 2.4.4). It is this unifying, holistic and integrating character that positions landscape as an apparently 'neutral' social project and a broad instrument of communication in which different actors, views and values converge in a collective space, idea, and representation (Cosgrove, 1998), both real and imagined (Sampieri, 2008; Corner, 1999). The social production of landscape implies a common, shared and socially relevant problem (Sampieri, 2008). It is in the landscape that certain imaginaries and conventions are naturalised and collective *identities* are promoted, especially by certain groups of power or influence, defining the conventionalisation and acceptance of their particular socio-spatial configurations and characteristics (Mitchell, 1994). Landscapes are produced by and contain specific types of socio-spatial organisations and qualities, that favour the production and reproduction of certain experiences, representations, and relationships over others (Jackson, 1984). Citing Pierre Bélanger (2009; 2012), Susan Leigh Star (1999) and Ashley

Carse (2012), Brett Milligan (2015) refers to these as *landscape infrastructures*, describing the material, ecological and social frameworks that structure the forms, outcomes, and performances of landscapes. Infrastructures are not neutral, universal, or given entities, but contextual and political *assemblages* continuously being enacted, performed, and contested (2015; see subsection 2.6 on spatial qualities and subsection 2.4.4 on assemblages). As Ashley Carse (2012) observes in relation to his analysis of the Panama Canal watershed, landscape becomes a socio-spatial infrastructure (material, ecological and social) that enables particular systems of production to be maintained and reproduced, articulating, and sometimes fixing, specific services, interests and socio-ecological metabolisms[106] (Milligan, 2015). Building on assemblage theory perspectives[107], we can see landscapes through the dynamic processes of stabilisation / reterritorialization and destabilisation / deterritorialization, revealing the historical trajectories and power dynamics[108] through which certain urban and territorial (socio-spatial) forms[109] and infrastructures are transformed, becoming, or attempting to become, 'normalised', 'inevitable' and 'universal' (McFarlane, 2011; Müller, 2006; see discussion on urban forms in subsection 2.4.6).

These approaches become highly relevant from a food systems perspective. As Clyde Waver (1984) presents in his essay on regional planning and development, the dynamics of modern spatial organisation have tended towards a marked separation of production and consumption, with the urban as consumer and locus of power gradually exercising greater control over its rural and productive hinterland. As the author points out, it is in these processes that planning structures and frameworks have played a key role in the translation and development of socio-spatial infrastructures favouring the political and socio-economic transformations of recent decades, such as the growth of market economies, capital systems, land use changes and globalisation, as expressed in contemporary urban food landscapes (Weaver, 1984). In fact, over the past 40 years, urban food production infrastructures and forms (qualities) have been progressively transformed, discouraged and externalised from the urban project as something ‘inevitable’, ‘normal’ and ‘universal’, becoming almost invisible and a ‘stranger' to the urban question (Pothukuchi and Kaufman 2000).

Michael Dehaene and Chiara Tornaghi (2021) argue for the re-politicisation of urban food spaces, advocating a re-examination of the crucial aspects of urban life that demand political attention, action, and investment, such as food. This entails a collective process of visioning and shaping the way food landscapes (and their related socio-spatial infrastructures) are and can be produced to respond to the goals, values and needs of urban populations (Heynen et al., 2006). Roberta Sonnino et al. (2019) highlight the importance of a relational approach and new interdisciplinary collaborations at different scales to better understand and identify the role of food in placemaking processes, linking changes in food practices at the micro level to broader infrastructural transformations and their socio-ecological and political reconfigurations. A good example in case is presented by Terry Marsden et al. (2018) in

[106] This can be seen both in modern landscape infrastructure, such as irrigation systems or mechanical innovations that drive large-scale agricultural production, as well as in historical configurations, such as terraced landscapes (Terkenli, 2018), and other agricultural heritage systems (FAO, 2022) that have contributed to agricultural and food production and the hydrogeological stability of these territories.

[107] The five constitutive features of assemblages proposed by Müller (2006) become a relevant perspective for landscape analysis, including *relational*, *productive*, *heterogeneous*, *dynamic* and *corporeal/desire* features (see subsection 2.4.4)

[108] An urban political ecology approach could provide useful insights in this regard, shedding light on the conflicting relationships, historical trajectories, power dynamics and metabolic imbalances of current socio-spatial configurations that are naturalised and reproduced in the shaping and operationalisation of the landscape in favour of urban economic centres and to the detriment of other territories.

[109] Drawing on the work of Roger Brunet (2003), Alberto Magnaghi and his colleagues use the term (territorial) ‘figure', as opposed to 'form', to describe a 'space shaped by a society and the strategies of its actors' (Magnaghi, 2014).

their review and analysis of food-related assemblages, infrastructures, and reflexive governance initiatives in the European food landscape, in particular with regard to the EU-funded project TRANSMANGO.[110] Terry Marsden and colleagues define assemblages as *platforms of transformation* and *sites* where a reconstruction of the food system (can) take place (Marsden et al., 2018), bringing together the social and the material, the human and the non-human, in the formation of new socio-spatial infrastructures. These new infrastructures facilitate the emergence of new practices, spaces and relationships that contribute to a sustainable transition[111] of food systems: from food production, processing and distribution to consumption and waste/valorisation. Drawing on the results of the TRANSMANGO project, the authors identify different types of assemblage clusters and groupings (socio-spatial infrastructures) for the reconstruction of food systems, focusing on: 1) *food rights* for vulnerable groups, such as food banks and other forms of assistance; 2) the reconnection between *sustainability* and *health*, such as healthy school meals programmes; 3) new and novel *urban-rural synergies*, including the *access to* productive *resources*, such as land; 4) increasing *consumer-citizen engagement*, such as living labs, urban food projects and city food councils; and; 5) opportunities for *public procurement* and *preparedness* (Marsden et al., 2018).

Terry Marsden et al. (2023) highlight the importance of a reflexive, strategic and deliberate food governance for the emergence of new voices and collaborations that can give rise to new processes of transformation and empowerment (2018). Similar findings are presented by Damian Maye, Daniel Keech and Matt Reed (2023) in their analysis of urban food governance, social innovation and sustainable transitions, focusing on the experience of living labs in Europe and their contribution to rural-urban relations. Maye et al. (2023) identify five governance mechanisms for sustainable food systems, such as 1) *urban food strategies*; 2) support for *territorial cohesion*, promoting food system integration and market access; 3) *public procurement* based on specific environmental and social food qualities; 4) *branding*, creating added value and regional identity of products with distinctive qualities; and 5) *sustainability indicators*, measuring food system performance in multiple dimensions. The author groups these different mechanisms into three typologies of place-based policy innovations, including 1) *institutional*, such as the inter-municipal food policy of Lucca (Italy), 2) *technological*, such as online platforms and dynamic procurement systems, and 3) *social practices*, such as the promotion of sustainable food practices in schools (Maye et al., 2023).

Another useful approach is presented by de Bruin et al. (2021) in relation to their analysis of the impact of urbanisation processes on the transformation of food systems. The authors identify five enabling conditions shaping rural-urban relations, livelihoods and opportunities, which provide a useful framework for analysing food landscapes as socio-spatial infrastructures. These are divided into: 1) *social conditions*, such as networks, norms and knowledge; 2) *physical conditions*, regarding geomorphology, physical infrastructures, and natural resources (soil, water, etc); 3) *spatial conditions*, linked to urbanisation patterns, tourism developments, regional spatial planning and regulations; 4) *economic conditions*, such as trade policies and financial incentives; and 5) *institutional conditions*, referring to governance structures and government services (de Bruin et al.,

[110] TRANSMANGO aims to obtain a comprehensive picture of the effects of the global drivers of change on European and global food demand and on raw material production, and to explore diverse transition pathways to a sustainable and food secure food system, building empirical evidence from various European countries, such as Latvia, Finland, Belgium, The United Kingdom, the Netherlands, Italy, and Spain. See also https://transmango.wordpress.com/about/

[111] In their discussion on social and technical innovation, Westley et al. (2011) refer to the challenge of fostering sustainable transitions, using "innovative capacity to change current unsustainable trajectories and support transformations towards global sustainability", moving from the current prevailing regimes to sustainability-based socio-spatial configurations (see subsection 1.2 on food systems transformation).

2021). These policies and instruments represent concrete examples reported in the food literature with regard to the relation of landscapes as a food assemblage and socio-spatial infrastructure that (can) contribute to the (sustainable) transformation of food landscapes. Table 5 summarises and unifies these different conceptual frameworks for this research.

TABLE 5: TYPES OF ENABLING CONDITIONS, MECHANISMS AND SOCIAL INNOVATIONS FOR THE ANALYSIS OF SOCIO-SPATIAL INFRASTRUCTURES FOR IMPROVING SUSTAINABILITY AND RURAL-URBAN RELATIONS IN (FOOD) LANDSCAPES.

Enabling conditions and key examples (de Bruin, et al., 2021)		**Groups** (Marsden et al., 2018)	**Mechanisms** (Maye et al., 2023)	**Innovations** (Maye et al., 2023)	**SES Components** (Ostrom, 2009)
Economic conditions	Trade policies, financial incentives, market differentiation	Food procurement Food rights Consumer-citizen engagement Sustainability and Health Urban-rural synergies	Branding Food procurement Territorial cohesion Urban food strategies Sustainability Indicators	Institutional Social practices Technological	Social, economic and political settings Governance systems Users Resource systems Resource units Ecosystem dynamics
Institutional conditions	Government services and governance, institutional food procurement				
Social conditions	Networks, social protection measures, norms and preferences for local food, improved knowledge, social capital, and organization				
Spatial conditions	Urbanisation and tourism development patterns; urban, regional spatial plans and regulations				
Physical conditions	Geomorphology, transport/communication infrastructure, food availability, markets, access to natural resources (land, water,				

SOURCE: ADAPTED FROM DE BRUIN, ET AL., 2021; MARSDEN ET AL., 2018; MAYE ET AL., 2023 ; OSTROM, 2009.

4.1.5. (Food) Landscapes: enabling urban food forms and designs.

As the discourse on landscape as a socio-spatial infrastructure evolves, there is a resurgence of interest in the utilisation of landscape approaches to urban design and planning. This is accompanied by renewed efforts for the reintegration and contribution of food systems to the sustainable management of cities and their broader territories. In his book *Landscape as Urbanism* (2016), Charles Waldheim provides a critical review of different landscapes approaches and planning practices, defining landscapes as "a medium through which to articulate a layered, non-hierarchical, flexible, and strategic urbanism" (2016). The concept of landscape urbanism (Castro et al., 2013) was initially proposed as a means of managing urban spaces that had been left by the industry (Donadieu, 2016) in response to the transformations brought about by the post-industrial socio-economic restructuring processes in urban areas. The term has now come to refer to a 'spatial manifestation' of particular

(urban) economic orders and influences, as well as a set of 'theories and practices' from which to analyse, plan and manage urban-related initiatives and spaces (Donadieu, 2016), with some authors referring to it as an "ecological planning method and practice" (Mostafavi & Najle, 2004).

Building on the urban planning proposals and designs of Ludwig Hilberseimer, Frank Lloyd Right or Ebenezer Howard, among others (See Figure 20), Donadieu (2016) proposes a renewed connection between urbanism, agriculture, and productive landscapes in what Duany and Duany Plater-Zyberk & Company (2011) call an "*agrarian urbanism*", shifting attention from scenic and pictorial images to highly managed spaces and urban planning projects. Pierre Donadieu (2006) and Salle and Holland (2010) make a similar call under the concept of *'agricultural urbanism'*, as well as Vida & Fleury (2009) under their concept of *agrourbanism* and Gottero's (2019) *agriurbanism*, where agriculture and productive landscapes become a structural, 'integral', component of urban design and planning to provide conditions that facilitate agricultural practices (multifunctional), food proximity, security, safety, and accessibility for urban dwellers (2006). As outlined by Donadieu (2006), these initiatives contribute also to disaster prevention, the preservation of biodiversity, recreational and leisure uses, as well as public utilities and facilities. The protection of peri urban rural sites and farmland, as in the form of agricultural parks[112] (Yacamán-Ochoa, 2018; Fanfani, 2019), represents a potential means of achieving these goals. Illustrative examples are the agricultural park of the south of Milan[113], the multifunctional agricultural park of Padua (PaAM) (Ferrario, 2009; Ferrario & Lironi, 2016), the agricultural park on the left bank of the Arno River in Tuscany (Poli & Butelli, 2021) and the Agricultural Parks of Sabadell, Gallecs (Mollet del Vallés) and the Agrarian Park of "Baix Llobregat" in the south of Barcelona (Zazo-Moratalla et al., 2020). In addition, the author identifies a number of other initiatives, including the promotion of community gardens, allotments and social integration; urban forestry; networks of biological corridors; natural reserves and parks; landscape engineering; food procurement; and others (Donadieu, 2006).

The works of Charles Waldheim and Pierre Donadieu are not isolated or recent exercises, but represent a growing body of research developed over the last 30 years in bringing back food into the urban planning and discourse, inspired by the work of early landscape architects and urban planners in the 19th and 20th centuries, such as Ebenezer Howard and the 'garden city' concept[114], Patrick Geddes' 'valley section' and 'conurbation' model, von Thünnen's urban 'land-use model' and concentric zones[115], Frank Lloyd Wright's 'broadacre city', Leberecht Migge's 'garden culture', Patrick Abercrombie 'greenbelts model', or Ludwig Hilberseimer's regional patterns of the 'new

[112] The concept of the agricultural park originated in Europe during the 1970s as a proactive planning instrument to address the agri-environmental challenges of peri-urban landscapes, particularly the impact of urban expansion (Oliveira and Truninger, 2022; Fanfani, 2019).

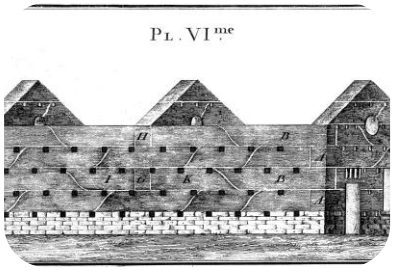
[113] Parco Agricolo Sud di Milano was created in 1990, unifying and protecting a semi-circle of 48,000 hectares through the elaboration of a territorial plan (Piano territoriale di coordinamento) that promotes the zoning, valorisation, and active management of the park's agricultural, natural (agricultural) and recreational landscape values (Donadieu, 2016).

[114] Interpreted as a human settlement circumscribed by an agricultural belt.

[115] A comparable productive agricultural design framework is proposed by permaculture systemic design (Ferguson & Lovell, 2014; Cassel & Cousineau, 2019), characterized by augmented perennialisation, crop diversification, landscape heterogeneity and nature conservation (Hirschfeld & Van Acker, 2020). The permaculture spatial zoning framework is divided into six distinct zones, each of which is assigned a specific level of attention, accessibility, and frequency of use. It should be noted that these zones are not intended to represent physical divisions but to facilitate the management of different landscape areas according to their different levels of intensity and control. These can range from kitchen gardens and greenhouses (zone 1), perennial crops, trees, and orchards (zone 2), pastures and agricultural crops (zone 3), food and managed forests (zone 4), and the unmanaged natural ecosystem (zone 5) (Flores & Buot, 2021).

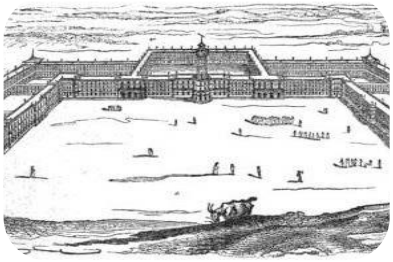
city', among others (see Figure 20 on main urban food design of the 19th and 20th century, and Figure 21 for contemporary works).

FIGURE 20: KEY URBAN (FOOD) DESIGNS OF THE 19TH AND 20TH CENTURY.



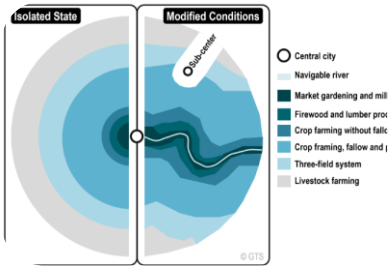
François Cointeraux (1740–1830)

- **'Agritecture'**, as a planned integration of agriculture in metropolitan space (Lee, 2013)



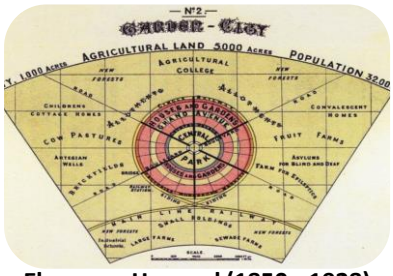
Charles Fourier (1772–1837)

- ***Phalanstery*:** collective housing estate, surrounded by an agroforestry belt for food supply (Beecher and Bienvenu 1971).



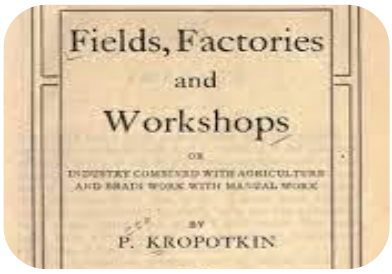
J.H. Von Thünen (1783-1850)

- The **'Isolated State'** (1826): Regional land use model and organisation in concentric zones (Hall, 1966; Rodrigue, 2024)



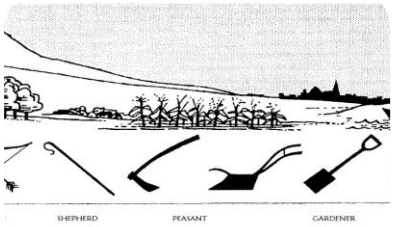
Ebenezer Howard (1850 - 1928)

- **The Garden City concept**
- Networks of urban settlements connected by agricultural belts and circular food systems (Howard, 1902)



Petr Kropotkin (1842 - 1921)

- Conflation of the fields and factories (Kropotkin, 1912)

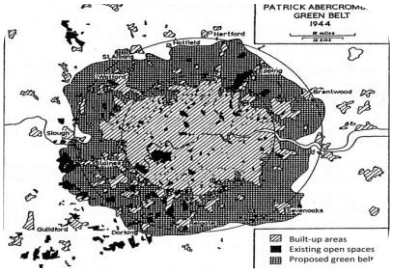


Patrick Geddes (1854 - 1932)

- The **Valley section** and conurbation model (Geddes, 1915)

Frank Lloyd Wright (1867 - 1959)

- **'Broadacre City'** (1934-35) mixing urban and rural functions (Wright, 1958)

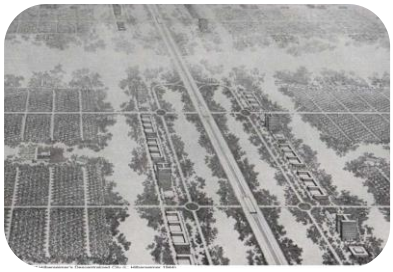


Patrick Abercrombie (1879 - 1957)

- **Greenbelts model,** such as the Greater London Plan (1944) and the Clyde Valley Regional Plan (1946)

Leberecht Migge (1881 - 1935)

- **Garden Culture:** Housing settlements with allotment gardens (Migge, 2013)



Ludwig Hilberseimer (1885 - 1967)

- **The New City** (Hilberseimer, 1944)
- A new **'regional pattern'** for urbanization, and the 'decentralized city'

Le Corbusier (Charles-Édouard Jeanneret-Gris) (1887 - 1965)

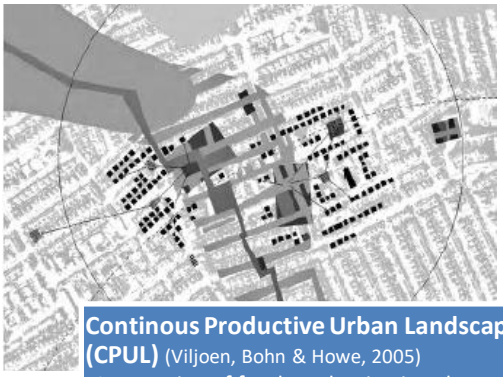
- The City of Tomorrow and Its Planning (Le Corbusier, 1987)

Constant Nieuwenhuys (1920-2005)

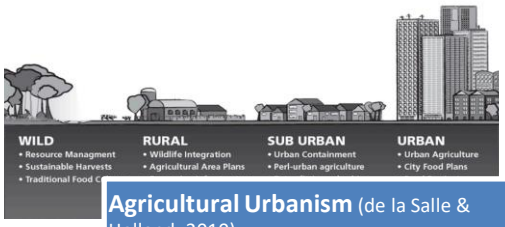
- **New Babylon** (Nieuwenhuys, 1974): world witout borders, a mosaic collage of urban settelements over agricultural land

SOURCE: BY THE AUTHOR BASED ON WALDHEIM, 2016; MARAT-MENDES ET AL., 2022; NASR & POTTEIGER, 2023.

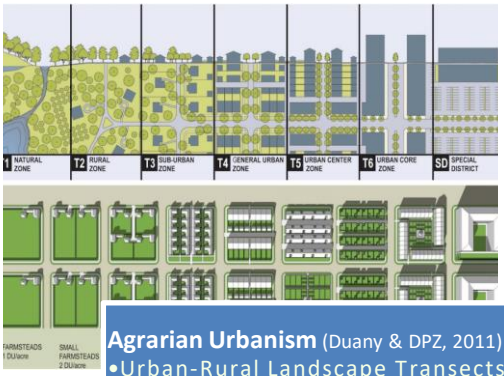
FIGURE 21: CONTEMPORARY URBAN FOOD DESIGNS.



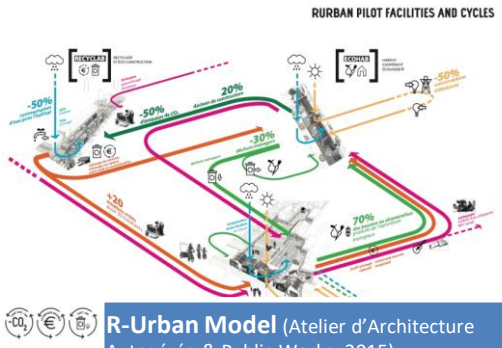
Continous Productive Urban Landscapes (CPUL) (Viljoen, Bohn & Howe, 2005)
•Integration of food production in urban areas



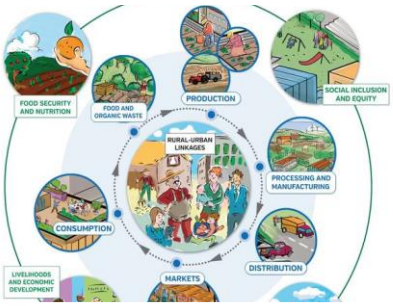
Agricultural Urbanism (de la Salle & Holland, 2010)
•Action areas for food



Agrarian Urbanism (Duany & DPZ, 2011)
•Urban-Rural Landscape Transects

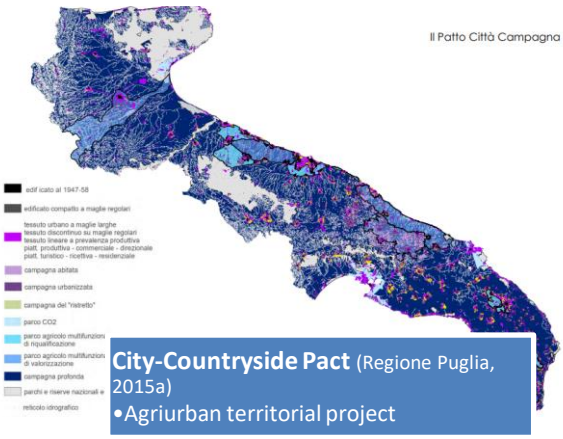


R-Urban Model (Atelier d'Architecture Autogérée & Public Works, 2015)
•R-Urban Facilities and Cycles



City-Region Food Systems (CRFS) (Blay-Palmer et al., 2015, 2018; Santini et al., 2018)
• Rural-Urban Linkages

Food Urbanism (Verzone & woods, 2021)
•Typologies and strategies



City-Countryside Pact (Regione Puglia, 2015a)
•Agriurban territorial project

SOURCE: NASR & POTTEIGER, 2023 BASED ON VILJOEN, BOHN & HOWE, 2005; DE LA SALLE & HOLLAND, 2010; DUANY & DPZ, 2011; ATELIER D'ARCHITECTURE AUTOGÉRÉE & PUBLIC WORKS, 2015; BLAY-PALMER ET AL., 2015, 2018; SANTINI ET AL., 2018; VERZONE & WOODS, 2021; REGIONE PUGLIA, 2015A; CALACE & PAPARUSSO, 2022.

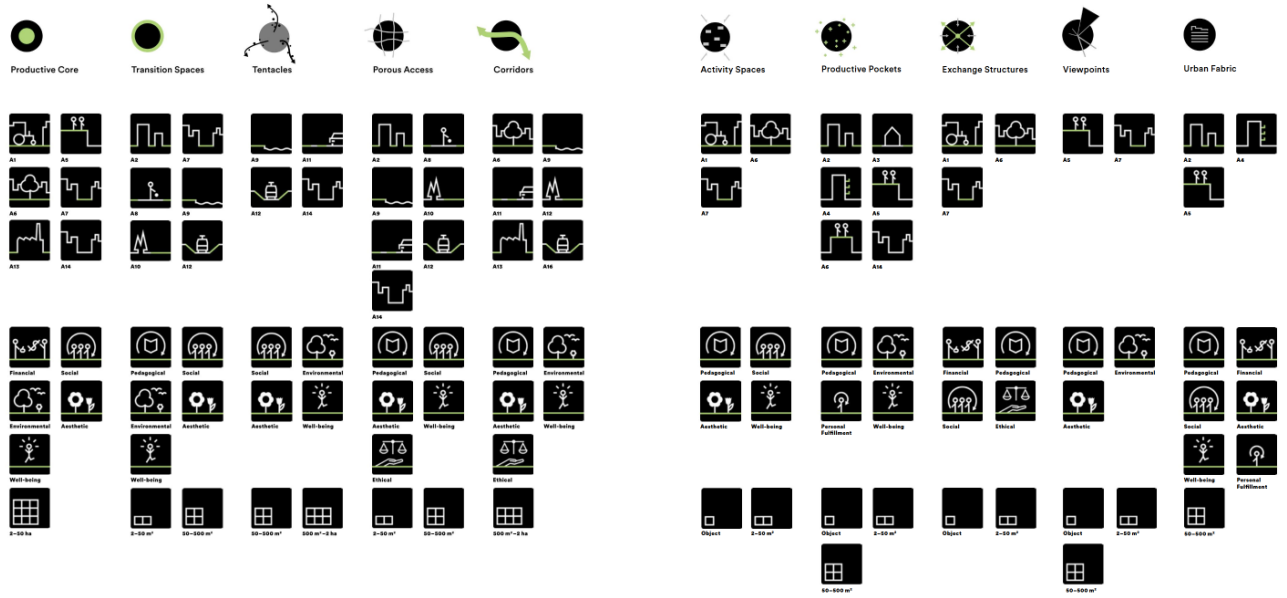
The aforementioned exercises have prompted an examination of contemporary urban configurations and designs, resulting in the formulation of novel concepts, practices, and methodologies for the integration and recognition of food within the urban project. This approach to the food question promotes the reincorporation of a comprehensive range of issues pertaining to the fundamental food services that could be ensured within the urban system, from food production, processing, marketing, and distribution to food consumption and management of waste flows (Komisar & Nasr, 2019). These issues are starting to be addressed in new urban designs such as the proposal of continuous productive urban landscapes (Viljoen et al., 2005); food urbanism (Verzone & Woods, 2021; Parham, 2021, 2020, 2019); the R-Urban model (Atelier d'Architecture Autogérée & Public Works, 2015); agricultural urbanism (de la Salle & Holland, 2010); agrarian urbanism (Duany & DPZ, 2011); as well as innovative landscape management plans and food system strategies, such as the Apulia Regional Landscape Plan (PPTR) (Piano Paesaggistico Territoriale) and its city-countryside pact project (Regione Puglia 2015a; 2015b; see also Calace & Paparusso, 2022), the strategy for food transition in the Lisbon Metropolitan Area (ETA-AML) (AML, 2024) and the healthy and sustainable food strategy of Barcelona (EASSB) (Ajuntament de Barcelona, 2022); urban-rural alliances (López-García & González de Molina, 2020) and partnerships (Jacuniak-Suda et al., 2018); city-region food policies (see Doernberg et al., 2019 for Germany); and/or agri-environmental agreements and agendas, such as in the EU's Common Agricultural Policy (CAP), the Aso Valley case study (see Lazzarini, 2019) and Costa Rica's Agro-Environmental Agenda (Gobierno de Costa Rica, 2024).

4.1.5.1. Urban food forms and designs: key contemporary examples

Over the past decade, there has been a notable surge in the development of proposals and empirical examinations that offer novel insights and tools for urban food planning. This section will present a selection of contemporary examples of these initiatives in the European context.

In their 2021 book, *Food Urbanism*, Verzone and Woods undertake an examination of the concept of urban agriculture in the Western tradition. They identify a range of typologies of urban forms that can be used as a point of departure for an understanding of the intricate relationship between food and the city. Furthermore, the authors emphasise the significance of food in the conceptualisation and implementation of novel spatial configurations, with the objective of enhancing urban quality. A comparable approach is evident in the Apulia Regional Landscape Plan, which is geared towards the preservation and revitalisation of the competitiveness and multifunctionality of high-quality agricultural regions, and the construction of a new landscape based on stronger city-countryside relationships. Verzone and Woods put forth a classification of the various typologies of urban agriculture identified in their research. These include 1) *sites*, such as currently cultivated urban land, collective housing plots, rooftops, public spaces, natural spaces, and spaces linked to infrastructural and post-industrial or underutilised sites; 2) *growers*, ranging from activists, amateurs, apprentices and professionals, including guerrilla gardeners, home gardeners, children, employees, or entrepreneurs; 3) *motivations*, such as economic, environmental, pedagogical and cultural; 4) *productive entities*, including individual, collective, or professional units, varying from private gardens, public spaces and school gardens to restaurant gardens, greenhouse farms, urban farms and vertical farms; and 5) *scales* (2021). The interrelationship of these diverse typologies gives rise to a multitude of urban forms or configurations, encompassing the following spatial forms: *productive cores*, *transition spaces*, '*tentacles*', *porous access points*, *corridors*, *activity spaces*, *productive pockets*, *exchange structures*, *viewpoints*, or *urban fabrics* (see Figure 22).

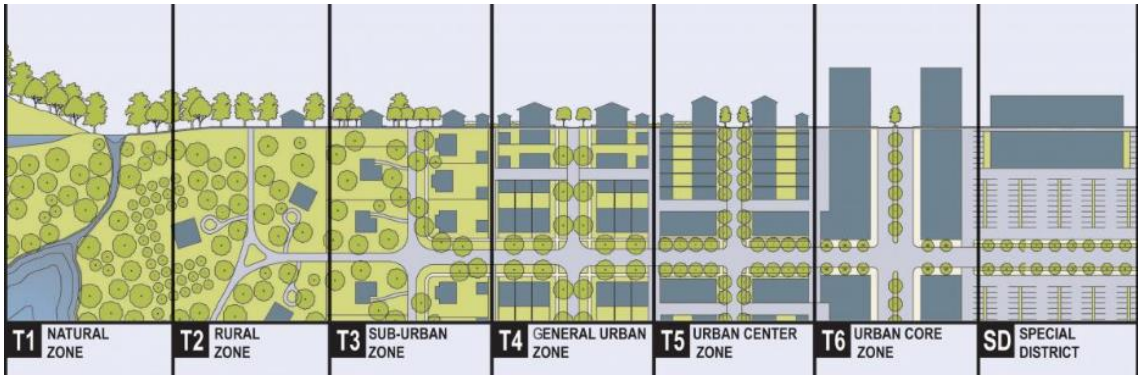
FIGURE 22: URBAN FORMS IDENTIFIED BY VERZONE & WOODS (2021) IN RELATUON TO THE DIFFERENT POSSIBLE URBAN AGRICULTURE TYPOLOGIES: SITES, GROWERS, MOTIVATIONS, PRODUCTIVES ENTITIES AND SCALES.



SOURCE: VERZONE & WOODS (2021).

Similarly, in his proposal for a "*theory and practice of agrarian urbanism*", Andres Duany identifies four food production models along a rural-urban continuum. These can be situated within the theory of spatial *transects, transect urbanism* (Duany & Falk, 2020) and *planning (*Duany & Talen, 2002), modelled around the interaction of human habitation and natural processes as a set of human habitats that vary in level and intensity of their natural, built and social components (Duany & Talen, 2002*;* Duany & DPZ, 2011). The authors propose six levels or zones of transects (see Figure 23), going from: Natural Zones (T1), Rural Zones (T2) and Suburban Zones (T3) to General Urban Zones (T4), Urban Centre Zones (T5) and Urban Core Zones (T6), including also Special District Zones (SP). This range of environments, characterised by a high degree of complexity and diversity, provides the foundation for the authors' approach to an agrarian urbanism, including the structures, plots, land use, streets and all other physical elements that shape the human and food spatial relationship. Building on these frameworks, the authors propose four different food production models: 1) *Agricultural Retention*, including strategies to protect "existing farmland"; 2) *Urban Agriculture*, understood as existing crops within cities and suburbs; 3) *Agricultural Urbanism*, as urban forms equipped with agricultural farms; and 4) *Agrarian Urbanism*, presented as urban forms and strategies designed to facilitate community food production (Duany, 2001).

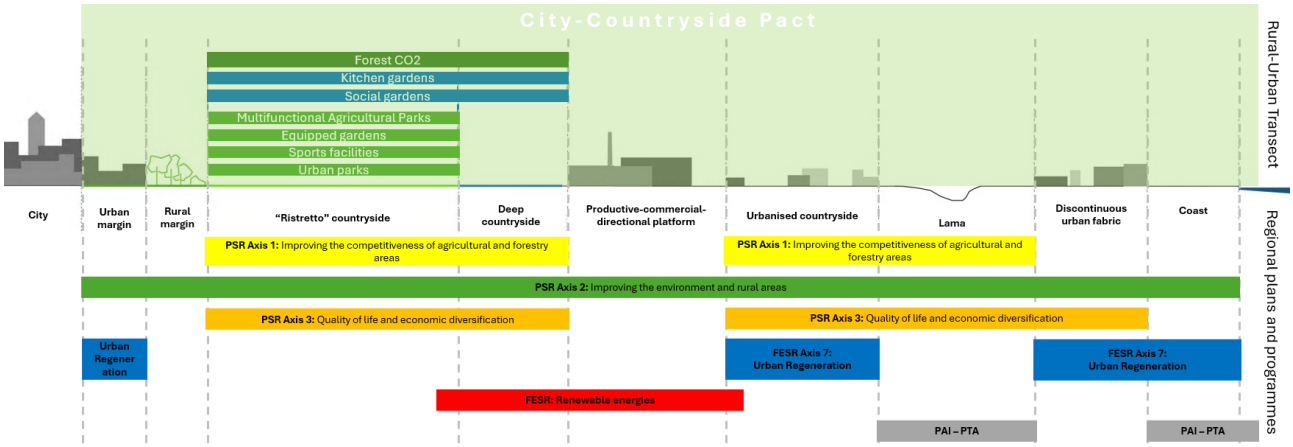
FIGURE 23: RURAL-URBAN TRANSECT PROPOSED BY ANDRES AND THE DUANY PLATER-ZYBERK & COMPANY.



SOURCE: DUANY & DPZ, 2011.

The city-countryside pact project, which was presented by the Apulia Regional Landscape Plan in 2015, offers a complementary model to the two previous frameworks. The project is in line with models such as the garden city or the green belt, making use of the concepts of the "ristretto", "border" and "double marginality". The former is defined as the strip of agricultural land or open space located on the periphery of the city, as a "margin of the peri-urbanity", providing continuity and mediating the relation between the outer limits ("borders") of an urbanised area and a cultivated open space (see Figure 24).

FIGURE 24: EXPLANATORY SCHEME OF THE RURAL-URBAN TRANSECT AND ITS INTEGRATION IN THE REGIONAL PLANS AND PROGRAMMES MENTIONED IN THE CITY-COUNTRYSIDE PACT PROJECT UNDER THE APULIA REGIONAL LANDSCAPE PLAN.



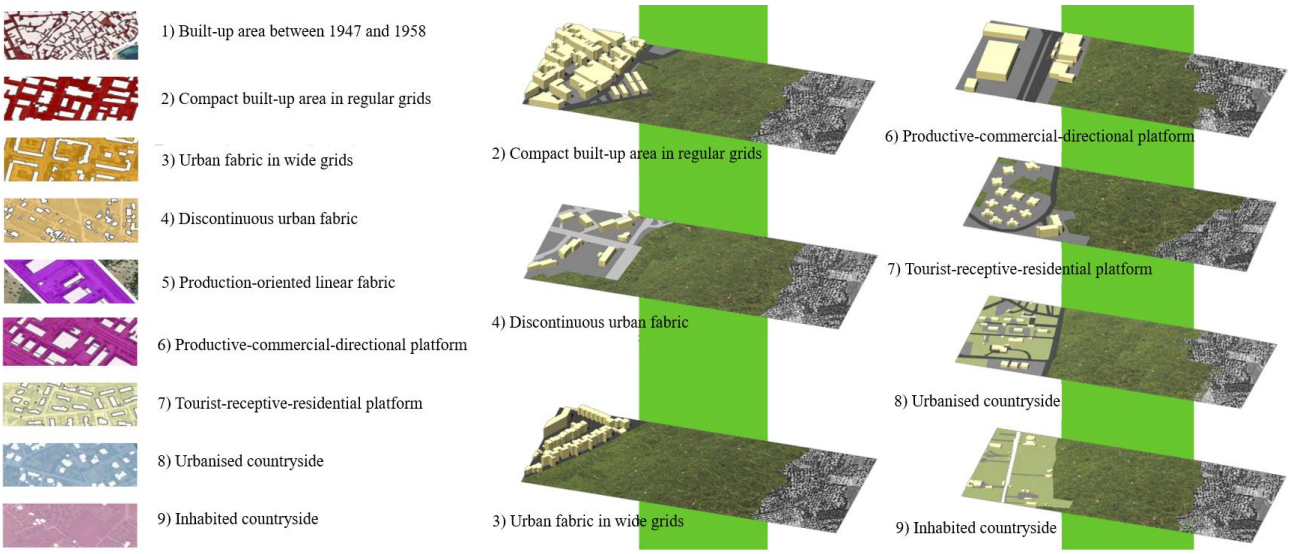
SOURCE: TRANSLATED AND ADAPTED BY THE AUTHOR BASED ON REGIONE PUGLIA, 2015A.

Note: The graph presents an explanatory scheme including some of the classifications, elements and figures mentioned in the City-Countryside Pact Guidelines. The order of these elements can be expressed in different and complex ways.

The plan conceptualises a rural-urban continuum that becomes part of a single landscape project, proposing a management strategy for peri-urban areas from an agro-urban and agro-environmental policy perspective (Regione Puglia, 2015a). To operationalize these concepts the plan proposes a classification system composed of nine categories to be reworked by the different administrative levels according to the different local needs: 1) the *built-up area* between 1947 and 1958; 2) the compact *built-up area* in regular grids; 3) the *urban fabric* in wide grids; 4) the *discontinuous urban fabric*; 5) production-oriented *linear fabric*; 6) the *productive-commercial-directional* platform; 7) the *tourist-receptive-residential* platform; 8) the *urbanised countryside*; and 9) the *inhabited countryside* (Regione Puglia, 2015a; see Figure 25). The classification encompasses five additional components: the *deep countryside*, the *"ristretto" countryside*, the *rural margin*, the *urban margin* and *the city*, at the intersection of these different elements (see Figure 24). The "ristretto" countryside is further subdivided into five additional figures, acknowledging the complexity of defining it as a challenging territory with diverse peri-urban variations: 1) *interlocking* (spaces within the urban fabric); 2) wedge-shaped (areas within the city but in contact with the open countryside, contributing to the differentiation between different morphotypes); 3) *semi-open* (mediating spaces between several morphotypes); 4) *buffer* (distance or union between two cores or morphotypes); 5) *linear* (along linear elements such as roads or belts); and 6) *completion* (small open space completing an urban grid). The plan also identifies different modalities and instruments to facilitate the implementation of these different concepts, promoting an integrated project approach through new proposals such as the Multifunctional Agricultural Parks, the Forests CO2, and planning instruments such as the Integrated Supply Chain Projects (PIF), the Local Development Plans led by Local Action Groups (GAL) or the Integrated Rural Area Pilot Projects (PIARP).

The Regional Territorial Landscape Plan of Apulia constitutes the planning framework that guides and promotes the integration, synergies and coherence between the different territorial plans and programmes in the region. These include the Community Coastal Plan (PCC), the General Urban Plan (PUG) and the Rural Development Plan (PSR), as well as other sectoral plans, such as the Water Protection Plan (PTA), the Hydrogeological Structure Plan (PAI), the Ecology and Nature Protection Plan, infrastructure policies and the implementation of EU development funds (such as the CAP) (Regione Puglia, 2015a; 2015b; see Figure 24). The city-region pact represents one of the five pillars of the territorial planning proposal presented by the PPTR in 2015. The proposal also includes the regional ecological network, the infrastructure system for soft mobility, the integrated valorisation of coastal landscapes and the territorial system for the fructification of heritage assets. The five regional strategies delineate a vision of territorial management founded upon co-planning and integrated, system-level work for the active conservation and development of the region's food landscape (Regione Puglia 2015a, 2015b).

FIGURE 25: EXAMPLES OF THE MORPHO-TYPOLOGICAL COMPONENTS OF THE CITY-COUNTRYSIDE PACT PROJECT OF THE APULIA REGIONAL LANDSCAPE PLAN.



SOURCE: REGIONE PUGLIA, 2015A (TRANLSATED BY THE AUTHOR).

The advent of these novel territorial designs, forms and figures has facilitated the emergence of new visions that acknowledge the duality and reciprocity between the countryside and the city. This represents a shift away from 'city-centric' conceptualisations of the urban, where rural areas are regarded as mere residuals and empty counter positions. Instead, there is a growing recognition of the strategic role that food spaces (in this case production, see subsection 2.3) play within urban design and planning. These are now seen as crucial elements of the urban project, with the potential to contribute to the regeneration and sustainability of broader food landscapes (Magnaghi, 2020).

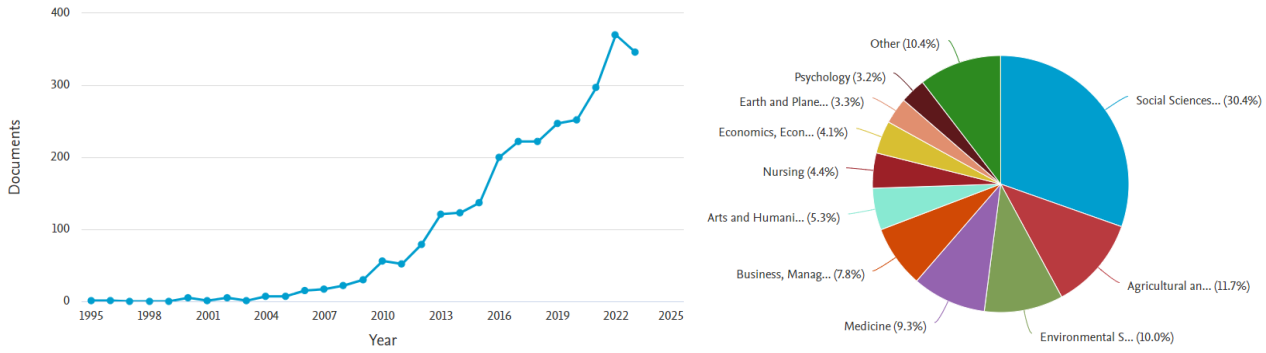
4.2. Food Landscapes.

'*Food landscapes*' (=foodscapes) are becoming a promising research area and conceptual tool to address the complexity of the material, social and cultural relationships between food and space, providing insights into the way these are shaped, influenced, and transformed by evolving (urban) social practices, political and legal institutions, economic changes, and power dynamics within food systems (Kühne et al., 2023; Sedelmeier et al., 2022; Vonthron et al., 2020).

Critical analyses of urban foodscapes are starting to interrogate the role of the urban (Sonnino & Coulson, 2021) in the global and local dynamics of food systems, highlighting their role as transitional nodes in food movements, markets and networks, as well as in the production, re-production and transformation of bodies, socio-spatial injustices, ecosystems and landscapes (Heynen et al., 2006; Marvin and Medd, 2006; Morgan and Sonnino, 2010; Sonnino & Coulson, 2021). This renewed interest in foodscapes has led to a growing number of practical tools and projects (see Table 6) that offer different perspectives on the opportunities and potential of these frameworks for action and conceptualisation, such as the design of new urban spaces that promote healthy food access and consumption practices (e.g. *Thriving Foodscapes*), the planning of food system transitions (*Global foodscapes* toolkit, map and spatial analysis), the valorisation and management of *urban agriculture heritage* (Lohrber et al, 2023) or the *Globally Important Agricultural Heritage* Systems initiative (FAO, 2022b), collaborative landscape assessment and management tools, such as *LandScale* or the *Causality Assessment for Landscape Interventions* (CALI) (Bina & Bovarnick, 2022), landscape observatories (Galan, 2024; Ternell et al., 2023), audiovisual and collective research initiatives, such as the Spanish *foodscapes* curatorial proposal (Castillo-Vinuesa & Ocaña, 2023), as well as the collective management, valorisation and conservation of food cultural landscapes (*foodzcapes* in Portugal or the Mountain Edible Culture Project, *Paysage à Manger*, in Italy), food tourism and regional promotion platforms (*Mangiarti)*, or, artistic interpretations of landscapes *through* food (Carl Warner or George Steinmetz).

The term 'foodscape' appeared for the first time in the academic literature in 1995 (Yasmeen, 1995), experiencing a considerable increase in publications over the past 15 years (Vonthron et al., 2020), especially in the fields of social sciences, agricultural and biological sciences, environmental sciences, and medicine (see Figure 26).

FIGURE 26: NUMBER OF PUBLISHED DOCUMENTS BY YEAR AND SUBJECT AREA INCLUDING FOODSCAPES.



SOURCE: SCOPUS, 2023C

Foodscapes have been studied from a variety of perspectives, ranging from geographical and spatial domains with issues such as agriculture, production and logistics (e.g. Mikkelsen, 2011; Sage, 2010), to socio-cultural and political, such as poverty foodscapes (Sedelmeier, 2023; Miewald & McCann, 2014), unjust foodscapes (Blake, 2018), migration contexts (Vieira da Rocha, 2017), homelessness (Hainstock & Masuda, 2019), indigenous well-being (Panelli & Tipa, 2009; ethnic (Park, 2017; Ray, 2016), cultural (Buttgieg et al., 2018) or feminist (Hovorka, 2013; 2023), urban youth (Palm, 2023), foodways (Cevasco et al., 2023), and online/digital (Schneider & Eli, 2021). Other approaches have focused on the analysis of what Sonnino (2013) calls a place-based approach, such as for the case of Bangkok (Yasmeen, 1996), Ireland (Sage, 2010), the Netherlands (Pinho et al., 2020), translocal (Ayora Diaz, 2022), Toronto (Lister, 2007), Montpellier (Bricas et al., 2021), Mountain and cultural landscapes (Fontefrancesco et al., 2023), and urban foodscapes (Sedelmeier, 2018). Approaches to

food, health and education have been prominent with analyses on children's bodies (Brembeck & Johansson, 2010), influence on food intake (Sobal & Wansink, 2007), price and availability (Cummins & Macintyre, 2002), consumer behaviour research (Sulaiman & Haron, 2013), healthy eating (Mikkelsen, 2011), schools (Surman & Hamilton, 2019), kindergarten (Mikkelsen, 2020), and ludic (Bradford & Sherry, 2017) and post-humanist approaches (Elton, 2019). Some authors have focused on the analysis of food policies and strategies, as well as planning and design, such as on urban food policy (Moragues-Faus & Morgan, 2015), the new food equation (Morgan & Sonnino, 2010), municipal food policies (Morley & Morgan, 2021), sustainability (Creigh, 2009), biophilic (Yang, 2022), food urbanism (Parham, 2019, 2020, 2021; Verzone & Woods, 2021), food landscape design (Wiskerke et al., 2018; Fodor, 2022), urban food planning (Pettenati, 2017), historic food landscapes (Salvador, 2019) radical changes (Arthur, 2022) and integrated systems of ecological network (Favargiotti & Pianegonda, 2021). Other approaches have focused on the analysis of experiential spaces, such as gourmet foodscapes (Johnston & Bauman, 2010), festive foodscapes (Adema, 2006), spectacular foodscapes (Johnston & Gooddman, 2015) and gastronomic experiences (Richards, 2015). More recently, tourism analysis perspectives such as urban tourist landscapes (Amore & Roy, 2020), culinary tourism (Long, 2010) and destination foodscapes (Björk & Kauppinen-Räisänen, 2019; Parl, Kim & Yeoman, 2019; Bernardo, Agapito & Guerreiro, 2021; Park & Widyanta, 2022; Su et al., 2020) have also gained ground. Annex 1 presents a compendium of main approaches that were identified in this research with regard to foodscapes, including works on conceptual and theoretical frameworks; quantitative methodologies; socio-cultural, systemic and trans local approaches; food policies and strategies; planning and design; tourism; health; and education, among others[116].

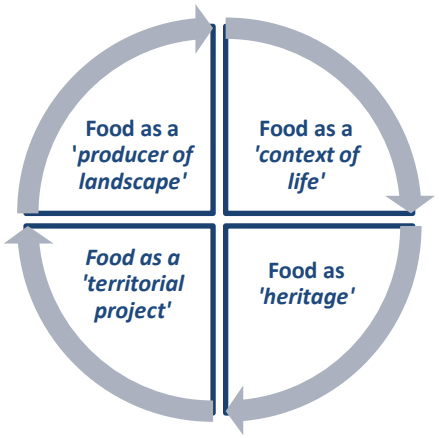
The polysemy and fluidity of these interpretations have been recently synthesized by Vonthron et al. (2020) under four main approaches: *spatial*, *sociocultural*, *behavioural*, and *systemic* (see discussion in subsection 3.2). Other reflections have also been delineated both in terms of the material transformation and in the symbolic and intangible values of landscapes in urban contexts. These have been described under three different perspectives (Pettenati, 2017):

a) food as a '*producer of landscape*', related to the forms and changes consciously and systematically imprinted on natural spaces through our relation to food at different scales, aligning to a landscape ecology perspective presented above;
b) foodscapes as a '*context of life'*, '*milieu*' or 'lived space' (Lefebvre, 1974), meaning the physical, social, cultural and economic context in which individuals live and feed each other, aligning to a cultural and human geography perspective; and
c) foodscapes as a '*heritage*', related to the promotion and 'patrimonialization' of food landscapes as a cultural product, 'genetic code' and collective resource (Pettenati, 2017; see also Dematteis, 2010 and Branduini, 2021), aligning to the historical geography and archaeologist perspective presented above (see also discussion on '*food heritagisation*' in subsection 5.4; García-Delgado, et al., 2020).

[116] Other approaches are also exploring the relationship between large-scale social phenomena, such as war, and their drastic effects on the landscape and food systems (Bailey, 1994), providing valuable opportunities to identify both practices and adaptation strategies, as well as their traces in our current food habits and territories, even in post-war periods. The latter could be traced in the food technology revolution, the green revolution, and the introduction of innovative production methods, such as the use of cans and other industrialised food products, that were developed during the war.

Based on Besse's (2009) and Antrop's (2017) landscape approaches, this research proposes to include an additional perspective, namely, the food (landscape) as a *'territorial project'*, converging in the forward-looking and participatory action to enhance, restore or create food landscapes that respond to the needs and values of its inhabitants, as promoted by (urban) landscape architects and designers (see Figure 27).

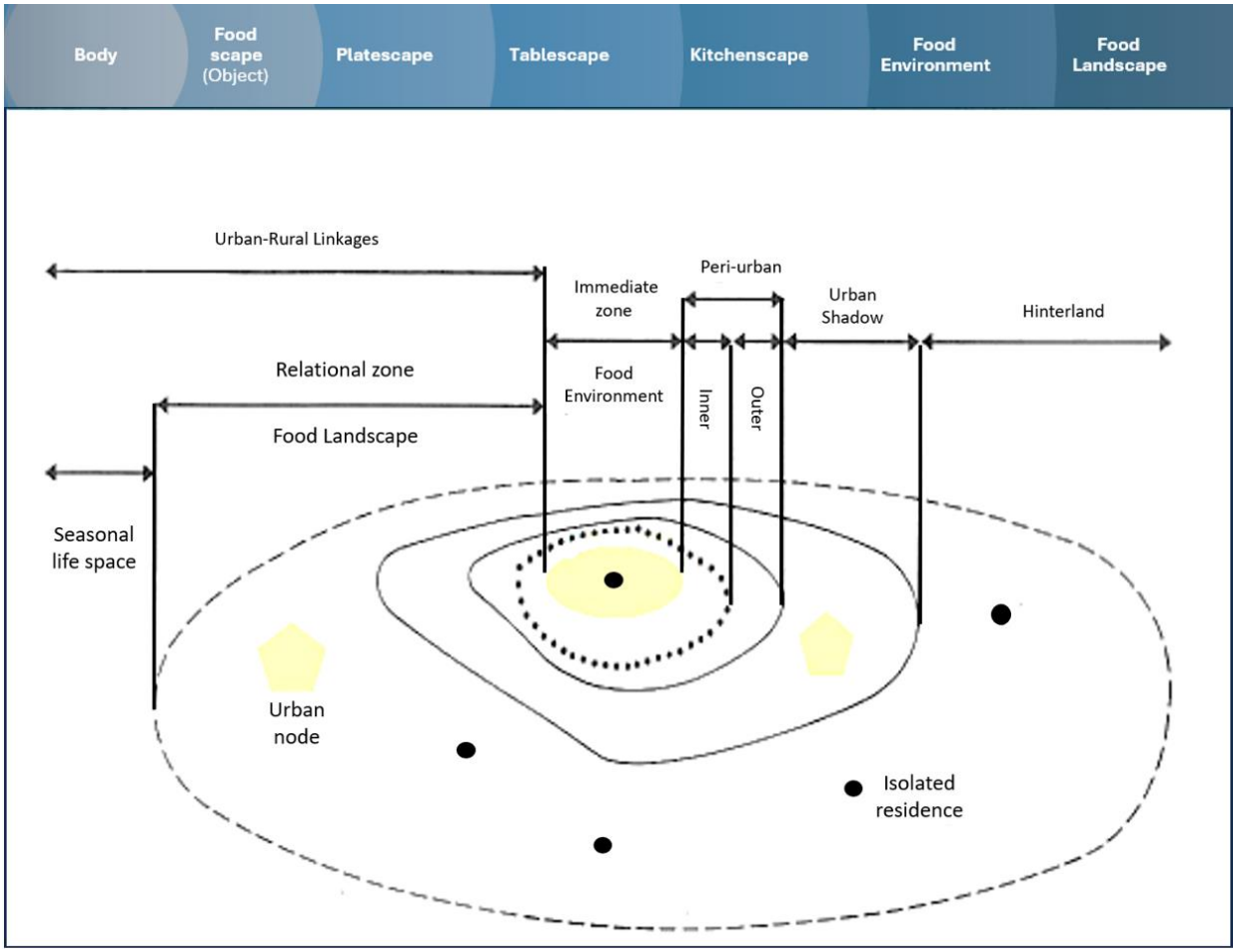
FIGURE 27: KEY PERSPECTIVES ON THE RELATIONSHIP BETWEEN FOOD AND LANDSCAPE.



SOURCE: ELABORATED BY THE AUTHOR BASED ON PETTENATI, 2017; BESSE, 2009; ANTROP, 2017.

Sobal & Wansink (2007) elaborate on the concept of 'landscape' and its relationship to food, identifying six different scales of analysis, from the relational macro scale of *'food landscapes'* to the more immediate meso and micro scales of *'food environments'*, '*kitchenscapes'*, '*tablescapes*', '*platescapes'* and *'foodscapes'* (2007). In these perspectives, 'food landscapes' can be seen as the macro relational, socio-spatial configurations of food that define the whole set of relationships between bodies and their wider socio-spatial environments (see **Error! Reference source not found.** on urban food landscapes as relational zones). This concept draws attention to the interplay of the material and non-material features of 'urban' food systems *in*, *through* and *as* space (Illieva, 2016). As emphasised by Sobal & Wansink, these definitions are simultaneously used by other authors in the form of systemic approaches to '*foodscapes*' (e.g., Bossio et al., 2021; Vonthron et al., 2020; Goodman, 2015; Cummins & Macintyre, 2002; Yasmeen, 1995), but should be distinguished from the different scale and configuration of the material and concrete analysis of food as an *object* presented by Sobal and Wansink in the form of 'foodscapes'. In their view, the latter represent the micro analysis of the relationship between the concrete and material edible *object* (food) and the sum of its phenomenological appearances and visual manifestations. The 'food environment' perspective, in turn, configures the immediate spatial and social configurations, a 'meso-scale', that determine the accessibility, availability, use, stability, agency and sustainability of food (HLPE, 2017), influencing the phenomenology of activities, priming perceptions and framing interpretations in a specific and immediate ecological and socio-cultural context in which bodies are located (Sobal & Wansink., 2007; see Figure 28). As discussed in the previous section, food environments have historically coincided with their associated 'relational macro' food landscapes. However, urbanisation and globalisation processes have increasingly widened the relational and metabolic networks of food, subjecting food landscapes to ever greater influence and transformation, separating them from their immediate food environments, while at the same time influencing these two dimensions.

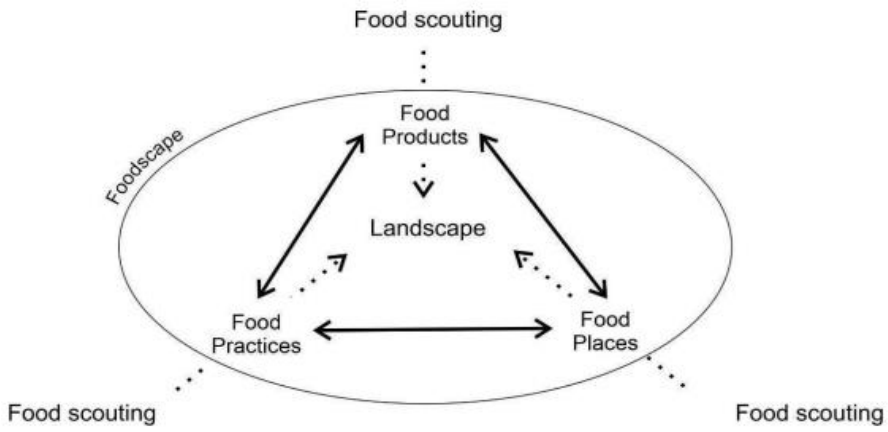
FIGURE 28: URBAN FOOD LANDSCAPES: RELATIONAL ZONES AND SCALES OF ANALYSIS



SOURCE: MODIFIED FROM THUO, 2013 BASED ON BRYANT ET AL., 1982; SOBAL & WANSINK, 2007.

Fontefrancesco et al. identify some key functions of the concept of food landscape (=foodscape), in terms of the analysis and identification of 1) *tangible elements* of the landscape; 2) *intangible elements* of local communities' livelihoods and culture; and 3) *the historical dynamics of landscape transformation* based on the evolution of the relationship between food, environment and local communities (2023). The authors operationalise this approach under a heuristic model that brings together local food *practices*, *places*, and *products* (García-Martín et al., 2022), making use of an ethnographic documentation (food scouting) approach (Pieroni et al., 2016; see Figure 29).

FIGURE 29: HEURISTIC MODEL OF FOOD LANDSCAPES, LINKING PRODUCTS, PRACTICES AND PLACES UNDER AN ETHNOGRAPHIC (FOOD SCOUTING) APPROACH.



SOURCE: FONTEFRANCESCO ET AL., 2023.

The landscape approach leads us to a critical and reflective analysis of the functioning and organisation of our food systems and how these are reflected in current socio-spatial qualities and infrastructures (see subsection 2.6). As Pettenati points out, food landscapes are both a socio-cultural representation (*heritage*), a livelihood (*context of life*), a result of our social action in space (*producer of landscape*), as well as a forward-looking action to enhance, restore or conserve (food) landscapes (*a project*), influencing the nature of food, local economies, livelihoods and relationship with their surrounding environment and space. Planning food landscapes is a collective exercise of analysis and action that allows us to influence the different socio-spatial dynamics that make it up, not only through the complex system of relationships that allow us to get our food from farm to table, but also through the social, ecological, political, and economic systems that maintain and express them *in*, *through* and *as* a space. The socio-spatial perspective allows us to unite, in a same landscape, the different moments in the production and reproduction of our everyday way of feeding each other (production/foundation, processing, access and exchange, nourishment, socialisation and politization, and disposal and valorisation/digestion), setting a critical perspective on the historical trajectories and power dynamics through which food landscape (socio-spatial) forms and infrastructures have been transformed and shaped by urbanisation processes, becoming 'normalised', 'inevitable' and 'universal' (McFarlane, 2011).

The 'politics of space' highlights the dynamics of power and exclusion, as well as the (potential) role of social actors and groups, i.e. food citizens (Wilkins, 2005), in negotiating, acting, and producing different food landscapes through their daily food choices, practices, and networks. However, as Blake (2018) highlights, food landscapes and their infrastructures are often deliberately designed and shaped to reflect the symbolic representations, socio-economic values, and material practices of those with power, often hiding, inhibiting, and rendering invisible the 'right to food' of local practices, ecologies and ways of eating, sourcing, exchanging, producing, trading and selling food by those with less power, especially in cities. These *unjust foodscapes* can be seen in the processes of '*foodification*' (food gentrification; see subsection 5.4 and Bourlessas et al. (2022) for the case of Porta Palazzo in Turin), racial discrimination, the regulation of traditional food exchange and production systems that are often replaced by supermarkets and modern supply chains (as reported under the '*supermarketization*' of food systems by Crush and Frayne (2018), as well as in the growing attention to what Roy call a '*politics of informality'* (Roy, 2005), among others).

In the past, this relationship between practices and the surrounding environments coincided with and determined the very relationship between the type of products and food that a given population (could) forge in their space, giving rise to countless landscapes with a strong link between (local) food practices, products and places (Fontefrancesco et al., 2023). Examples of these long-lasting relationships can be seen in the formation of historical terraces and agricultural production systems in Italy, Japan, Peru and many other places (Terkenli, 2014). Technological advances, industrialisation, modernisation, economic development, and globalisation have expanded these boundaries in what has been discussed here as the explosion and implosion of urban relations and abstractions (Lefebvre, 1974; see subsection 2.3 and footnote 74 on abstract space). These processes highlight the formation of new assemblages (see subsection 2.4.4), mediated not only by their internal relations, but above all by their 'relations of exteriority' (de Landa, 2006), which characterise the configuration of new metabolisms between near and distant places and the transformation of the ways in which we feed ourselves and relate to our environment.

TABLE 6: OVERVIEW OF DIFFERENT TYPES OF FOOD LANDSCAPE TOOLS AND PROJECTS.

Food Landscape tools and projects	Global Foodscapes Analysis: Regenerative food systems for people and nature	Global-level spatial analysis and national case studies for planning transitions in global food systems
		Planning Toolkit, map, global analysis and case studies (TNC, 2024).
	Food Landscapes projects and toolkits: Thriving foodscapes	Urban design and programming to improve healthy food access and behaviours
		Assessment Toolkit and Initiatives (Gehl & Novo Nordisk, n.d.).
	(Food)Landscape Assessment: LandScale tool and the Causality Assessment for Landscape Interventions (CALI) metodology	Landscale: Making reliable information about landscape sustainability widely available to decision-makers (Landscale, 2021).
		CALI: Integrated tool for causality assessment and adaptive management on the effectiveness of project interventions in reducing deforestation at landscape or jurisdictional level (Bina & Bovarnick, 2022)
	Landscape Observatories	The Landscape Observatory Documentation (LOD) website (DIST, 2017)
		Analytical Framework (Galan, 2024); and the DPSIR[a] methodology (Ternell et al., 2023)
		Landscape Observatory of Catalonia (catpaisatge): Enogastronomy and landscape (Sala i Martí et al., 2023)
	Landscape Catalogues	Agricultural lands in the Metropolitan Area of Barcelona (MAB) (Zazo-Moratalla et al., 2020)
	Agricultural Landscapes Heritage	Urban Agriculture Heritage (Lohrberg et al., 2023)
		Globally Important Agricultural Heritage Systems (GIAHS) (FAO, 2022b)
	Tourism and landscape preservation: Foodzcapes	International network for the dynamic preservation of traditional and popular food landscapes (Foodzcapes, n.d.).
	Promotion of food production: Paysage à Manger	Mountain edible culture project (Paysageamanger, 2019)
	Tourism and regional promotion: Mangiarti	Routes of taste and tradition (Cônitours, 2022).
	Curatorial projects: foodscapes	Research-based audiovisual project on food systems architecture and infrastructure (Castillo-Vinuesa & Ocaña, 2023)
	Artistic/photography interpretations of foodscapes	Carl Warner: Foodscapes collection (Warner, n.d.)
		George Steinmetz: Foodscapes, World Photography Organisation

SOURCE: ELABORATED BY THE AUTHOR BASED ON LITERATURE REVIEW

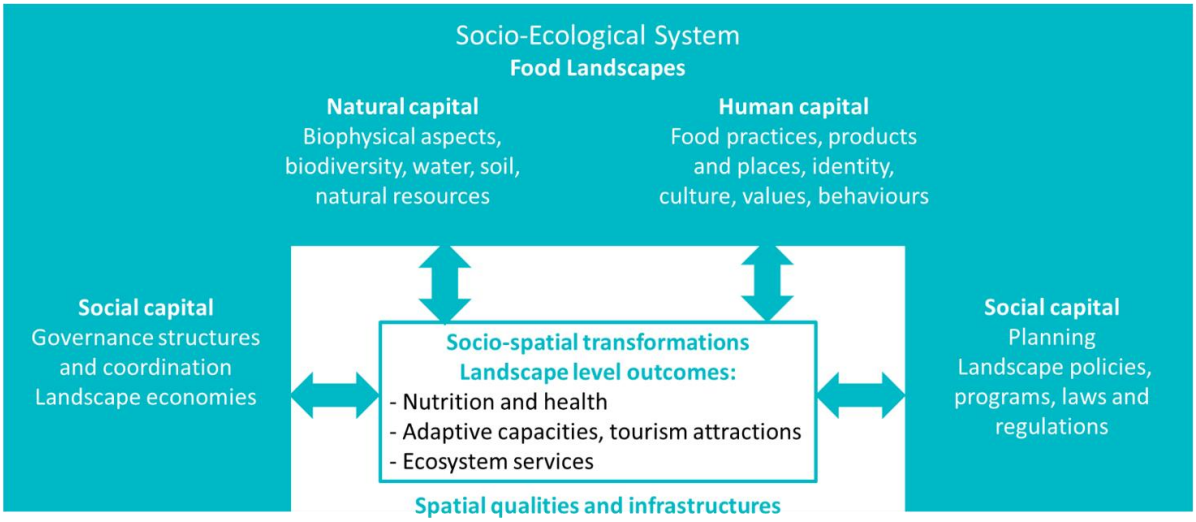
Note: [a] Drivers, Pressures, State, Impacts and Responses (DPSIR) Methodology

4.2.1. Urbanising food landscapes

As suggested by Kühne et al. (2023), Sedelmeier et al., (2022) and Vonthron et al., (2020) in their recent analysis of foodscapes, landscape approaches promote an integrated, interdisciplinary, and multi-scalar orientation towards action and the study of food transformation processes, presenting a

key tool for urban planning and community development (Vonthron et al. 2020). The concept of *urbanising food landscapes* presented above is a useful conceptual framework from which to shed light on the relationship between food and its urban space, focusing on the heterogeneous and constantly evolving processes of spatial and social transformation of urbanisation beyond the city. Building on these recent academic engagements, Figure 30 illustrates and summarizes the conceptual framework for the integration of (food) landscape approaches within a socio-ecological system perspective, bringing together both human and ecological systems, including governance structures, policies, and planning, as well as their cultural food places, practices and products. These different dimensions connect with their related landscape level outcomes, socio-spatial transformations and spatial qualities and infrastructures. The latter, working as enablers, mediators, but also results of landscape management and action.

FIGURE 30: FOOD LANDSCAPES WITHIN A SOCIO-ECOLOGICAL SYSTEM, GOVERNANCE AND PLANNING.

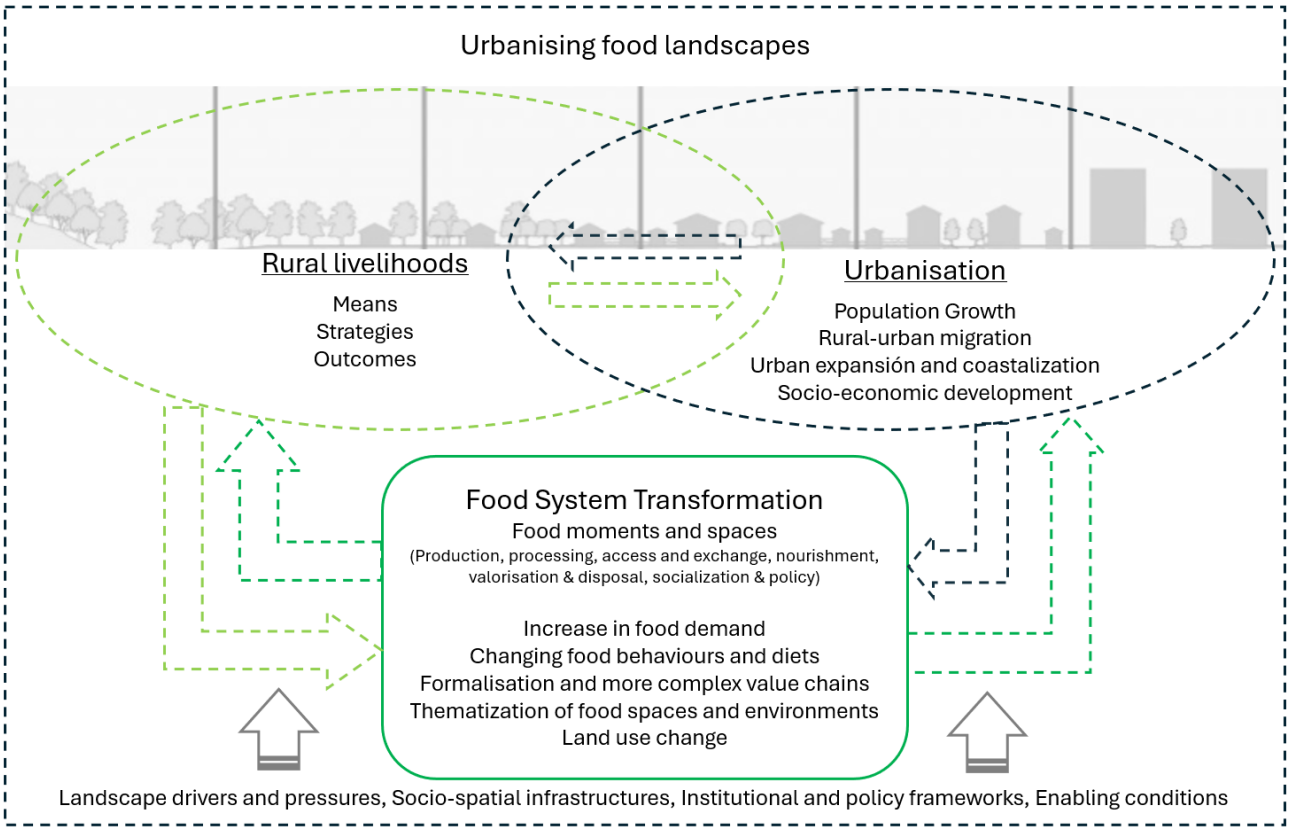


SOURCE: ELABORATED BY THE AUTHOR BASED ON PEDROZA-ACERO ET AL., 2022; FONTEFRANCESCO ET AL., 2023; DGT, 2020.

Food landscapes are a key interconnector for the development of effective tourism and agricultural management strategies, serving as a collaborative framework between different urban and rural actors: tourists, local authorities, residents, and farmers (Holloway & Kneafsey, 2000). The increasing interest and need to contrast the abandonment of agricultural areas, and to reappropriate their social function in the maintenance of traditional landscapes, terraces, and overall hydrogeological protection, call towards a more systematic view of the role food, as a system and space, can play in the valorisation and territorial organization of urban and rural areas. The analysis of ongoing urbanization processes in these spaces provides us with key opportunities and interpretative tools to understand and shape not only the impacts and effects linked to the expansion of a growing "cityscape" (Gruen, 1955; Waldheim, 2006) but the changing relations between a growing urban society to food and how this is influencing and shaping broader territories, landscapes. In this sense, food is not be romanticised as an idyllic and preferred agrarian past to be brought back to the city but should serve as a medium from which to contest and illuminate current articulations of spatial and socio-environmental constructions shaping contemporary urban food landscapes and their response to climate change. These articulations, or rather socio-spatial infrastructures, are not neutral or given, but contextual and political, like a 'genetic code' (Dematteis, 2010) made of prior social relations with food *in*, *through* and *as* a space, privileging, enabling, or disabling certain systems of production over others (Milligan, 2023). These infrastructures are critical components of landscape forms and

outcomes that are enacted, performed, and contested in the way we eat, imagine, co-produce and relate to food in urban spaces.

FIGURE 31: URBANISING FOOD LANDSCAPES: URBAN-MEDIATED FOOD SYSTEM TRANSFORMATIONS ALONG THE RURAL-URBAN TRANSECT



SOURCE: ELABORATED BY THE AUTHOR BASED ON DE BRUIN ET AL., 2021; DUANY & DPZ, 2011.

Acknowledging these new interrelationships between urban and rural, production and consumption, theory and practice, call us toward the active involvement of consumers, or better, an active food citizenship (Wilkins, 2005; Tittarelli, 2022) and tourism (Bianchi & Stephenson, 2014), in the development and co-construction of local food chains and products, revaluing the role of citizens/tourists in the production and reproduction of food landscapes through their daily need to eat and feed each other (Pettenati, 2017). This requires inclusive and active planning and management, with increasingly conscious practices for the reappropriation of food landscapes by farmers and citizens as co-producers of these spaces. This can be seen in initiatives such as *agricivism* (Ingersoll et al., 2007) or rural-urban *partnerships* (Jacuniak-Suda et al., 2018) and *alliances* (López-García & González de Molina, 2020), where both food and urbanisation, farmers, citizens and tourists, scientists and practitioners become part of a same urban (food) question (Tornaghi, 2017; Deh-Tor, 2021). These approaches, as Terkenli et al. (2018) suggest, require a reorientation towards 'landscape processes' and objectives rather than only on 'landscape products', shedding light on how and where we want to go rather than only on what we are losing (2018). The development of so-called destination food landscapes, as a planning tool, could bring opportunities for collaborative and coordinated efforts in the development of territorial capacities and innovations (see subsection 5.5). Foodscape become an integrative framework from which to give sense and shape historical urban transformations in food spaces, opening opportunities for the sustainable management, planning, and promotion of food systems under evolving urbanisation processes, climate change and tourism developments (Yang et al., 2022). As expressed by the seminal works of Gisèle Yasmeen, food

landscapes (foodscapes) are a valuable 'lens' in the study of food and foodways, particularly in food systems analysis where spatial relationships are the focus (1996; 2023). This thesis aims to investigate the socio-spatial transformations of food landscapes, with a particular focus on the configurations, institutional frameworks and governance structures in the Mediterranean are. To this end, one case study has been selected, forming the empirical basis for this research: the central Algarve in Portugal.

5. Tourism: an urban (food) space

5.1. Introduction

The surge and exponential growth of tourism[117] experienced over the past 70 years is emerging as an incredible (urban) social and economic force (Coëffé & Stock, 2021). This rapid expansion, particularly in the developed world since the 1950s, has been associated with an increase in the well-being of the population, following sharp rises in real wages, paid holidays, increasing infrastructure investment, mobility, mass production and consumption of goods and services, and a general shift from a land-based to a service-based economy. These processes are also embodied in people's thinking, imaginations, and practices, brought about by a new 'modern citizenship' (Urry, 1990). Tourism has become a widespread phenomenon with high public and political recognition, mentioned in public policies, plans, strategies and discourses as a valuable tool for the achievement of Sustainable Development Goals (UNWTO, 2023), climate action (UNWTO, 2023), revitalization of economies (Pearce, 2001), landscapes (Terkenli, 2021), and historic and cultural sights (UNESCO, 2021). The growing interest in tourism has become evident also in regional and urban development plans, where it is featured as a strategical, intersectoral and interdisciplinary framework for the economic development and integration of urban (Law, 1992; Edwards et al., 2008; Amore, 2019) and rural areas (Gannon, 1994; Wilson et al., 200; Briedenhann & Wickens, 2004; Rockett & Ramsey, 2016), as well as in support of development agendas towards the "liberalization", "modernization", "democratization", and even "Europeanization" of society (García, 2010; Holleran, 2020).

The United Nations World Tourism Organization (UNWTO) defines tourism as a "social, cultural and economic phenomenon which entails the movement of people to countries or places outside their usual environment for personal or business/professional purposes" (2023). Under this definition, people are considered "visitors, which may be either tourists or excursionists, residents or non-residents, with tourism referring to all their activities, including those of both overnight and same-day visitors, some of which involve also tourism expenditure" (UN, 1994; UNWTO, 2023). Following a more statistical approach, the internationally agreed definition refers to a "trip of not more than 12 months and for a main purpose other than being employed at the destination" (UN and UNWTO 2007). Hall et al., (2014) present a more complex view of the different conceptualisations of tourism, highlighting the multiplicity of disciplinary[118] and paradigmatic approaches (Meethan, 2001), as well as the different "ontological, epistemological and paradigmatic assumptions of viewers". Conceptualisations vary from production-supply dichotomy views, regarding the aggregate of tourist drivers and trends, and those of the businesses that directly provide goods or services to facilitate business, pleasure, and leisure activities (Smith, 1988), consumption, mobility, leisure and recreation (Stock, 2007), identity, innovation, political economy, cultural geography, and socio-spatial perspectives, among others (Hall et al., 2014). Tourism has been interpreted as a socially situated (Featherstone, 1987: 115) and constructed practice (Giddens, 1984), subjected to substantial contestation (Hall et al., 2014) and characterized by an explicit spatial dimension (Debbage & Ioannides, 2014). The latter, referred to as the 'spatial fixity' of tourism (Urry, 1990), defines the

[117] Over a billion and four hundred million international arrivals were registered in 2018, compared to the 25 million registered in 1950 (UNWTO, 2022). In 2016, the tourism sector contributed to around 6.6% of total exports and 10.2% of the world economy (World Economic Forum, 2017), registering a total record of 1.2 billion international arrivals (UNWTO, 2018). During the same year, the sector generated a total of 292 million jobs (World Economic Forum, 2017).

[118] The authors acknowledge the wide range of perspectives on tourism regarding place, environment and governance from a variety of disciplines including economics, management, marketing, planning, policy and geography.

intrinsic relation of tourism activities and products with space and place. Tourism activities are, under these views, being produced, located, and consumed *in* space, as much as these places are being transformed and becoming a good *of* tourism consumption (Keith et al., 2014). The spatial fixity is at the same time accompanied by temporary mobilities and fluctuations being subjected to highly differentiated spatial-temporal movements, concentrations, and use of resources linked to global and regional transportation patterns, seasonality, changing trends and global crises, such as COVID-19.[119]

Tourist spaces are dominated by tourist activities and organized in specific ways to meet the needs and desires of visitors (Saarinen, 2014), serving the reproduction of production relations and consumption, in both, spatial, economic, and literal senses (Lefebvre, 1991:122). Theodossopoulos (2011) describe tourism as the dynamic and transformative process that changes communities and territories through a non-linear negotiation of expectations between tourism professionals, hosts, and visitors. As discussed by Van den Berghe (1992), in his study of ethnic tourism impact in the Mexican town of San Cristobal, the complex ethnic relations and division of labour of tourism result in the formation of three main groups: the *tourists*, the '*touree*s' and the *middlemen.* The former is interpreted as the traveller and visitor, while the 'tourees' are defined as the "natives who modify their behaviour to meet tourism demands", and the middleman as the "brokers mediating *tourist–touree* encounters" (1989, 1992). For the purposes of this thesis, a broader view of these three different groups is taken, including not only human but also natural and social institutional actors that influence, mediate and structure the relationship between tourists, local communities, and environments. This expanded view of the different roles reflects in turn how the *tourist–touree* relationship is shaped by and shapes also broader social, economic, and environmental changes that need to be considered and critically assessed. This perspective allows us to rethink not only the way the urban and tourism reflects and shapes (food) spaces, as spatial 'receptors' (Heynen, 2013), but also how these spaces influence and transform people' relations, practices, and social behaviours, as spatial 'instruments' (Heynen, 2013), between those who travel (tourists), hosting communities (tourees) and its surrounding environments, institutional actors and intermediates ('middleman/milieus'). Tourism developments have led to the articulation of spatial, functional and symbolic transformations (Paradis, 2014), with new identities and power relations, increasingly subject to tourist monetary exchange (Lefebvre, 1991), sales and pleasure consumption (Paradis, 2014), consolidating the formation of new landscape forms, practices, functions, and meanings (Terkenli, 2014).

5.2. Tourism as an urban space

Urban areas are currently hosting not only the biggest part of the population (United Nations, 2019) but also a growing percentage of total tourism movements and expenditures. At the same time, urbanites, with better income, paid holidays and access to transportation and information are becoming main groups of travellers, bringing new tourist 'gazes'[120] into their destinations (Urry, 2002) based on a wide range of (urban) worldviews, needs, values, imaginaries, expectations, and

[119] Tourism was among the most affected sectors from the travel restrictions connected to the COVID-19 pandemic, highlighting the highly fluctuating character of these activities (UNWTO, 2023).

[120] Building on Foucault's concept of the medical 'gaze', John Urry (1990, 1995, 2002) describes the ''tourist gaze'' as a system of social activities and signs which locate the particular tourist practices, in contrast to non-tourist social activities. It brings together the different set of social expectations and practices involved in the way different individual, societies and social groups look at and engage in tourism. Urry emphasize the gaze as a socially constructed, organised, and systematised practice, emphasizing the visual nature of tourism and the complex social relations shaping the production and consumption of tourist experiences (1990, 1995, 2002).

representations. Tourism as a genuinely urban activity (Coëffé & Stock, 2021) is starting to influence the production and consumption of spaces (Lefebvre, 1991; Williams, 2014), supporting the emergence of new leisure and lifestyle societies (Walmsley, 2003) and classes (Veblen, 1912).

Urban tourism is still considered an ill-defined concept, conceived as a dynamic, complex, multifunctional, and multidimensional phenomenon (Pearce, 2001; Edwards et al., 2008; Ashworth & Page, 2011) that requires broad and comprehensive analyses within a systemic approach (Page, 1995; Ashworth & Page, 2011; Romero-García et al., 2019). The UNWTO describe urban tourism as "a type of tourism activity which takes place in an urban space", being "characterized by a non-agricultural based economy such as administration, manufacturing, trade and services and by being nodal points of transport" (UNWTO, n.d.). These views make use of an absolute and physical approach to the 'urban', conceived as a spatial container, that is the city, where tourism activities take place, offering a "broad and heterogeneous range of cultural, architectural, technological, social and natural experiences and products for leisure and business" (UNWTO, n.d.). Urban tourism research has also been represented from other epistemological perspectives and approaches, from economic, managerial, environmental, and geographical to industrial, political and cultural works (Edwards et al., 2008). However, as described by Moreno-García et al. (2019), urban tourism studies are still characterised by a strong division between different approaches, with limited integration between disciplines and participation of different actors. The difficulty of defining the urban, as seen above, stems from its high dynamism between systems, networks, and actors, blurring territorial boundaries that go beyond a vision of the urban as a spatial unit represented by a city-as-territory model. Ashworth and Page (2011) select a range of theoretical and conceptual contributions to the study of urban tourism from its rise in 1990 to the early 2010s (see Table 7), highlighting the need for a broader, more coherent, and macro-analysis that goes beyond case study descriptions and focuses more fully on urban processes (2011).

The analysis of the urban as a process opens new challenges and opportunities for the analysis of tourism developments and its impacts at different scales. Here, we find physical, environmental, and geomorphological studies (Brandolini et al., 2017, 2021; Vives-Rey, 2021) related to the infrastructural and spatial expansion and modification of the urban (Cuadrado-Ciuraneta & Durà-Guimerà, 2018). These 'geographical' views are linked to evolving tourism developments in a so-called 'tourism urbanization' process[121], referring to the "dominant economic" development shaping urban areas specifically for the "production, sale, and consumption of goods and services providing pleasure" (Mullins, 1991). On the other hand, we find socio-cultural works under a 'cultural turn' (Naylor et al., 2000) in tourism (Debbage & Ioannides, 2014; Bianchi, 2009), shedding light on the social and cultural dimensions of power, inequality and development processes manifested in the production and consumption of urban tourist and leisure spaces (Rojhek, 1995; Bianchi, 2009; Judd 2002 in Holleran, 2020), along with the formation of new (urban) "tourist gazes" (Urry, 1990, 1995, 2002; Urry & Larsen, 2011; see footnote 120).). In this regard, Skinner and Crang conceptualise tourism as a semiotic process that creates, inscribes and spatialises social meanings through signs and symbols (2014). These cultural perspectives have also been analysed in the extension of new

[121] Mullin's early work on the rapid expansion of resort areas in Australia's Gold and Sunshine Coasts, was one of the first forays into analysing tourism urbanization processes (Mullins, 1991).

"transnational symbolic grammars"[122] and '*experiencescapes*'[123] (O'Dell, 2005; Quan & Wang, 2004), being controlled and managed through specific rituals and gestures, discursive forms, and even models and modulations of space (Lefebvre, 1991:384).

TABLE 7: THEORETICAL AND CONCEPTUAL CONTRIBUTIONS TO THE STUDY OF URBAN TOURISM.

Author(s)	Year	Contributions
Ashworth	1989	Urban tourism imbalance in attention
	2003	Urban tourism: still an imbalance in attention
Ashworth & Tunbridge	1990	The Tourist-Historic City
Beedie	2005	The adventure of urban tourism
Burtenshaw et al.	1991	Users of the city (tourists, residents, and leisure visitors)
Castells	1996	The rise of the Network City
Dear	1994	Postmodern human geography: a preliminary assessment
Dear & Flusty	1999	Engaging postmodern urbanism
Edwards, Griffin & Hallyar	2008	Research agenda for Australian urban tourism
Gibson and Kong	2005	Cultural economy
Gladstone	1998	Tourism urbanisation in the USA
Garreau	1991	Edge Cities as centres for services consumption
Hannigan	1998	Fantasy City
Law	1992	Urban tourism and its contribution to economic regeneration
	2002	Urban Tourism synthesis
Mazanec & Wöber	1997, 2009	Management of cities for tourism
McNeill	2008	The hotel and the city
Mommaas	2004	Cultural clusters and the post-industrial city
Mordue	2007	Tourism, urban governance, public space, and the city
Mullins	1991	Tourism Urbanization
	1994	Class relations and tourism urbanisation
Page	1995	Urban tourism as a system
Page & Hall	2002	Modelling tourism in the postmodern city
Roche	1992	Mega-events and micro-modernization: on the sociology of a new urban tourism
Thrift	1997	Cities without modernity, cities with magic
Zukin	1996	The culture of cities and postmodern environments

SOURCE: ASHWORTH & PAGE (2011), BASED ON PAGE & HALL (2003), PAGE & CONNEL (2009) AND OTHER.

The accounts presented so far become particularly evident when analysing emblematic cases such as Orlando or Las Vegas, "*fantasy cities*" (Hannigan, 1998), where the distinction between 'reality' and 'illusion' becomes blurred and where the processes of 'commodification'[124] of space and food become concrete (Debbage & Ioannides, 2014). The geographical expansion of capitalist accumulation processes and logics constitute, under these analyses, key forces shaping the formation of new socio-spatial systems for the organization of tourism consumption (Britton, 1991). The classical formulas of a 'sun, sea and sand' destination in coastal areas, as well as the capital-intensive, attraction-based tourist metropolises and leisure cities (Gladstone, 1998), become concrete nodes and examples of the growing production of urban tourism spaces (Lefebvre, 1991), increasingly created,

[122] O'Dell provides us with emblematic examples relevant to the study of food spaces, referring to the Hard Rock Café or the Planet Hollywood as 'theme restaurants' of a new genre of dining and tourism experience (2005).
[123] O'Dell describe these as those "spaces in which experiences are staged and consumed, (…) stylized landscapes that are strategically planned, laid out and designed. They are, in this sense, landscapes of experience – *experiencescapes* – that are not only organized by producers but are also actively sought after by consumers" (2005).
[124] Williams (2014), based on the work of Watson and Kopachevsky (1994), defines tourism 'commodification' as a system of commercial exchange of goods, services, and experiences for tourism consumption. See subsection 5.4 on food heritagisation and commodification.

prototyped, staged, packaged, replicated, communicated, and disseminated for tourism purposes (Terkenli, 2002: 246). Nevertheless, as highlighted in the previous sections and emphasized by Coëffé and Stock (2021), these modifications are not only 'imploding' in high-density and fast-growing urban-*as*-city tourism (Bock, 2015) and 'cityscape' (Gruen, 1955). These are also expanding and 'exploding' along an urban-rural continuum that results in the implosion/explosion (Lefebvre, 2003), creative destruction (Brenner, 2014), as well as production of new (urban) spatial practices, representations, and representational spaces (see subsection 3.1, Lefebvre, 1974).

Focusing on the relation between tourism and urbanization, Stock and Lucas (2012) propose the analysis of a double "urban revolution" for an expanded interpretation of the urban dimension in tourism and landscape transformations. The first refers to the creation of urban places by and for tourism purposes, materializing on the emblematic forms of tourist resorts and infrastructures, that can be interpreted here as an urban (tourism) 'explosion' (see subsection 3.1; Lefebvre, 2003 [1970]). The second, brought by a 'recreational turn'[125] (Stock, 2007) or 'touristification' of urban cores (Sequera & Nofre, 2018), represents the growing importance of leisure and recreation in contemporary societies (2012), in what Lefebvre could define as an urban (tourism) 'implosion' (2003[1970]) and Doreen Massey (1994) might locate under the 'compression of time and space' (see subsection 3.2). Loda et al. describe this as a "process of urban transformation according to which historic centres are increasingly assuming the functions of spaces dedicated to tourism, leisure and consumption, to the detriment of stable residents" (2020).

Coëffé and Stock (2021) provide a useful conceptualization focusing not only on tourism transformations occurring *in* cities but on the broader urban expressions *of* (or brought by) tourism activities. In doing so, the authors problematize the tourist-urban relations of places, cultures and economies making use of Lefebvre's concept of "urbanity", interpreted as the specific urban qualities and spatial practices of places[126], in this case, mediated by tourism developments. Here, tourism is seen as a 'situation', where urban cultures are produced and reproduced, but also where new forms of urbanity are created (Coëffé & Stock, 2012), contributing to the ongoing "planetary urbanisation" of contemporary capitalist development (Brenner & Schmid, 2014). As in our previous chapters, Coëffé and Stock set forth a relational view to the urban, focusing on the ways people produce and inhabit urban spaces, and in their application of urban cultures through specific (tourist) practices, identities, civilization, and imaginations (2021). Following previous works from Stock and Lucas (2012), the authors identify three different processes of urbanization being mediated by tourism developments, in what they summarize as 1) the invention of seaside and mountain resorts, 2) the increase of urbanity of already established resorts, and 3) the 'touristification' of city centres (Sequera & Nofre, 2018). Other authors, as Crang (2014), propose to see the urban in tourism not only as a form and place of consumption, but also as an active agent and dynamic force in the 'creative destruction' of urban spaces (see subsection 3.1), in what has been "a violent, contested, uneven, but

[125] Building on previous theoretical frameworks such as the "civilisation of leisure" (Dumazedier, 1988) or the "society of experience" (Schulze, 1997), Stock (2007) describes the 'recreational turn' as an expression of the greater importance of recreation in contemporary society. A change in the quality of urban space that is interpreted under four interrelated processes. From one side, 1) the presence of tourists in urban places, and 2) the desire, by local authorities or enterprises, to have tourists in their territory. On the other, 3) the rejection or negative attitude towards tourism; and 4) a general interpretation or tourist "gaze" (Urry, 1990 build on Foucault's views on the 'gaze'), giving new social values and meanings to practices and ways to see and experience the world (Stock, 2007).

[126] According to Coëffé and Stock, places are urbanised by tourists through an 'urban civility': a process of civilization and invention of new civilities through the specific control of emotions and affects. Making use of the example of nude bodies on beaches, urban principles, in this case 'civil inattention' are transferred to spaces, defining adequate behaviours and distance between bodies that contribute to their transformation into urban places (2021). Urbain (2003) reports similar processes analysing the beach as a theatre in which society unveils itself, tracing its social changes to leisure use.

sometimes welcomed, transformative and productive process" (Crang, 2014). Building on these analyses, this research identifies key connections in relation to food and with the previous theoretical frameworks on urbanization processes (see Table 8).

TABLE 8: TYPES AND PROCESSES OF URBANIZATION MEDIATED BY TOURISM AND EXAMPLES OF THESE PROCESSES IN FOOD SPACES.

Processes of urbanization mediated by Tourism (Coëffé & Stock, 2021).	Type of Urbanization	
1) The invention of seaside and mountain resorts during the nineteenth century (Coëffé & Stock, 2021). → Loss of agricultural land and growing competition for tourism purposes; intensification of food production; development and extension of new logistical systems to provide a constant and homogenous supply of food to tourism activities in and outside the city; transformation of landscapes and expansion of tourism activities in food spaces.	Urban Tourism 'Explosion' (Lefebvre, 2003) 'Extended Urbanization' (Brenner & Schmid, 2015)	**Tourism Urbanization** (Mullins, 1992)
2) The increase of urbanity of already established resorts and tourist places (Coëffé & Stock, 2021). **Urban as an active agent and dynamic force in the 'creative destruction' of (food) spaces** (Crang, 2014). → Change of food patterns, offer and environments driven by urban tourist preferences and expectations; loss of traditional food cultures and practices (fisherman / farmers); extension of everyday urban food habits to tourism places, globalization of tourism food environments with the arrival of urban food concepts, brands, and services: 'McDonaldization' (Ritzer, 1993).	'Creative destruction' (Brenner, 2014) 'Differential Urbanization' (Brenner & Schmid, 2015)	**Urbanization of tourism**
3) The '*touristification*' of city centres (Coëffé & Stock, 2021; Sequera & Nofre, 2018), **and villages, 'recreational turn'** (Stock, 2007); **urban "hyper-place"** (Lussault, 2017) → Concentration and seasonality of food consumption patterns; thematization of food activities and products with the extension of tourism to everyday life: 'recreational turn' (Stock, 2007)	Urban Tourism 'Implosion' (Lefebvre, 2003) 'Concentrated Urbanization' (Brenner & Schmid, 2015)	**Touristificaiton of the urban**

SOURCE: ELABORATED BY THE AUTHOR ADAPTED FROM COËFFÉ & STOCK, 2021, BASED ON LEFEBVRE, 2003; BRENNER & SCHMID, 2015; BRENNER, 2014; SEQUERA & NOFRE, 2018; CRANG, 2014; MULLINS, 1992.

Stock and Lucas propose three key additional elements to characterize these tourism-urban relations, practices, and qualities (see Table 9): 1) the co-presence and civility as central elements of urbanity, 2) the specific "habitus" of urban norms and values connected to tourism, and 3) the imaginations of nature in tourism bounded in urban cultures. The interpretations proposed by these authors can be connected to the three types of urbanization processes discussed by Brenner and Schmid (2015) and to the process of 'creative destruction' (Brenner (2014; see subsection 3.1) reproposed by Crang (2014). From these perspectives, tourism can be interpreted as a social and economic force driving the urbanization of space, not only at the 'cityscape' with growing 'touristification' (Sequera & Nofre, 2018) and recreational features becoming more evident (Stock, 2007), but also in the proliferation of tourism activities and infrastructures, their 'urban civilities' (Coëffé and Stock, 2021) and 'tourist

gazes' (Urry, 1990). The urban-tourism processes presented here mediate the relationship between food, tourism and space in both cities and broader territories, requiring more comprehensive critical analysis and planning.

TABLE 9: MAIN CHARACTERISTICS OF THE TOURISM-URBAN RELATION AND EXAMPLES IN FOOD SPACES.

Tourism-urban practices and qualities in food spaces
1) The co-presence and civility as central elements of urbanity.
→ Growing diversification and homogenization of the food offer with the introduction of highly efficient global food supply chains.
2) The urban norms and values connected to tourism as specific "habitus".
→ Introduction of new eating habits and preferences, with the thematisation of food spaces for leisure and tourism purposes and the increasing emergence of eating out.
3) The imaginations of nature in tourism leading to the urbanization of nature via the production of discourses and imaginaries **bounded in urban cultures.**
→ Idealisation and 'aestheticization' of natural and rural areas through food images and narratives.

SOURCE: ELABORATED BY THE AUTHOR BASED ON COËFFÉ & STOCK, 2021.

5.3. Food Landscapes: rural, urban and tourism spaces

The emergence of highly specialized 'tourism landscapes' are signalling a shift in established patterns of production and consumption (Almested, 2014), where the uses of the land, the social practices in space and the appearance and representations of the area are dominated by tourism activities and (urban) imaginaries (Jafari, 2000). These (urbanising) 'touristscapes' (Amore & Roy, 2020; see chapter 4 for a broader discussion of landscape concepts and approaches) are necessary environments in which experiences are produced, managed, and consumed (Chang & Huang, 2014), representing in itself a good for (urban) tourist attraction and consumption (Keith et al., 2014).

Tourism produces, reproduces, and consumes landscape resources (water, energy, food, culture, etc.), at the same time as it creates its own landscape, imparting both desirable and non-desirable, spatial, and socio-economic consequences on places (Crang, 2014; Terkenli, 2018). Some of these consequences have been traced in the over-exploitation of natural[127] and cultural resources,[128] urban sprawl (Terkenli, 2018) and a growing competition over land use and labour, resulting in the fragmentation, dispersion, discontinuities and even abandonment of agricultural spaces (Martí & Pintó, 2012; Serra et al., 2008). Further consequences have also been described in the rise of thematic transformations aimed at the promotion of the virtual and experiential (Paradis, 2014), and in the emergence of new '*sensescapes'*, emotional geographies (Lorimer, 2005) and a cultural economy of space (Terkenli and d'Hauteserre, 2006). Emblematic cases refer to the Costa Brava in Spain (Martí, 2005; Martí & Pintó, 2012), the Gold Coast in Australia (Mullins, 1992), the development of amusement and theme parks, casinos, spectacle events (Debbage & Ioannides, 2014), or even the diverse socio-spatial formations being revealed by concepts such as the 'Disneyfication' (Gottdiener 2001) or the 'McDonaldisation' of society (Ritzer, 1993).

As discussed in subsection 4.1, landscapes integrate different spaces, whether urban, rural, food or industrial. Tourism landscapes move away from the urban-rural dichotomy and converge in the integral analysis of their transformations, complementarities, synergies, and contradictions. The lines

[127] Terkenli refers to pollution, deterioration of ecosystems and soil compression, among others (2018, 2021).
[128] Terkenli refers to loss of traditions, visual clutter, destruction and fragmentation of monuments and cultural landscapes, among others (2018, 2021).

of research outlined here are also beginning to reflect on how traditional 'rural' areas are shaped and reshaped by the expectations, perceptions, and cultural backgrounds of (urban) tourists. As summarised by Sharpley citing Cloke (1992), the political, economic, and social structures of these places are becoming increasingly urbanised, signalling a decline in their productive role and a growing demand for the development of new (urban) markets for rural products (2008).

Agriculture is decreasing its role as backbone of the rural economy (OECD, 2006), as some rural areas become less of a place of production and more an object of consumption by tourists, conservationists, and incoming second-home residents (Sharpley, 2014). As emblematically stated by Van der Ploeg et al., the 'rural' is no longer the ‘monopoly of farmers' (2000), with “rural dwelling, hunting and other countryside sports, industries, and agritourism making up a growing section of the regional economy, especially in the global north. Rural space is no longer a place characterised by agricultural production alone but is increasingly becoming a space also for (urban) consumption, where multiple production and service activities converge (Marsden et al. 1993 in Van der Ploeg et al., 2000). In the context of rural tourism developments, Sharpley proposes a view of the rural as a constructed and negotiated experience, whose symbolic meaning brought by tourists may bear little resemblance to the reality of a tangible, dynamic and ever-changing rurality (2008). The ‘rural’ tourisms end up being an abstract and socially constructed idea, as well as an imaginary and expectation brought by incoming (urban) tourists.

In his book the “*Production of Space*”, Lefebvre identifies two spaces divided by the uneven development of contemporary capitalism (1991). From one side he refers to those areas being exploited for and by the means of *production* (of consumer goods), and on the other, those exploited for and by the means of the *consumption of space* (1991:359). Lefebvre refers here to the concrete moment of "departure", which could be interpreted here as the beginning of the tourist activity, in which people leave the *spaces of consumption*, i.e. the market, and with it the spaces of production and social space, especially in industrial and urban "centres", in order to enter into an unproductive form of consumption related to leisure and tourism in the *consumption of space* (1991:352). The two types of regions identified by Lefebvre are not only spatial, but *social*, accentuating the growing differentiation and asymmetry in the European Mediterranean area described by Holleran (2019), between leisure economic ‘peripheries’ that are visited and consumed, such as the coastal areas of Portugal, Greece and Spain, and the growing number of urban tourists coming from main economic, industrial, financial, and service centres. Analyses of the history of urban tourism in southern Europe (Cocola-Gant, 2014; Cocola-Gant and Palou i Rubio, 2015) have discussed the development of tourism as an evolving phenomenon, especially in historic city centres at the end of the 19th century, reported as a result of development strategies compensating their lack of industrialisation. These processes accentuate the different but interconnected urbanization processes mediated by tourism, especially during the 20th century in the European mediterranean area.

Lefebvre expands this further by interrogating and shedding light on the dialectic and contradictory nature of contemporary urban (tourist) spaces, referring to the search for quantity and quality, production, and consumption. These processes can be traced back to the post-war period, when tourism began to be democratized and expanded, becoming a major social and economic force in many European Mediterranean coastal areas, with large investments, profitability and economic growth stimulating the development of new infrastructures, construction (housing and accommodation), speculation and urban modernisation through new urban forms, such as hotels, suburbs, and cities of leisure (Holleran, 2019). This was accompanied by wider processes of social,

economic, and institutional restructuring processes that led to greater concentration of population along the coast, an increased competition for labour and natural resources, e.g., land, water, and food, as well as the modernisation, intensification and industrialisation of agricultural practices and traditions (Van der Ploeg et al., 2000). The latter was particularly evident in areas with greater productive advantages such as plains and valleys (Quaini, 1973), relegating rural, mountainous, and inland areas to a semi-peripheral and marginal role (Sharpley, 2008). The technological and social transformations brought by the 'Green Revolution' in the agricultural sectors (Patel, 2013) came along with a redefinition of identities, strategies, practices, interrelations, and networks (Van der Ploeg et al., 2000), signalling the collapse, disparities and heterogenous development of traditional rural systems (Sharpley, 2008). The increasing abandonment, 'rural exodus', and ageing of the rural population since the 20th century (Weissteiner et al., 2011) have been key manifestations of these processes, leading to the further market integration, globalisation, and territorial decoupling and deterritorialization (Magnaghi, 2010) of food systems in support of a growing non-agricultural urban population (Scott & Storper, 2015).

Holleran provides a valuable analysis for the comprehension of these processes in the Mediterranean region of southern Europe. He analyses the relationship between tourism development in 'peripheral' areas and the role of regional cohesion and integration policies, funds and strategies aimed at the 'democratisation', 'modernisation' and 'Europeanisation' of these areas (2019). As the author describes, citing Anderson (2009), the process of tourism development can be understood as a form of modernisation through "selective underdevelopment". This involves a concentration and differentiation between areas with greater competitiveness and means of production, and others with a growing dependence on tourism as an outlet for their economic development. These processes were neither neutral nor undesirable; rather, they created winners and losers, as evidenced by the emergence of real estate developers along the coast and an increase in competition for the use of space (Anderson, 2009). As demonstrated by Kranjcevic and Hjdinjak (2019), spatial planning frameworks and legal and institutional incentives played a pivotal role in these processes, promoting tourism investments and the development of novel urban forms, particularly along Mediterranean coastal zones (Burak et al., 2004; Mullins, 1994). As demonstrated by these authors, rather than providing a boost to distressed regions, tourism has served to reinforce the distinction between centres of productive and economic development (consumption of space) and peripheries of leisure and consumption of space. This distinction can be observed between places that are visited for their historical, cultural, and scenic attractiveness, and places of economic wealth and political power that send visitors (Holleran, 2019). These distinctions have, over the last century, served to reinforce the notion of the 'Mediterranean' as an 'exotic', 'authentic', 'natural' and culturally rich place to be consumed and experienced (Núñez, 1963) through its food, beaches and landscapes[129]. Furthermore, the incorporation of particular landscape features that evoke this "quality of space" has served to reinforce this perception. Dell'Agnese and Bagnoli (2004) provide an illustrative example of this phenomenon with the proliferation of palm trees in Liguria. This has led to the development of specific images, narratives and practices that link these spaces to their exotic characteristics, such as the sea, the beach and specific foods, such as fish, even if differing from local traditions. However, as Mullins (1994) and Burak et al. (2004) have observed, the growing demand of urban dwellers in over-industrialised regions searching to spend their leisure time in these areas has resulted in a gradual

[129] Food and the Mediterranean diet have become key attractors and symbols of this 'quality of space', built in opposition to industrial food consumption patterns and behaviours, as key motivators for tourists to experience food beyond their ordinary life (Cohen, 1979).

transformation of the very qualities that initially made these places attractive to tourists, with the expansion of services, infrastructure, products and expectations of their daily life in these spaces (Ritzer and Liska, 1997). A comparable asymmetry is also gradually being transferred to urban areas, as evidenced by the growing prevalence of cooking at home, home delivery, and dining out in Italian, Greek, Portuguese, or even fast-food restaurants that transfer the festive, intercultural, and recreational experience of tourism into everyday life. As Richards succinctly states, tourism is increasingly integrated into the fabric of our everyday lives, and conversely, our everyday lives are increasingly shaped by the principles of tourism (2002) in what has been described as the 'recreational turn' of society (Stock, 2007; see footnote 125). Lefebvre characterises this process not as isolated and spontaneous, but as a process of planned production of space in favour of developers, bankers and tour operators (1991), who converge in a strategy to transform the Mediterranean 'periphery' into 'another part of Europe' with new economic opportunities brought by tourism developments (Holleran, 2019).

The general social, economic, and institutional restructuring processes (Van der Ploeg et al., 2000) presented here have brought with it new ways of thinking about and managing places through the formation of new governance structures (Kuhlmann & Buckaert, 2016), rural place myths (Cloke and Perkins, 1998) and a 'post-productive' transition in rural landscapes (Garrido i Puig et al., 2018). In his discussion of these transitions, Almestedt (2013) highlights the importance of new 'post-productive activities'.[130] The author describes the former as those practices that move rural places away from primary production and their productive[131] values towards a 'new rural economy' paradigm (OECD, 2006), landscape[132] and recreation in situ (Lundmark, 2006; Mather et al., 2006). These approaches look at the promotion of multifunctionality[133] (McCarthy, 2005) through the integration of non-agricultural land uses and resources in farms (Jack, 2007) that can be linked to different tourism typologies and activities (see Annex 3). Discussions on a new rural development paradigm (Van der Ploeg et al., 2000; OECD, 2006, 2016) identify tourism as a potential solution for the revitalization of rural economies (Rockett et al., 2016), regional development (Bohlin et al., 2016) and diversification of agricultural farms income and employment (Sharpley, 2002). These views emphasize the need for a broader integration of rural areas through context specific multi-sectoral strategies that maximise policy complementarities and rural-urban linkages, focusing not only on agriculture but also rural industries and services, as tourism (OECD, 2016). Such strategies require planning interventions that are not only urban or rural in nature, especially in the context of evolving tourism developments and climate change (Ribas et al., 2010), but that build on the strategic complementarities and interdependencies across relationships, actors, and places in search of synergies and linkages within a landscape approach (Tress & Tress, 2001).

The theoretical propositions and examples presented above contribute to a better understanding of how cities and their wider landscapes are explicitly constructed and transformed for tourism purposes, shedding light on socio-spatial extended urbanisation processes (Brenner, 2013c; Monte-Mór & Castriota, 2018), being mediated and influenced by tourism developments beyond the city. Key

[130] The author differentiates these transitions from a more general concept of "post-productivism," which is defined as a set of "ideologically shaped imaginations and visions" that are present in regional development programs, environmental policy, forestry and agricultural regulations, and thus in the public mindset (Almested, 2013). Post-productivism emerges in this sense as a counterpoint to the intensification of agriculture, high inputs and yields driven by productivist approaches.
[131] Almestedt refers here to agricultural practices, land-based economies and industrial production, among others (2014).
[132] Almestedt refers also to amenities, leisure, services and commerce, among others (2014).
[133] Referring to rural landscapes, McCarthy describe this as "range of commodity and non-commodity use values (…) that policy ought to recognise and protect" (2005:775). Woods recognizes the diversity, heterogeneity and non-linearity of rural societies, highlighting the social and environmental benefits of these approaches (2011).

modalities and characteristics of these processes have been identified and represented (see Table 8 and Table 9), highlighting the social and spatial dimensions of tourism *in* urban areas and the urbanisation *of* tourism (Stock & Lucas, 2012; Coëffé & Stock, 2021). These, in turn, are linked to the three moments of concentrated, differentiated, and extended urbanisation (Brenner & Schmid, 2015), giving rise to the processes of '*tourism urbanization*', 'urbanisation *of* tourism' and '*touristification* of the urban', which are then analysed in relation to food (see Table 8). These different concepts bring new ways of experiencing, conceiving, and living urban and rural space, which can be traced in the evolving *urbanising food landscapes* (see subsection 4.2). The following subsection presents the main theoretical-conceptual contributions on the relationship between tourism and food, which will then be further explored in the analysis of the two case studies in Portugal and Italy.

5.4. Food & Tourism: opportunities, challenges, and new frontiers for the analysis of urban food landscapes

The interaction between food and tourism has undergone significant changes in recent years, resulting in a complex, dynamic, and multi-faceted relationship of growing academic interest and expansion (Hall et al., 2003; Henderson, 2008; Richards, 2015). Agri-food systems are becoming integral parts of the tourism chain taking on an increasing role not only as a provider of essential services, such as nourishment and landscape management (Terkenli, 2018), but also as a main attraction and representative of territorial resources and local identities (Everett & Aitchison, 2008). Food is also becoming a key driver shaping the organisation of new tourism products and destinations (Park & Widyanta, 2022), fostering the linkages between tourists, local communities ('tourees'), institutions and their surrounding environments ('middleman/milieu'). The study of tourism through the lens of food has been gaining greater recognition and interest in academic and professional spheres, giving rise to the emergence of new concepts and terminologies such as *culinary tourism* (Long, 2004, 2010, 2013), *food tourism* (Hall and Sharples, 2003; Getz et al., 2014), *(eno)gastronomic tourism* (Dixit, 2019), *agritourism* (McGehee, 2004, 2007; Philip et al., 2010) or *agroecological tourism* (Addinsall et al., 2017), and product specific types of tourism such as *wine* (Carlsen & Charters, 2006), *coffee* (Jolliffe, 2010), *beer* (Pechlaner et al., 2009), *tea* (Jolliffe, 2007), *olives* (Alonso & Northcote, 2010; Arjona-Fuentes & Amador-Hidalgo, 2017), *cheese* (Folgado-Fernandez et al., 2017) or *whiskey* (Martin & McBoyle, 2006), among others. Food issues are also gaining greater emphasis in cross-cutting tourism concepts, especially in *cultural tourism* (Tresserras & Medina, 2008), *rural tourism* (Bessière, 1998), *urban tourism* (Amore & Roy, 2020), *ecotourism* (Buckley, 2009), *sustainable tourism* (Sims, 2009), and *ethnic tourism* (Yang & Wall, 2009, 2024) (see Annex 3 for an overview of the main tourism concepts, authors and their relations to food). Nevertheless, as Scarpato (2002) emblematically describes, food studies were often an ignored topic of analysis in the social sciences, being considered in a grey area mainly related to cultural tourism. Richards traces this transition in the gastronomic boom or 'gastro turn' of the 1990s which led to a gradual and growing recognition of the role of food in the differentiation and competitiveness of tourist destinations (Richards, 2015), moving from a marginal and invisible role to a key factor in tourism attraction, competitiveness, and academic scrutiny. This academic shift has been supported by landmark publications such as Hjalager and Richards' (2002) book, "*Tourism and Gastronomy*", and seminal works by authors such as Gilbert (1992); Fognini (1995); Hall (1997), Mitchell (2001), Sharples (2003), et al. (2003, 2004); Bessière (1998, 2001); Symons (1999); Moulin (2000); Boniface (2003); Boyne et al. (2003); Cohen & Avieli

(2004); Long (2004); Quan & Wang (2004), Everett & Aitchison (2008); Dodd (2012); Getz et al. (2014); Hall & Gössling (2016); Yeoman & McMahon-Beatte (2016); Okumus et al. (2018); Privitera et al. (2018); Dixit (2019); Ellis et al. (2019); and the World Food Travel Association (2019).

Hall and Sharples provide one of the most widely used definitions of food tourism, describing it as the "visitation to primary and secondary food producers, food festivals, restaurants and specific locations for which food tasting and/or experiencing the attributes of specialist food production region are the primary motivating factor for travel" (2003). Eleven years later, Getz et al. will further summarise it as travelling "for the specific purpose of enjoying food experiences" (2014) or as the World Food Travel Association recently puts it, "the act of traveling for a taste of place in order to get a sense of place" (n.d.). Other concepts, such as culinary tourism, were first described by Long as the deliberate and "exploratory participation in the foodways of another", including "the consumption, preparation, and presentation of a food item, cuisine, meal system, or eating style considered to belong to a culinary system not one's own" (2004). From this point of view, the relationship between food and tourism is emphasised by the role of food as a medium for the cultural experience of the 'other', that which is outside the 'ordinary', as well as the individual participation and openness to the experience and 'consumption of culture' (Ellis et al., 2019). These activities are juxtaposed with a growing search for comfort and, as presented above, in an extension of everyday life into tourism and of tourism into everyday life (Ritzer & Liska, 1997; Richards, 2002), with tourism not only increasingly resembling everyday life with a greater standardisation, industrialization and globalisation of tastes, but also everyday life increasingly resembling tourism, in a 'recreational turn' of society (Stock, 2007; see footnote 125).

Food tourism, as Ellis et al. point out, is situated in a different perspective to that of culinary tourism, focusing on physical and bodily experiences and an explicit interest and engagement in local food systems. The World Tourism Organisation's definition of gastronomic[134] tourism aligns with this view, defining it as "a type of tourism activity which is characterized by the visitor's experience linked with food and related products and activities while travelling", involving "authentic, traditional, and/or innovative culinary experiences", as well as "activities such as visiting the local producers, participating in food festivals, and attending cooking classes" (UNWTO, 2019). Gastronomic tourism has been analysed under three main components: agriculture, culture and tourism (Bessiere 1998; Boniface 2003; Dixit, 2019), emphasising cultural and physical perspectives that locate it not only in tourist experiences and activities, but also in a *sense of place* linked to the food culture, lifestyle and agricultural systems of a host society and destination (Scarpato, 2002; Kivela et al., 2006; Dixit, 2019; Ellis et al., 2019). According to Getz et al. (2014), food and dining are becoming important incentives in the choice of destinations for up to 40% of international travellers. In 2013, the Mandala Research study reinforced these claims concluding that 77% of all leisure travellers in the United States of America (USA) (approximately 131 million people)

[134] From an etymological point of view, *gastronomy* refers in ancient Greek to the knowledge, rule or law (*gnomos*) of the stomach (*gastros*), generally understood as the art of good cooking and eating well and the 'pleasure of the table'. In his book *The Physiology of Taste* (1949[1826]), Jean Anthelme Brillat-Savarin provides one of the first and most influential multidimensional descriptions of gastronomy, describing it as "the intelligent knowledge of all what concerns man´s nourishment", now interpreted as the interdisciplinary study of the relationship between society, culture and food (Maberly, & Reid, 2014): a "mirror of the human condition" and "prism through which to observe, describe and experience the world as a whole" (Perullo, 2018). The concept of gastronomy today recognises the complex social, political, ecological, and economic challenges of our time by engaging in the design, planning and management of sustainable agri-food systems based on the principles of inclusiveness, conviviality, well-being, circularity, reciprocity and value of biological and cultural diversity (Perullo, 2018).

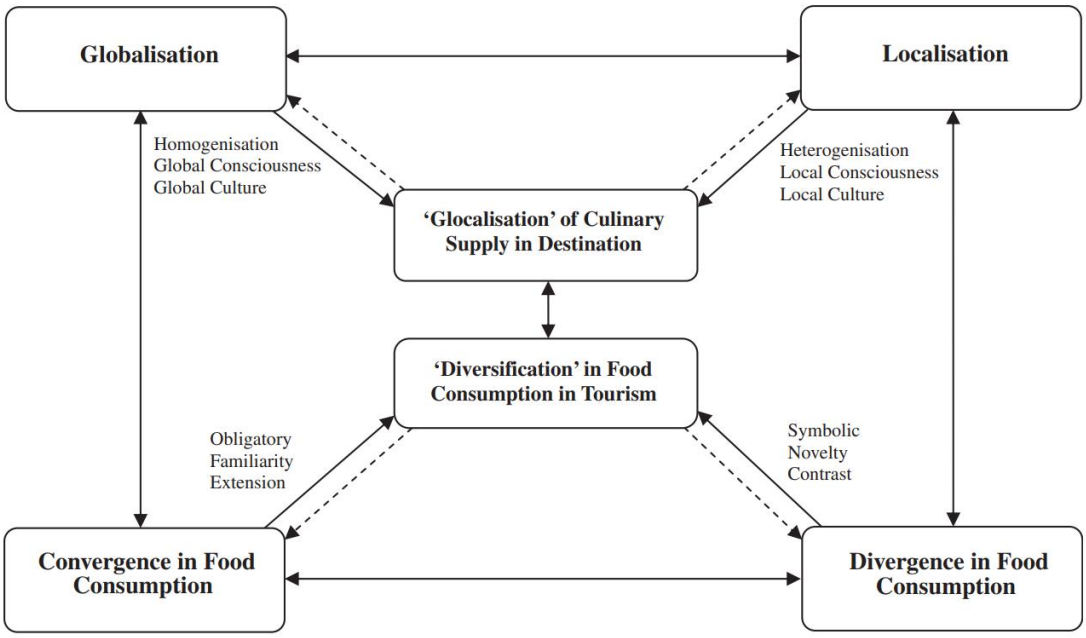
participated in culinary activities. Similar results are also presented by Garibaldi (2020), which indicates that around 71% of tourists in France, United Kingdom (UK), Canada, USA, Mexico and China participate in gastronomic experiences during their tourist trips, representing a market of around 18 billion euros per year in France (Richards, 2014) and an expansion from €8 million in 2014 (Ostelea, 2015) to €12 million in 2017 in Spain (Ostelea, 2020). According to the latest report on food and wine tourism in Italy (Garibaldi, 2023), in 2021, 92% of Italian tourists had at least one food and wine experience during their trip, compared to 98% during the pre-pandemic period. The report individuates 94% of Italian tourists having food experiences in restaurants; production facilities (74%); food events (60%); active experiences (54%); tours or themed itineraries (48%); and other themed experiences (65%). Finally, the study highlights that 21% of domestic and international travellers in Italy are primarily motivated by food, up from 17% in 2019 (Garibaldi, 2023). Ostelea's report (2020) shows similar results for Spain, noting that around 15% of visits in 2016 were gastronomically motivated, up from 11.8% in 2013.

Despite these positive trends, McKercher et al. (2008), referring to the case of Hong Kong, caution that the analysis of the relationship between food and tourism cannot be limited to a single specialised tourism category, but is integrated into the overall tourism experience associated with urban destinations. As the authors point out, food is part of the mass-market triad of sightseeing, shopping, and eating to such an extent that some groups of travellers do not even explicitly value it, despite its key, but invisible, role and influence on their overall tourist experience (McKercher et al., 2008). The author discusses and proposes to analyse the food and tourism relationship as a continuum in the travel decision-making process (McKercher et al., 2008; Hall & Sharples, 2003). Here we find, speciality food tourists, such as 'foodies' (Getz et al., 2014), gourmands (Hall et al., 2003; Johnston & Bauman, 2010) or neophiles (Getz et al., 2014) travelling with the primary motivation to visit, taste and experience different food products, places, and actors. In this segment, food plays an essential role, constituting the main experience, activity, and motivation of the trip. Secondly, culinary or "food-interested travellers" are identified as those for whom food is an important part of their decision-making process, but not the only or most important one (Dixit, 2019). At the end of the transect, we find 'occasional' food tourists and travellers with progressively less interest and commitment with food, to the point where it becomes an invisible, non-influential or even undesirable (neophobic) factor in the tourism decision-making process. The impact of these different types of travellers on the food system is diverse, supporting the preservation of local food culture, the diversification of food supply chains (Richards, 2015), but also the standardisation, globalisation (Mak et al., 2012) '*foodification*' (Hugues-Morgan, 2011) and thematization of food environments. Here we find processes of extension of everyday food practices in destinations, 'avoiding unusual food' (Getz et al., 2014), McDonaldization (Ritzer, 1993), as well as the development of new *foodiescapes* (Richards, 2015; Getz, et al., 2014), *experiencescapes* (O'Dell, 2005; Quan & Wang, 2004 see footnote 122 and 123 above) and 'glocalization' practices (Mak et al., 2012).

A conceptual model of these changes is presented by Mak et al. (2012) (see Figure 32) analysing the influence of globalisation and localization of food tourism and destinations. As explained by the authors, these are manifested in the dialectical relationship between 'convergence' and 'divergence' and in three dichotomous dimensions: homogenization and heterogenization, global and local consciousness and culture. The complex matrix emphasizes both glocalization processes of food supplies in destinations as well as an overall diversification and transformation of food offer and consumption mediated by tourism. The use of these different categories become a useful tool to understand and elucidate the complex interactions between global and local, but as the authors

highlight these are in fact interchangeable and interdependent elements that cannot be separated from our daily lives and relations between food and tourism.

FIGURE 32: CONCEPTUAL MODEL OF THE INFLUENCE OF GLOBALISATION AND LOCALISATION PROCESSES ON FOOD SUPPLY AND CONSUMPTION IN TOURISM DESTNATIONS.

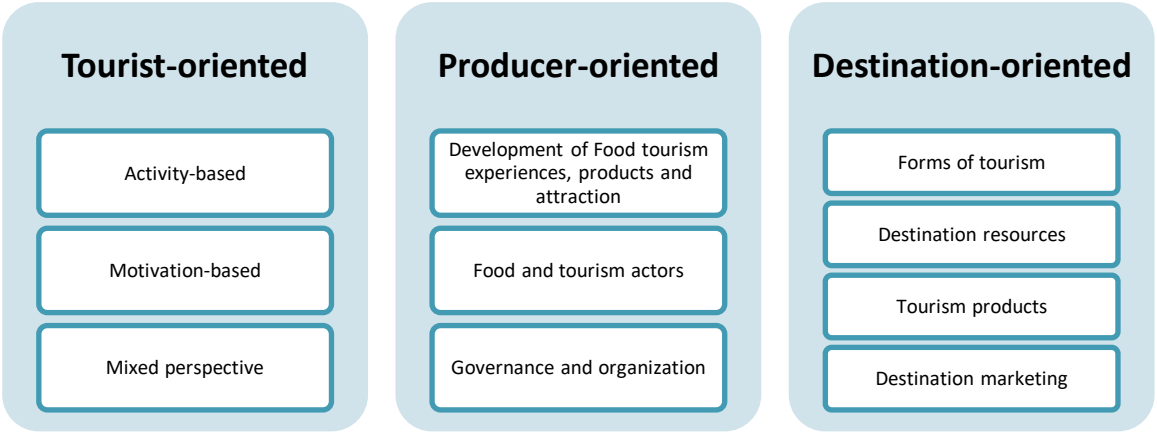


SOURCE: MAK ET AL., 2012.

In their recent literature review on food tourism, Ellis et al. (2019) discuss the myriad of concepts and approaches associated with food and tourism, highlighting the multiple and sometimes interchangeable definitions that can be identified in three main disciplinary approaches: management and marketing, socio-cultural, and geography. Among these, we find studies focusing on the role of food tourism practices, products and landscapes in regional development (Hall & Gössling, 2016; Rachao, et al., 2018), identity (Everett & Aitchison, 2008), cultural heritage (Tresserras & Medina, 2008; Garcia-Delgado, et al., 2020; Qiu et al., 2022), place-making (Everett, 2012), and territorial promotion, branding and management (Tellström et al., 2006; Blichfeldt & Halkier, 2014). Dixit (2019) proposes a division of existing research into a consumer, producer and destination development perspectives (see Figure 33), acknowledging, as other authors also suggest, the shift from an emphasis on tourist-oriented approaches (Richards, 2015; Ellis et al., 2019), regarding the motivations, activities, and type of tourists and food cultures, to a destination-oriented perspective (Ellis et al., 2019) focusing on the governance, networks and knowledge flows for the organisation of more competitive and integrated food systems (Hjalager & Richards, 2002; see Annex 2 for types of food tourism developments). Tikkanen (2007) identifies four types of relationship between food and tourism. The first, *attraction*, as a means of promoting a place and a destination though food. The second, a *component of the (tourism) product* through the development of activities related and complementary to food, such as wine and food itineraries. Thirdly, an *experience*, regarding food as a central element of tourist activity and attractiveness, especially for specialized food tourists. Finally, food as *a cultural phenomenon*, rooted in the practices and traditions of a place, expressed in food festivals, celebrations, and manifestations of tourist interest (Tikkanen, 2007; see Figure 35). These dynamic relationships can be configured both in terms of food as a pull factor for tourism/travel, as well as an essential need while travelling. The former focuses on the opportunities and impacts of food as a central attraction, product, experience, and cultural phenomenon for tourism (Tikkanen,

2007), characterizing the analysis of a "food-based tourism" or "tourism *of* food" (Hall et al., 2004). Within this approach, Henderson (2009) proposes a complementary framework based on three main areas of research: 1) food as a tourism *product*, 2) food *marketing* to tourists and 3) food tourism as a tool for *rural, regional or destination development*. Similarly, a second approach can be seen in studies questioning the influence, transformation and organisation of food spaces and practices brought about by tourism developments, not necessarily with a specific interest in food, but rather in consequences and implications of the management, planning, and governance of a "food *of* or *in* tourism" (Cohen & Avieli, 2004; Gössling et al., 2011; Mak, Lumbers, & Eves, 2012; see Figure 34).

FIGURE 33: FOOD TOURISM RESEARCH APPROACHES.



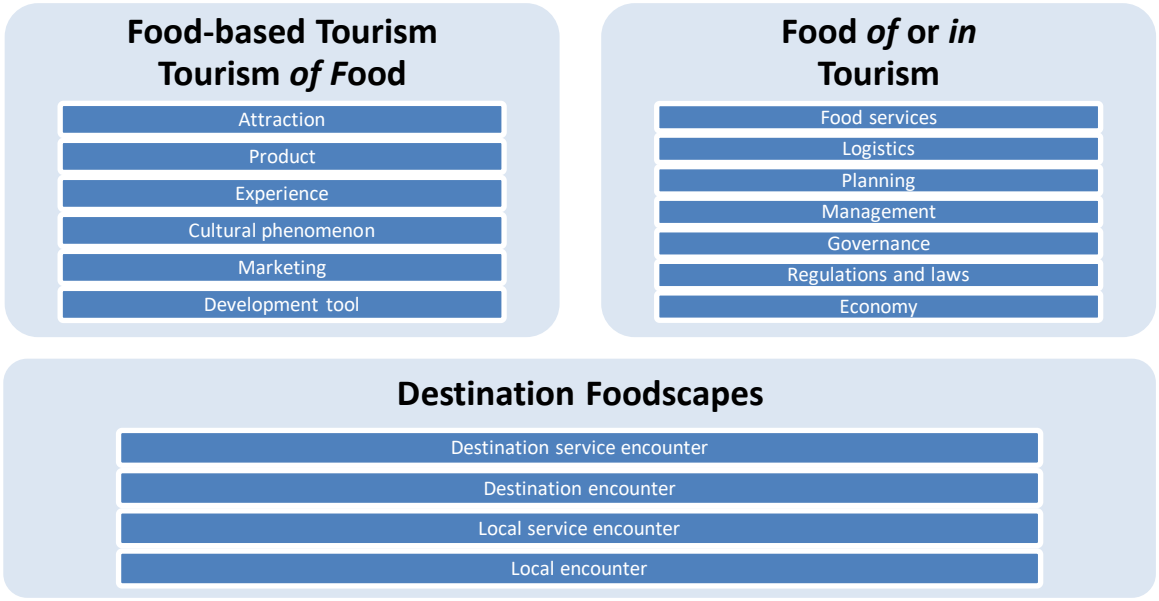
SOURCE: ELABORATED BY THE AUTHOR BASED ON DIXIT, 2019 AND ELLIS ET AL., 2019.

Another useful framework is presented by Richards (2015), following Boswijk et al. (2005), who identifies three stages in the relationship between food and tourism: the first, related to early attempts promoted mainly by producers in the development of holistic food experiences involving the five senses; the second, related to the co-creation of experiences between producers and consumers, highlighting the predominant role of the latter in the development of their own experiences, as 'lead users' or 'qualified consumers' (Richards, 2015). Finally, the third generation of experiences represent relationships that transcend the divide between tourists and 'tourees', reflecting what Richards analyses as the emergence of 'communities of practice' between consumers and producers, also described as 'prosumers'[135] (Toffler, 1980; Ritzer, 2015). This last stage entails the development of new hybrid forms of food tourism experiences co-created by an engaged food citizenship and *tourist-touree* relationship (Richards, 2015). Here the tourist is involved as an active agent, alongside the producer, in the development, realisation and presentation of food tourism experiences, bringing together local and external food, landscapes and cultures. In this vision, the tourist becomes not only a user, but also a co-creator and collaborator in the active conservation of food landscapes, linked to their desire to experience and learn about local food cultures and practices. These experiences can

[135] The term 'prosumer' was introduced by Alvin Toffler in his publication *The Third Wave* (1980), discussing pre-industrial, industrial and post-industrial consumption, and production practices. Ritzer takes up this concept (Ritzer & Jurgenson, 2010), analysing its theoretical and sociological implications and proposing a new approach to 'prosumption', as a continuum between production and consumption, along its "different types, phases or moments in the overall prosumption process" (Ritzer, 2015). Other articles highlight the prosumer concept by analysing its role in circular food behaviours (do Canto et al., 2021) and its empirical and pragmatic implications, as in the case of Almere (Netherlands) (Veen et al., 2020), urban food networks in Portugal (Moreira & Fuster, 2020), socio-technical factors of urban areas in Australia (Miller, 2019), food marketing in Norway (Troye et al., 2012) and community supported agriculture (Barbosa et al., 2022), among others. Carlo Petrini (2007) uses the concept of 'co-producer' to highlight the active role of consumers in the food chain. This concept was coined by the Slow Food movement to highlight the power of the consumer in promoting good, clean, and fair food for all (Slow Food, n.d.)

range from tourist participation in local cooking classes, co-creation of menus, participation in food harvests, transformation or production activities, community tourism in local population's homes, as well as the social mobilization of citizens for the development of food events or festivals, and the linkages, collaborations and extended solidarities between urban and rural actors, consumers, and producers beyond the tourist activity.

FIGURE 34: KEY APPROACHES ON THE RELATIONSHIP BETWEEN FOOD AND TOURISM.

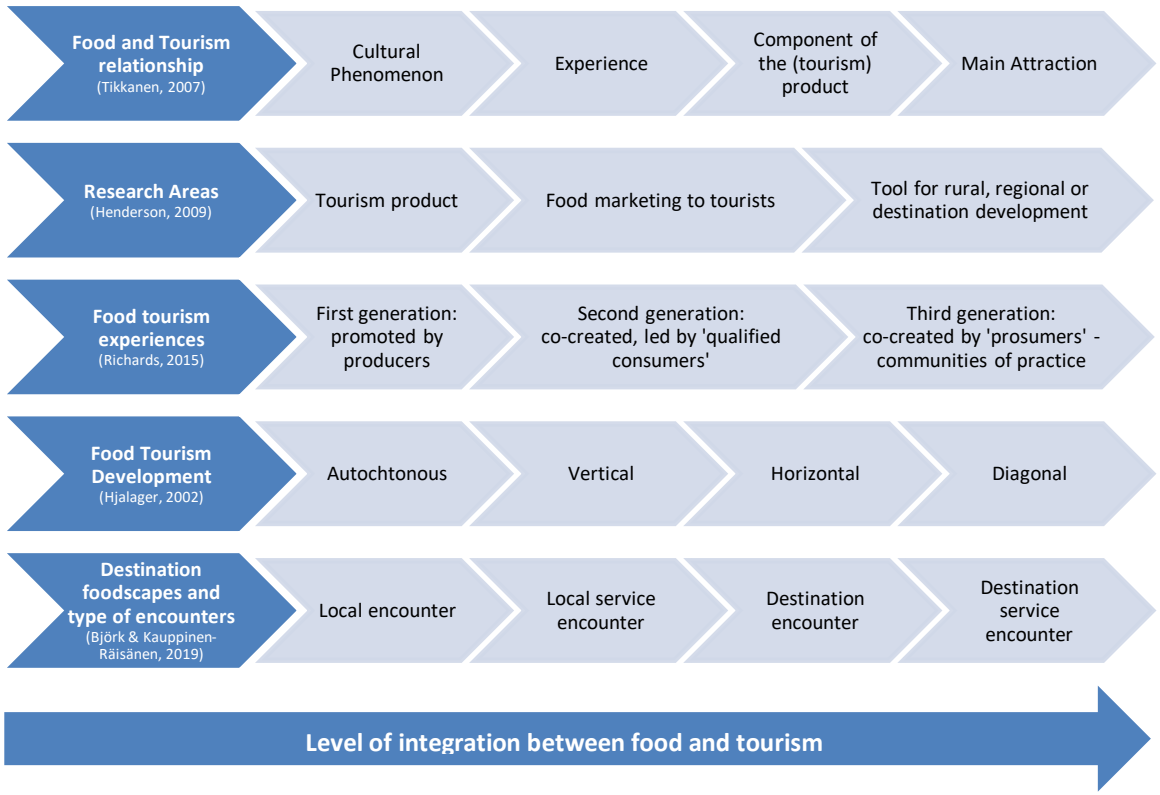


SOURCE: ELABORATED BY THE AUTHOR BASED ON HALL ET AL., 2004; TIKKANEN, 2007; HENDERSON, 2009; COHEN & AVIELI, 2004; GÖSSLING ET AL., 2011; MAK, LUMBERS, & EVES, 2012; BJÖRK & KAUPPINEN-RÄISÄNEN, 2019.

Hjalager (2002) in her emblematic book on *Tourism and Gastronomy* (Hjalager & Richards, 2002) proposes a model of gastronomic tourism development divided into four orders or stages. These are: 1) *autochthonous* development, 2) *vertical* development, 3) *horizontal* development and 4) *diagonal* development. The author analyses these orders as the concrete possibilities for a territory to create, promote and consolidate food as a new form of tourism. The first stage is characterised by tourism developments based on existing economic structures, networks, activities, and knowledge, with the inclusion of food-related information, culture, recipes, and activities in regional tourism promotion. The second stage is described as the vertical integration of gastronomic tourism capacities within a food chain, adding value to the production process and involving the different actors of a product (from top to bottom) in the development of tourism initiatives and strategies; the third stage represents the horizontal development, related to the integration of food with other sectors and activities, such as through wine and food trails, food-based events, food museums, festivals and other food-centred tourism activities brought in relation to other sectors and actors of the tourism chain. Finally, the fourth stage describes diagonal developments as the formation of food clusters, aimed at improving the base and transfer of knowledge by increasing the capacity for innovation and cooperation between the different actors and professionals of the territorial food and tourism system. Here the author considers the processes and agreements for institutionalising and consolidating food tourism as a sector, promoting regional development and innovation, not only focused on tourists, but also on the competitiveness of the system as a whole (see Annex 2 for some examples of food tourism strategies and initiatives and their relationship to the four orders and stages of development suggested by Hjalager, 2002). An example of these framework is presented by Leal Londoño (2015) for the analysis of Catalonia in Spain, and Scottland, as well as by Chaney & Ryan (2012) analysing the evolution of food tourism in Singapore through the development of so-called Gastronomic tourism products

(GTPs), such as the New Asian Cuisine (NAC) and the World Gourmet Summit (WGS) established in 1997. Scarpato (2002) identifies these initiatives as effective marketing tools for the promotion of gastronomic tourism, establishing articulation and support between public and private actors in the food and tourism sectors. Other authors emphasise the importance of information flows, knowledge, and capacity building both within the food system (vertical), its integration with other sectors (horizontal), local communities, and even with tourists and visitors ('prosumers'), strengthening the innovation and responsiveness of the food tourism system as a whole (vertical). Ilbery & Kneafsey (1999) stress the importance of not only formal but also informal knowledge flows and, as proposed by Sims (2009) for the UK, highlight the role of 'alternative food networks' in developing a *sense of place* and a more diversified and territorially based food tourism. Meanwhile, Roberta and Pozzi (2021), in their analysis of food museums in Italy, emphasise the importance of community engagement in preserving and promoting food heritage. These initiatives illustrate the institutionalisation of food tourism processes promoted by different actors, such as the Singapore Tourism Board (STB), food museums, plans, policies (Annex 2), with the aim of showcasing local and national foods, wines and services to local and international populations, building capacity and visibility to make food and gastronomy a major tourism destination (Chaney & Ryan, 2012). These are good examples of how food culture and innovation can lead to better collaboration and alignment between public and private initiatives, enhancing regional attractiveness, promotion, and tourism competitiveness at both regional and local levels.

FIGURE 35: DIFFERENT TYPES OF FOOD AND TOURISM RELATIONS AND THEIR LEVEL OF INTEGRATION.



SOURCE: ELABORATED BY THE AUTHOR BASED ON HJALAGER, 2002; TIKKANEN, 2007; HENDERSON, 2009: BJÖRK & KAUPPINEN-RÄISÄNEN, 2019.

The rapid academic development on food tourism presented above coincides with a general increase in public interest, attention, and influence on food, framed in the '*gastro turn'* (Richards, 2015; emphasis added), rise of the 'foodie' culture and proliferation of new communication spaces, experiences and '*foodiescapes*', especially in urban areas (Getz et al., 2014; Richards, 2015; Basle, 2023). The distinctions and symmetries between everyday activities connected with leisure and the

'festive', food, tourism/travel, or what Lefebvre could call the 'departure', highlight the need to analyse food not only as an activity and attractor (food-based tourism or tourism *of* food), nor as a passive and invisible actor in the tourism system, but as a relationship and urban force in the shift from an *'urban tourism'*, *'tourism urbanisation'* and '*touristification* of the urban', presented above, supporting the consolidation and continuous transformation of (urban) tourism and destination foodscapes (Long, 2010; Björk & Kauppinen-Räisänen, 2016, 2019; Sequera & Nofre, 2018; Su et al., 2020; Amore & Roy, 2020; Bernardo, Agapito & Guerreiro, 2021; Park & Widyanta, 2022).

Food landscapes are increasingly being commodified for tourist attraction and consumption. These interactions also create tensions, not only between hosts and visitors, production, and consumption[136] but also between different forms of production and consumption themselves, such as between different types of agricultural practices (biological-conventional) and recreational/tourist activities (Sharpley, 2008). As evidenced by Guan et al. for the Guangzhong area in China, traditional foods are being reinvented and reproduced as edible exemplars of culture and heritage, as carriers of an 'authentic' and nostalgic rural past that satisfies the imaginations and needs of surrounding urbanite visitors (2019). Building on the work of Watson and Kopachevsky (1994), Williams (2014) defines the *'commodification of tourism'* as a system of commercial exchange of goods, services, and experiences for tourism consumption. These processes entail important changes for tourists and their relationship with the places and destinations they visit, for the local actors or "tourees" (Van den Berghe, 1992), their products, traditional culture, and the surrounding environment. As the author explains, these can move from 'strong' conservation processes with reduced social use-value to over-consumption and denaturalisation processes associated with their intensive touristic and productive use. Citing Shelly Errington (1998), Shepherd translates this as a process of "commodification of culture" through a situation in which objects come to signify a purely imaginary 'other', no longer linked to any specific context, geography, history, or culture (2002), but as a commercial good for tourism consumption. Commodification influences not only the products or services formed by the tourist experience, but also the new identities and practices assumed by *tourees* and destinations to satisfy travellers' expectations and imaginaries, towards an expected idea of 'rural', 'natural', gastronomy or 'authenticity' of a place, summarised as a 'false reciprocal construction' (Lanfant, 1995 in Shepherd, 2002). These processes are absorbed by both tourists and local people, shaped by the tourism experience and gaze (Rojek & Urry, 1997; Linnekin, 1997 in Shepherd, 2002) in what Shepherd calls the *'becoming of other'* (2002).

Gyimóthy & Mykletun examine the traditional and novel approaches to the commodification of rural food heritage, identified in three main strategies: 1) *aestheticisation*, 2) *authentication* and 3) a *playful reuse of the entire food experience* in a destination (2009). The author posits these three dimensions in processes of *aestheticisation* that influence the development of new food tourism cultures and products with mediatised, stylised, and themed proposals that respond to consumer imaginations and fashions. On the other hand, the process of *authentication* highlights the selection of certain products, practices or techniques presented as traditional and 'authentic' representatives of a place. This process consolidates in the development of seals or certifications schemes for the differentiation and

[136] Sharpley describes the tensions between agricultural practices, development and protected areas, but also considers the divergent positions of the middle classes towards the realities of agriculture (2008). Here we also recall Berque's analysis of urban and rural and the evolving distinctions between nature and culture (see subsection 3.1). These views problematise the evolving (urban) notion, invention and idealisation of 'nature', 'naturalising the countryside by excluding peasant labour' (2011). As described by Berque, it is in fact this agricultural labour that makes the 'campagna' unnatural, with contrasting positions to all the multisensory realities of agriculture (sight, smell, sound, plough, etc.), which in some cases contradict the idealised and abstract notions of an unspoilt natural and rural landscape brought by (urban) tourists.

traceability of specific origins and qualities of products, increasingly intertwined in the promotion, identification, and management of tourist destinations (Gyimóthy & Myklatus. 2009). García-Delgado et al. discuss the potential of food as a "catalyst for innovative local development", especially in areas close to urban centres with a high concentration of residents and tourists, but also warn of its potential overexploitation and fragility (2020), resulting from the dialectical tension between '*heritagisation*' and potential '*commodification*' of food culture (García-Delgado, et al., 2020). The processes of food '*heritagisation*' described by the authors focus on the conservation, intervention, recovery, and valorisation of food as a strategy for sustainable development (Bentivoglio et al., 2019), safeguarding products, practices, techniques, landscapes and traditions that are specific to a community and a place, as "signs of their regional identity". Here we can find initiatives such as the Ark of Taste or the Presidium project led by the Slow Food Foundation, the European designations of origin, such as the Protected Designation of Origin (PDO), Protected Geographical Indication (PGI) and Traditional Speciality Guaranteed (TSG) (Dias & Mendes, 2018; Duque et al., 2023); or the conservation of agricultural landscapes, such as the irrigation system of Valencian orchards, identified in studies such as the *Urban Agriculture Heritage* (Lohrberg et al. 2023) or the *Globally Important Agricultural Heritage Systems* (FAO, 2022b).

Similar processes of transformation in urban spaces are analysed in concepts such as '*foodification*' and the development of '*foodiescapes'*. The latter has been described as emerging specialised spaces of tourism production and consumption that are organized and staged to attract and satisfy the needs of a growing 'foodie culture' of tourists and gastronomic residents (Richards, 2015; Getz et al., 2014). The rise of the '*foodies*' in the 1990s (Getz et al., 2014) has been characterised as a 'democratic' movement in search of the 'distinctive', such as 'authentic', 'innovative' and 'exotic' food products and experiences, shaping the development of specialised tourist destinations, particularly in urban centres (Richards, 2015). As synthetized by Richards, 'foodiescapes' are shaped and staged *by* and *for* foodies (tourists and residents), not only to eat but also to live (2015). The term '*foodification*', derives from the neologism between 'food' and 'gentrification', referring to the "gentrifying transformation of urban space through distinct food spatialities" (Bourlessas et al., 2022). These processes converge "towards specialized functions" and forms "centred prevalently around food" (Loda et al, 2020), generated and becoming "entangled with certain discourses, materialities and practices" that end up producing an "atmosphere of displacement" (Bourlessas et al., 2022): "a stage and display for short-lived urban (*food*) experiences aimed at visitors to the detriment of residents" (Loda et al, 2020; emphasis and parenthesis added here). 'Foodification' processes have been analysed, especially in Southern European countries, with studies such as Loda et al. for the case of Florence in Italy (2020); Bourlessas et al. for the case of Turin (2022) and Hugues-Morgan in the United Kingdom (2011), among others. Loda et al., identify three main features of these processes, on what they describe as i) the expansion of catering activities; ii) the substitution of pre-existing retail businesses; and iii) the targeting (and *thematization*) of food-related activities to meet the diverse types of tourism demand (Loda et al, 2020; emphasis and parenthesis added here). As Bourlessas et al. point out in the case of Porta Palazzo in Turin (Italy), the analysis of "foodification" reveal "the power of food to conceal, in the transformations it provokes, social inequalities and exclusions, rendering them invisible through its mundanity, innocence and taken-for-grantedness" (2022). Food becomes in this way a socio-spatially constructed subject that legitimises gentrification processes, building and reinforcing discursive, material, and practical consequences (Bourlessas et al., 2022). The evidence presented by these authors shows how food as a 'stage' is not only shaped, but also shapes urban spatialities and social relations. The opportunities and challenges expressed in

these works highlight the need for more detailed analysis to inform appropriate policy, governance, planning, and public interventions for a sustainable foodscape management in the context of evolving climate change and tourism developments.

5.5. Destination foodscapes

Throughout the tourism experience, travellers come into contact with different food spaces in their destinations, bringing their own habits, expectations and tastes, in a dialectical negotiation with local *practices*, *products* and *places* of existing food systems (Fontefrancesco et al., 2023), mediating the experience and development of the food landscape in a specific destination. Björk & Kauppinen-Räisänen (2019) propose the analysis of *destination foodscapes* as a multifaceted, dimensional, and dynamic concept, encompassing different organised and unorganised food-related places of both a tourism *of* food and food *in* tourism. The authors describe this concept as any " type of food-related environment in which a tourist has a given experience that is constantly being produced and reproduced in staged and non-staged foodscapes by a varying set of actors" (Björk & Kauppinen-Räisänen, 2019). Bernardo, Agapito & Guerreiro (2021) define these analyses as a "complex system of values, relationships, performances, experiences and outcomes that are dynamic and therefore require a holistic approach that reflects their complexity". Food tourism under these approaches result in both physical and social settings, a lived experiential product, organised or staged, within the tourist experience, and unorganised or planned within the daily lifestyles of the local populations. Food is presented as an integral part of the landscape, where experiences are created, co-created, or simply lived along the different spaces, places, and food scenarios. As discussed in the previous sub-chapters (see discussion of the six moments of food spaces in subsection 3.2), these can be expressed in the interconnected and juxtaposed moments of food spaces, such as *production* or agricultural, whether vineyards, olive groves, almond groves or orchards (see for example the emblematic case of Castelluccio di Norcia (n.d.) in Italy), *access and exchange*, such as municipal and farmers' markets, *nourishment*, such as restaurants, bars or street food stalls, or *social and political* spaces, such as food festivals, events or specialised food fairs. These are all spaces that come together in a holistic manner along the destination foodscape, offering a wide range of opportunities for tourism attraction and management that are starting to be planned and integrated in regional and urban promotion strategies (see Annex 2; and the case of the Torino Food Capital), regional development plans (such as the 'eat the view' strategy launched by the Countryside Agency (2002) and the Foodzcape initiative in Portugal), landscape planning (Aranzabal et al., 2009) and culture and food heritage conservation initiatives (see GIAHS promoted by FAO (2022) or Lohrberg et al., 2023 research on Urban Agricultural Heritage), among others. Björk & Kauppinen-Räisänen (2019) distinguish between four main types of destination foodscapes (see Figure 35), bridging both tourist and everyday food experiences and encounters: the first relates to the *destination service encounter*, as an organised and staged space created for tourists. The second, the *destination encounter*, is described as an unorganised environment staged specifically for tourism activities. The third, the *local service encounter*, emphasises organised and managed spaces being developed for the local population. And finally, the *local encounter*, as an unorganised environment used mainly by local actor and residents. Tourists and 'tourees' come together in these different spheres, generating a functional, synergistic and, sometimes, conflictual relationship that can be described by the processes of globalisation, localisation, convergence, and divergence (Mak et al., 2012), or in 'foodification' processes (Loda et al., 2020). Destination foodscapes are continuously being (co)created, transformed, and reproduced

both as a destination and local encounter, as well as along a '*tourist-touree'* relationship and food tourists' continuum (Richards, 2015). Multiple actors interact along these processes from food producers, distributors, sellers, and regulators, to consumers, transformers and public health officers, among many others, forming autochthonous, horizontal, vertical and diagonal alliances (Hjalager, 2002; see also Annex 2). Along the tourist transect, we find specialist tourists with a strong interest in local food landscapes, as well as occasional or non-gastronomical tourists, keener towards organised and staged food spaces to 'avoid unusual foods' (Getz et al., 2014). On the other hand, we find tourist operators, workers and tourees actively involved in the development of tourism experiences (see also discussion on the third generation of food tourism experiences presented above that result, as described by Richards (2015), in the co-creation and active engagement of tourist in the development of food experiences), as well as other residents more reluctant towards the transformations that tourism developments have brought into their daily food landscapes (see discussion on '*foodiescapes*', '*foodification*' and '*heritagisaton*' processes presented above).

Making use of the conceptual framework described by Bitner (1992), we can emphasize the socio-spatial character of destination foodscapes, both as an 'instrument' (Heynen, 2013) influencing the "cognitive, emotional, physiological and behavioural responses of both customers and employees", as well as a 'receptor', shaped by the behaviours, desires, expectations and relations of tourists and local actors, bringing their everyday life into tourism and tourism into their everyday lives (Richards, 2015). In this sense, destination foodscapes are well described by the authors as a 'stage' both socially shaped, as well as shaping and structuring social phenomena and reality in the dynamic relationship between food and tourism (see Figure 11 and Figure 38). Food spaces shape tourist destinations, experiences, and activities, while at the same time tourists' behaviours, practices, imaginaries and expectations influence and shape the way food systems are organised, planned, regulated and managed to provide a constant supply of food in response to the needs and preferences of residents and tourists along the four different *tourist-tourees* encounters (Björk & Kauppinen-Räisänen, 2019). This is particularly evident in the case of highly touristified areas, cities, and landscapes, where tourism has had a direct impact on the way food spaces are organized, resulting in highly concentrated and spatiotemporal fluctuations of food and consumption patterns, as well as their diversification and thematization. The case of the contemporary Mediterranean area is emblematic, reflected in long-lasting developments of tourism activities, infrastructures, and investments along urbanised coasts and in increasingly concentrated periods, especially in summer, based on a sun, sea and beach tourism. Some other examples for the Mediterranean area are also reported in the introduction of new representations and imaginaries in agricultural spaces (Garcia Vergara & Fava, 2015), the transformation of traditional terraced landscapes (Alberti et al., 2018; Terkenli, 2018), and the growing emergence of international foods and the heritagization of local food products (Bessière, 2013; Guan et al., 2019), among others.

As described by Richards and analysed in the previous subchapter, food is becoming an emerging space in tourism production and consumption, as well as in the emergence of new "prosumption" practices and communities (Ritzer, 2015). At the same time, tourism is becoming a driving force in the transformation of food landscapes and their ongoing urbanisation processes and discriminations ('foodification'). These changes make it necessary to map and critically assess the social, ecological, and economic consequences of these changes to better understand the relationship and co-evolution between food, tourism, and urbanization processes, especially in terms of their potential implications and opportunities for strengthening urban-rural relations, regional development, diversification and competitiveness of the agriculture and food sectors.

5.6. Planning sustainable destination foodscapes

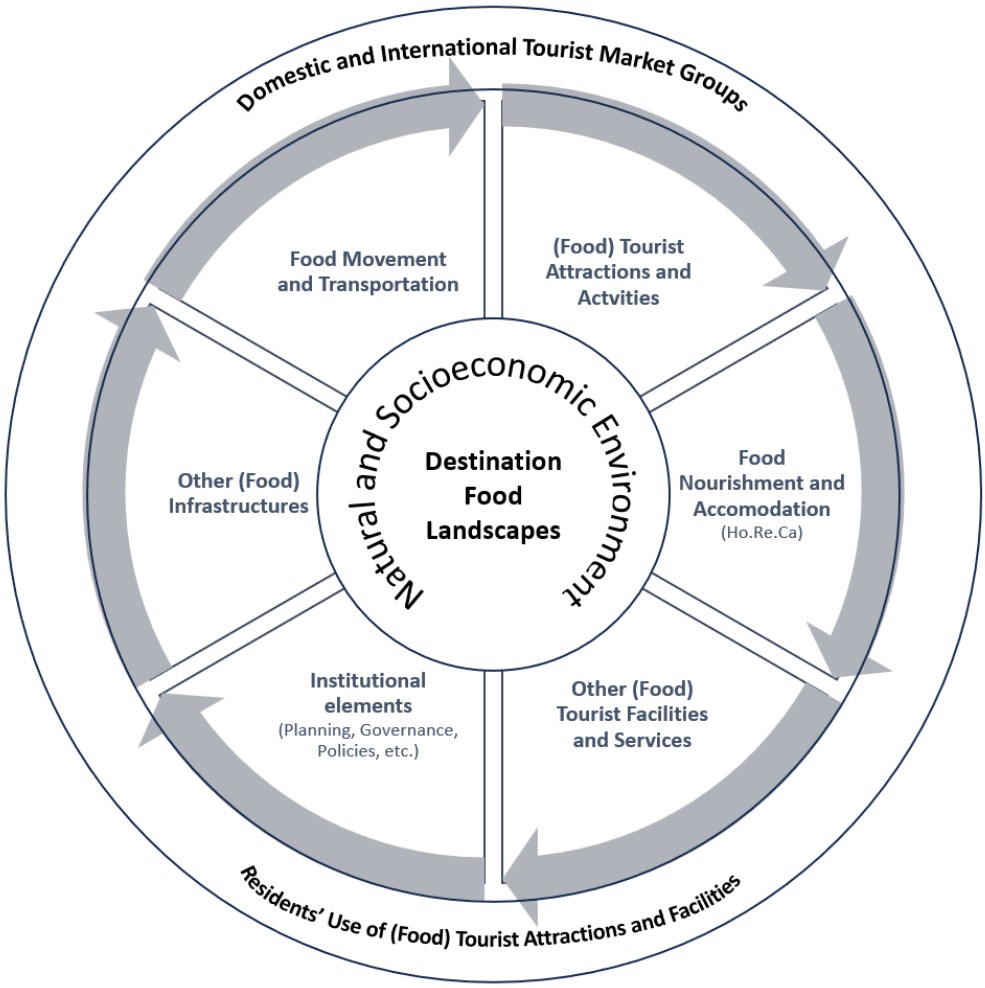
The proliferation of initiatives linked to food and tourism as a development strategy (see Annex 2) has led to a growing interest in planning for the development of destination foodscapes (WTO & Basque Culinary Center, 2019). However, as Hall (2000) argues, planning remains a difficult and ambiguous task, especially when applied to the dynamic field of food tourism and its territorial organisation. This section attempts to unravel the complexities associated with sustainable food tourism planning, recognising it as a strategic process of decision-making and socio-spatial organisation that aims to direct human action towards an agreed and desired future that contributes to the well-being of (food) communities and their environment (Hall, 2000; Saarinen et al., 2017).

Sustainable tourism emphasises the complex interaction between environmental, social, and economic aspects within the tourism system. It is rooted in the basic principles of sustainable development, emblematically articulated in 1987 in the Brundtland Report, *Our Common Future*, where it is defined as "development that meets the needs of present generations without compromising the ability of future generations to meet their own needs" (WCED, 1987). In this context, sustainable tourism manifests itself as a holistic development model that encompasses the economic, social, (metabolic) and aesthetic needs of both local people and visitors, ensuring the conservation of natural and cultural assets for the continuity of ecological processes, biological diversity, and life systems (UNWTO, 1998). The Countryside Commission for England defined it as tourism that "can sustain local economies without damaging the environment on which it depends" (1995), or as Swarbrooke puts it, an economically viable activity that does not threaten the physical environment and social fabric of the host community on which the future of tourism depends (1998). The World Tourism Organisation defined it in 1996 as the simultaneous satisfaction of the present needs of tourists and host regions, while protecting and enhancing opportunities for the future (1996), emphasizing in a more recent definition, "the full account of its current and future economic, social and environmental impacts, addressing the needs of visitors, the industry, the environment and host communities" (UNEP & UNWTO, 2005). These broader objectives call for more careful management of resources to ensure that economic and social needs are met while preserving cultural integrity, essential ecological processes, biodiversity and life support systems (UNWTO, 1993). The management of destination foodscapes must therefore address the delicate balance between social equity, environmental conservation, food culture and economic development of a community, not only to meet the immediate (food) needs of tourists and host communities, in a 'food in tourism' or 'food for tourists' approach, but also to ensure the continued viability and vitality of these destinations for future generations.

Based on the four approaches proposed by Getz (1987), as well as the review by Hall (2000), Saarinen et al., (2017), summarise the different strands and traditions associated with the evolution of tourism development and planning, outlining approaches ranging from conventional private sector-led strategies from the post-war period (1950s-60s), under a so called 'boosterism' and economic planning tradition, to spatial and environmental planning approaches (in the 1970s), community-based tourism, and emerging initiatives from the 1990s on sustainable tourism planning (Hall, 2000). As noted above, this latter approach focuses on the holistic and progressive integration of economic, socio-cultural, and environmental values in the development of tourism experiences, which are increasingly linked and considered in relation to food. As discussed by Saarinen et al. (2017), these early planning exercises emerged from a long tradition of research in the (economic) geography of tourism, focusing on the analysis of land use and location issues, and expanding to include studies on the modelling of

tourism development[137], related impacts, management and public policy, as well as tourism supply, demand, tourist flows and, more recently, tourism sustainability and resilience (Saarinen et al., 2017).

FIGURE 36: COMPONENTS OF DESTINATION FOOD LANDSCAPE PLANNING.



SOURCE: ELABORATED BY THE AUTHOR ADAPTED FROM INSKEEP, 1988, ALONG THE SIX MOMENTS OF FOOD SPACES.

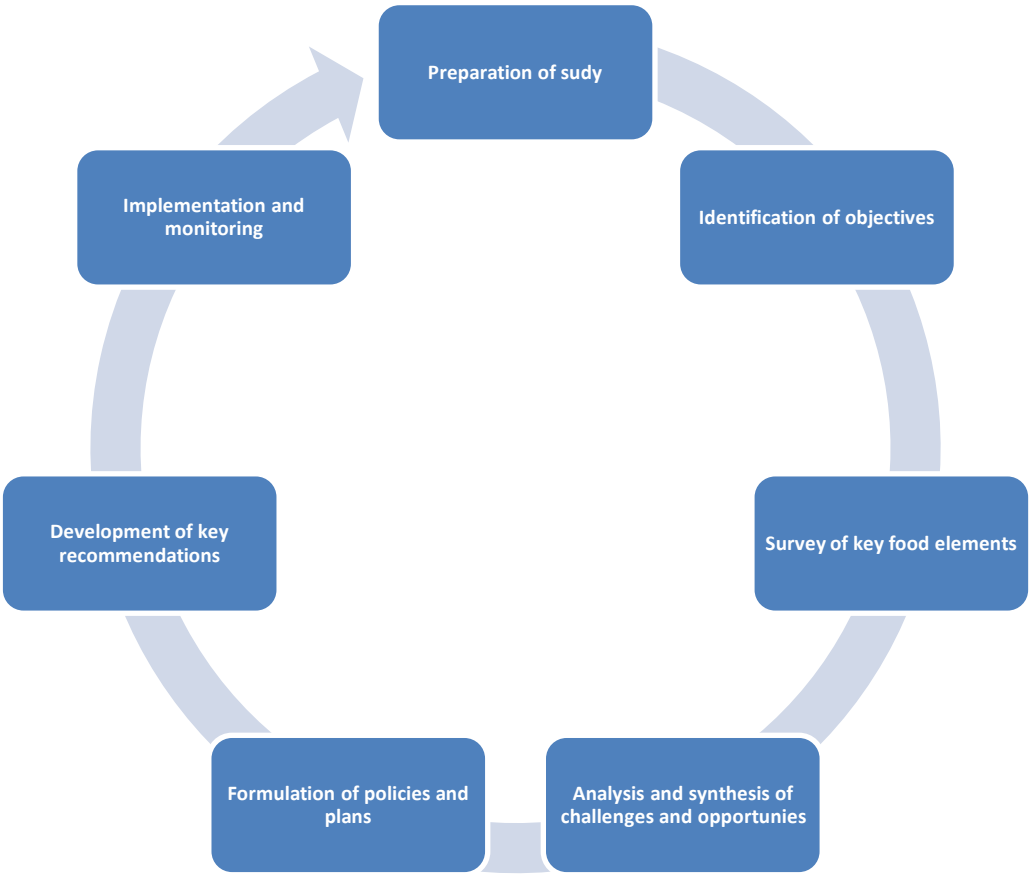
From an initial conception of tourism as a characteristic element of economic development in rural and peripheral areas, tourism began to be widely integrated as a tool for urban development in the 1980s. As explained in a tourism urbanisation approach with cases such as Gilbert's analysis of resort development in England (1939 in Saarinen et al., 2017) and by Mullins (1992) in Australia, many of these exercises have been intertwined with urbanisation processes supported by spatial, urban, and regional planning frameworks (Kranjcevic & Hjdinjak, 2019). Tourism is widely seen as a factor of progress and integration of remote and peripheral areas in the modern world (Vidal, 2021), intertwining different spatial scales, rural and urban, socio-economic, and environmental relationships. Integrating a sustainable approach therefore requires not only a focus on economic viability, but also an awareness of social and environmental impacts. This is in line with the broader call for a deeper social and economic theorisation of tourism development and planning, emphasising a holistic understanding of socio-spatial contexts and configurations, from the periphery to the urban environment. In doing so, Saarinen et al. (2017) argue for the need to adopt a holistic and historical

[137] Such as the emblematic *Tourist Area Cycle of Evolution model* presented by Butler (1980)

approach that contributes to understanding the mechanisms and trajectories of transformation in tourism destination development and planning.

As outlined by Inskeep (1988), tourism planning is a complex, multi-sectoral enterprise involving various physical, social, and institutional elements. Emphasising an integrated and holistic approach to achieving development objectives in harmony with socio-economic and environmental systems, tourism planning operates at different levels within a spatial planning hierarchy. These include international, national, and regional planning frameworks, as well as specific types of site development such as urban, mountain, coastal and resort planning. At the national level, tourism planning involves the formulation of development policies, strategies, spatial structure and means of implementation (Inskeep, 1988). At the regional level, it identifies policies, strategies, and technical recommendations for the implementation of these frameworks, for example through the organisation of transport networks, tourist attractions and resorts. Land use planning, site planning and architectural and engineering design are also essential components, involving consideration of visitor facilities, zoning, conservation measures and the precise configuration of public and private facilities (Inskeep, 1988). As Inskeep's (1988) model shows, the basic components of tourism development planning can include tourist attractions, accommodation, various facilities and services, transport, infrastructure, and institutional elements. On the other hand, the planning process follows a structured approach that includes the preparation of studies, identification of objectives, survey, analysis and synthesis, formulation of policies and plans, recommendations, and implementation and monitoring (Inskeep, 1988). Figure 36 summarises these different elements in relation to the six moments of food proposed in the previous section and the planning of destination food landscapes, while Figure 37 illustrates the different steps of this planning process.

FIGURE 37: PLANNING PROCESS OF A DESTINATION FOOD LANDSCAPE.



SOURCE: ELABORATED BY THE AUTHOR BASED ON INSKEEP, 1988.

The UNWTO and the Basque Culinary Centre propose a step-by-step approach to strategic planning for gastronomic tourism, including project initiation, analysis, policy formulation, operational planning, and communication and dissemination (2019). These comprehensive planning frameworks aim to ensure the alignment of tourism developments with broader regional and national objectives, while addressing the complex interaction of spatial, social and institutional elements that influence the organisation and functioning of their associated destination food landscapes. Some examples of destination food landscape planning can be found in different countries, such as the project for the Promotion of Food Landscape Tourism in the Northeast Region of Brazil[138], the Strategy for the Improvement of the Competitiveness of Gastronomic Tourism in Chile and its Activation Plan[139], the Gastronomy and Tourism Master Plan 2018/2020 of Tenerife in Spain[140], the Committee for the Promotion of Gastronomy of Quintana Roo in Mexico[141], the Northern Ontario Gastronomy Tourism Implementation Plan in Canada[142], the Action Plan for the Development and Marketing of Gastronomic Tourism 2019 - 2023 in Slovenia[143], among many others (see Annex 2).

5.7. Conclusion

Increasing political and private efforts continue to express and advocate for the key opportunities of tourism as a driving force to combat rural abandonment and to valorise natural, cultural, and agricultural landscapes (Sharpley, 2002; Rocket et al., 2016; SNAI, 2019). At the same time, scholars continue to provide evidence of the geomorphological (Bartolini, 2011, 2017, 2021) and socio-cultural transformations brought about by tourism developments, especially along the Mediterranean coasts, contributing to (urban) expansion (Stock &, 2012; Coëffé & Stock, 2021), metropolitan dominance over weaker destination peripheries and landscapes (Terkenli et al., 2018), and in some cases also leading to a loss of self-reliance in rural areas (Bianchi, 2002: 270). Portugal (Mendes et al., 2023) and Italy (Garibaldi, 2023) are two of the leading countries in the relationship between food and tourism in Europe. Nevertheless, further exploration in terms of their territorial strategies and plans, as well as food planning, social and spatial governance and organisation remains still unexplored, especially with regards to the growing socio-environmental challenges these areas and sectors are being confronted under evolving climate change and tourism developments.

Under these premises, there is a growing need to analyse and reveal broader and historical transformations related to tourism and urbanisation processes in food spaces, which provide key indications for informed policy-making and strategic management of contemporary urban-rural relations. The call for a critical geography of urban change and tourism developments (Britton, 1991; Pierce, 2001) beyond 'cityscapes' (Coëffé & Stock, 2021) brings us to the analysis *of urbanising food landscapes* (=foodscapes) as a conceptual and planning approach and tool for understanding past and ongoing transformations resulting from the functional and morphological integration of tourism and urbanisation processes in food spaces (Ashworth, 1989). This approach to food, not only as a system

[138] https://www.embrapa.br/busca-de-eventos/-/evento/472640/paisagens-alimentares-conectando-territorios-pessoas-e-cultura-alimentar

[139] https://www.transformaturismo.cl/wp-content/uploads/2022/02/2.c-Estrategia-para-el-mejoramiento-competitivo-del-Turismo-Gastronomico-de-Chile-y-Plan-de-activacion-2020.-Subsecretaria-de-Turismo.pdf

[140] https://www.webtenerife.com/-/media/files/corporativa/que-hacemos/actuaciones-en-destino/plan-director-de-gastronoma-y-turismo-20182020/relateddocuments/doc/plan-director-de-turismo-y-gastronoma-de-tenerife.pdf

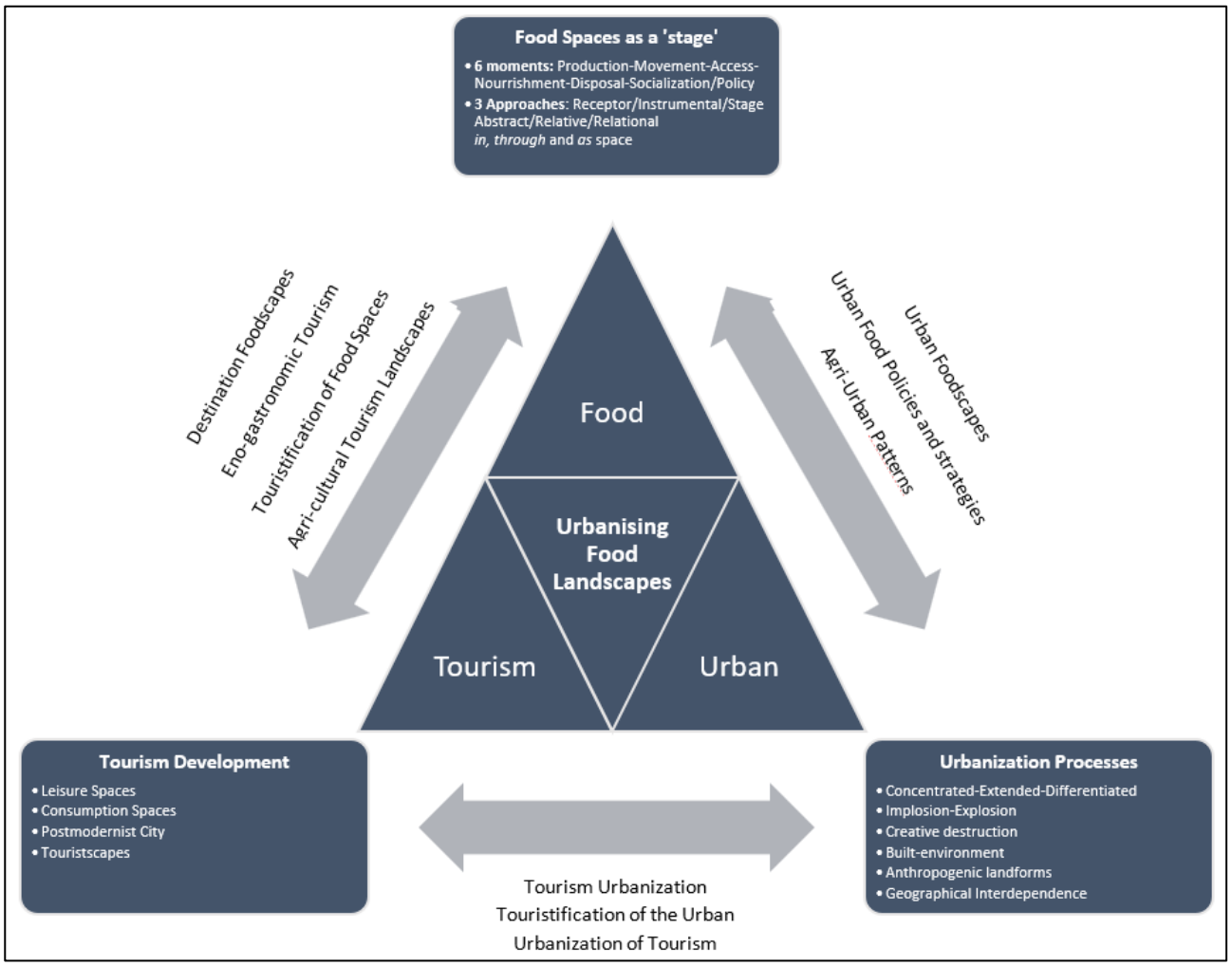
[141] https://sedeturqroo.gob.mx/FomentoGastronomia/index.php

[142] https://destinationnorthernontario.ca/wp-content/uploads/2022/02/DNO-FoodTourismImplemntationPlan-2019.pdf

[143] https://www.slovenia.info/uploads/gastronomska_regija/action_plan_for_the_development_and_marketing_of_gastronomy_tourism_2019-2023.pdf

but also as a (social) space, can contribute to a better integration of food as a socio-spatial infrastructure for the design of (urban-rural) strategies, plans and policies to mitigate the impacts and take advantage of the opportunities of our current sustainability challenges.

FIGURE 38: KEY CONCEPTUAL INTERRELATION USED IN THIS RESEARCH BETWEEN FOOD SPACES, TOURISM DEVELOPMENTS AND URBANIZATION PROCESSES UNDER A LANDSCAPE PERSPECTIVE.



SOURCE: ELABORATED BY THE AUTHOR

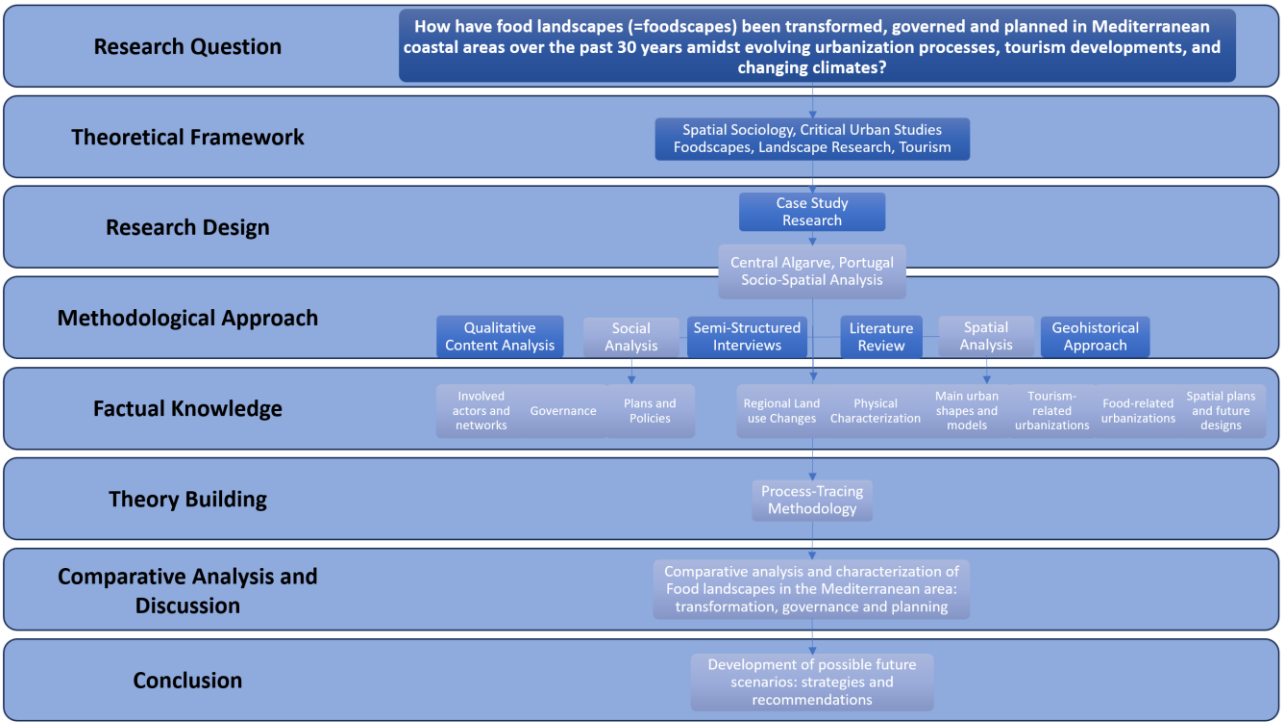
This study builds on previous work on the role of tourism as urban space in changing world systems relations between centralities, semi-peripheries and peripheries (Wallerstein, 1974; 2004; Hoivik & Heiberg, 1980; Holleran, 2019), socio-spatial inequalities (Manuel-Navarrete, 2012; Morales-Pérez et al., 20-22), urban-rural relations (Tizzoni, 2020), destination foodscapes (Björk & Kauppinen-Räisänen, 2019; Bernardo et al., 2021), 'foodification' (Loda et al., 2020; Bourlessas et al., 2022) and landscape transformations (Terkenli, 2002; Almested, 2014; Terkenli, 2014, Terkenli et al., 2018; Alberti et al., 2018; Garrido i Puig et al., 2018), shedding light on how this is planned, governed and expressed in the socio-spatial transformation of (urban) food landscapes. Building on a spatial sociology (see subsection 2.3), critical urban theories (see subsection 3.1), and landscape approaches (see chapter 4), this research develops what has been conceptualised as a '*tourism urbanization*', 'urbanisation *of* tourism' and '*touristification*' of the urban in destination foodscapes. In these processes, tourism acts as a vector and driver of urban transformations, dividing but also relating urban centres to their territory and places through new (urban) imaginaries, values, worldviews, practices, norms, cultures, and gazes (Urry, 1990). The focus of this research is not on the tourist experience itself, but on how food landscapes are changing and are being planned as a result of

evolving tourism developments and climate change, from the perspective of those who live in and are actively involved in the food system: farmers, policymakers, Non-Governmental Organizations (NGOs), private companies, researchers. This study seeks to broaden the scope of the transformation of food landscapes by tracing how tourism triggers processes of urbanisation in different food spaces, how urban cultures inform the production of food tourism spaces, and how the *'touristification*' of the urban is being mediated through food in the production of *urbanising food landscapes*.

6. Research Methodology: Transformation of Food Landscapes, Tourism Developments and Climate Change

The aim of this thesis is to examine urban mediated transformations of food landscapes and to identify the socio-spatial governance and planning structures driving these processes. The thesis focuses on the contribution of a food landscape planning approach to climate action[144] and sustainable tourism strategies in regional and urban areas. Against this background, this thesis aims to answer the following research question: *How have food landscapes in Mediterranean coastal areas been transformed, governed, and planned over the last 30 years amidst evolving urbanisation processes, tourism developments and climate change?* The research hypothesis is that urban transformations of food spaces are not limited to urban cores but are shaped by and shape wider territories that can be better analysed and planned through a food landscape approach. Socio-spatial transformations reported over the period from 1989 to 2019 are assumed to be part of urbanisation processes, changing the way food is produced, processed, distributed, consumed, socialised, politicised, wasted, and valorised in case studies. In doing so, this research presents a comparative (Tilly, 1984; Robinson, 2011, 2015) multi-case study research (Yin, 2014; see subsection 6.1) between two Mediterranean coastal areas under a landscape and geohistorical approach (Piovan, 2020; see subsection 6.3.1). The collected data will be organised and interpreted according to a process-tracing methodology (Beach & Pedersen, 2019; see subsection 6.4) that will shed light on the main socio-spatial transformations, constitutive properties and geographies underpinning the historical urbanisation processes and tourism developments of the case studies. The related implications for food spaces, public policy, planning, and urban studies will then be discussed.

FIGURE 39: STRUCTURE OF THE PHD RESEARCH.



SOURCE: ELABORATED BY THE AUTHOR.

The methodological approach adopted in this research aims to operationalise the concept of *urbanising food landscapes* through the analysis and conceptualisation of the historical socio-spatial transformation of Mediterranean coastal areas, in order to understand and enhance the complex

[144] See footnote 2 on the definition of climate action.

realities and interrelationships of contemporary urban and tourism development processes in food spaces. The research adopts a mixed-methods approach, using both qualitative and quantitative data analysis, as well as primary and secondary sources from a series of semi-structured interviews, systematic transdisciplinary literature reviews and spatial analyses. Geographical Information Systems will be used to map and understand historical land use and land cover changes, agricultural production systems, evolving tourism infrastructures and climate change in relation to the two Mediterranean case studies (see Annex 5 with the main data sources for each food moment), and to present related urban-rural interdependencies from a landscape and geohistorical perspective (Piovan, 2020). The process-tracing methodology (Beech & Pedersen, 2019) is used to trace these processes and to shed light on the causal mechanisms and social and economic forces triggering the socio-spatial transformation of our two Mediterranean food landscapes. The research contributes to the identification of the main landscape planning approaches and governance structures in literature and practice, with a particular focus on our two case studies. It provides key examples of how food landscapes are or can be integrated into current policies, plans and strategies related to landscape, climate change, tourism, and food systems. The study offers recommendations for operationalising a food landscape approach and explores its implications for an expanded 'urban food question' in regional and urban planning studies, outlining potential opportunities, challenges, and possible future scenarios. Figure 39 summarises the research structure of this thesis, including the different steps from the research question (Part 0), theoretical framework, research design and methodological approach (Part 1) to the case studies analysis (Part 2), theory building, discussion, future recommendations, and final conclusions (Part 3). The different methodological choices and approaches are explained in the following subchapters.

On the basis of this structure and design of the research, the following expected outcomes and contributions have been identified:

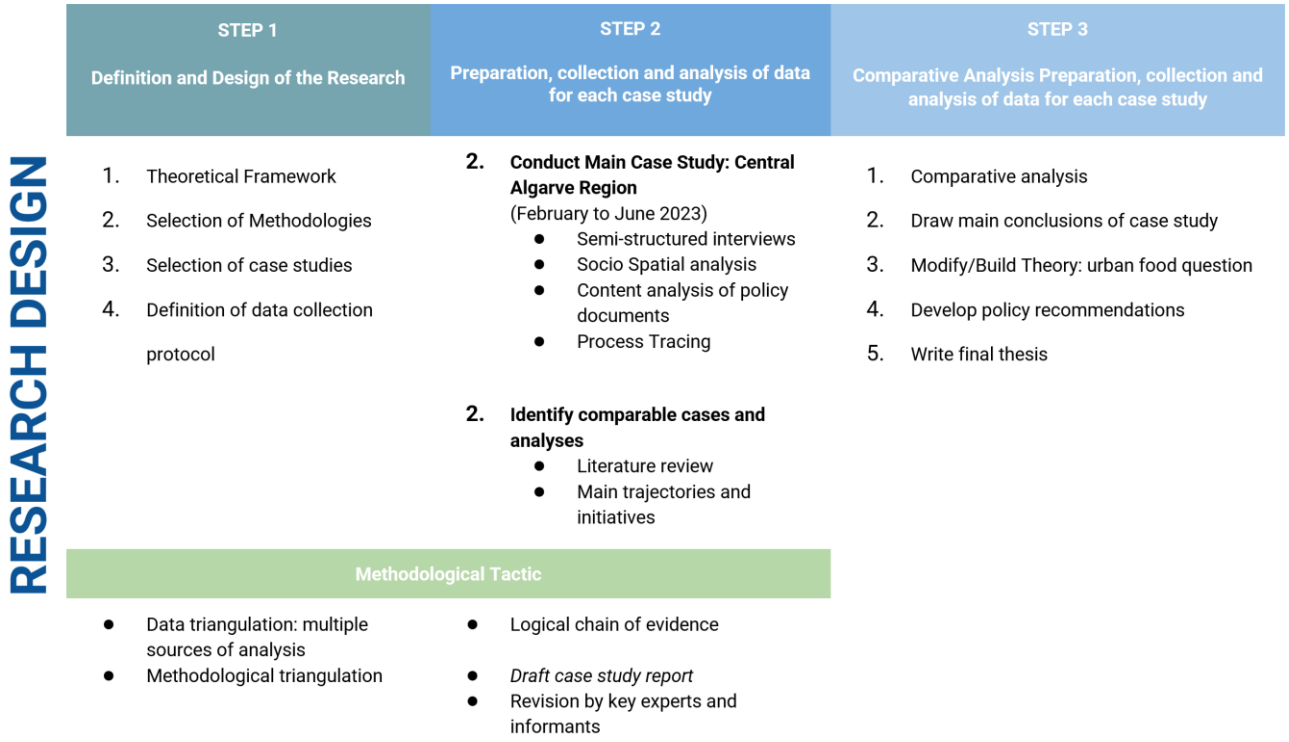
- Key socio-spatial transformations in food spaces under evolving urbanisation processes and tourism developments are identified, highlighting causal mechanisms, drivers and actors involved in these changes.
- Socio-ecological interdependencies between urban and rural areas are explored and operationalised through a systemic food landscape approach.
- Key planning and governance approaches to food landscapes are identified in the literature and practice.
- Key examples of how food landscapes are or can be integrated into tourism and climate change policies, plans and strategies are provided, and their implications for an expanded 'urban food question' in planning and urban studies are explored.
- Potential opportunities, challenges, and future scenarios are outlined, and key recommendations on best practices and strategies for planning and promoting a food landscapes approach for climate action and sustainable tourism are provided.

6.1. Case Study Research Design

The renewed engagement of scholars in Europe and globally on the analysis of urban food systems has increased the need for more systemic and comparative research that integrates empirical, analytical, and contextual evidence into decision-making processes about what has worked so far and why, how different (urban) food systems have been transformed, and what conditions and types of

organisational structures and forces are at play (Torre & Traversac, 2011; Calori, et al., 2017). Comparative analysis (Tilly, 1984; Robinson, 2011, 2016; Le Galès & Robinson, 2024) and case study research (Yin, 2014) provide us with a valuable tools in this regard, supporting analyses to 1) capture the *complexity* of food systems and urban processes, 2) reveal the intervening *social and economic forces*, 3) understand the *specificities* of the case study, and 4) discover the key *patterns and generalities*, that describe and represent the different trajectories of historical urbanisation processes and tourism developments in the Mediterranean area. Robert Yin defines case study research as an empirical investigation that examines contemporary phenomena within their actual contexts (2014). In this sense, case study research seeks to explore the *contextual conditions* of phenomena of interest, especially when the boundaries between these two cannot be clearly delineated (Yin, 2014).

FIGURE 40: RESEARCH DESIGN USED IN THIS THESIS.



SOURCE: ELABORATED BY THE AUTHOR BASED ON YIN, 2014.

The case study design does not aim to achieve statistical generalisations that define a direct causality between the different variables of a phenomena (Yin, 2013), but to understand the contextual conditions and trajectories in which these real-world phenomena develop in different contexts. In doing so, this research aims to contribute to the calls outlined by Sonnino (2023), Béné (2023), Sage (2022), and Saarinen et al. (2017), among others (see subsection 1.2 on food systems transformation), to focus efforts not only on the current consequences of food systems transformations and planning themselves, the 'what', but on building demonstrable empirical evidence to support the identification of the specific enabling conditions and causal mechanisms, the 'how', driving these processes in the past. This study aims therefore to contribute to the identification of main transformation patterns of food landscapes, outlining main configurations and infrastructures, local strategies and the role of planning and governance in these processes through a socio-spatial analysis.

The design of this research will be guided by the methodological approaches developed by Robert Yin in his book, *case study research: design and methods* (2014), by the recent publication of Silvia Piovan (2020) on the methods and applications of the landscape approach under a *geohistorical*

perspective (2020) and by Glaser and Strauss, in their seminal book on *the Discovery of Grounded Theory. Strategies for Qualitative Research* (1967). Following these approaches, this study employs five main tactics and steps to increase the validity and robustness of the methodological design (See Figure 40 for a summary of the case study research design, including key steps and methodological tactics).

The first step comprises the definition and design of the research through the development of the theoretical framework, the selection of methodologies, the case studies, and the design of the data collection protocol. Two methodological tactics were used in this phase: the first tactic relates to the use of *multiple sources of evidence* (data triangulation) through the adoption of a mixed methods approach for the collection and analysis of both quantitative (spatial and statistical data) and qualitative (scientific and technical literature, semi-structured interviews, policy documents, historical photographic collections and empirical observations) data sources (see Table 10 with the different types of data and their respective analysis used in this research). The second tactic makes use of a *methodological triangulation*, promoting convergent lines of enquiry and methodological approaches, structured here through a socio-spatial analysis based on geohistorical research and the use of geographical information systems (Piovan, 2020; see subsection 6.3.1), semi-structured interview methods (McIntosh & Morse, 2015; see subsection 6.3.2), literature reviews and qualitative content analysis of current policy documents. As discussed by Silvia Piovan, the implementation of a geohistorical research approach relies on the use of different methods to collect and analyse the complex empirical material to which we are confronted (2020).

The second stage of this research involves the preparation, collection, and analysis of data for each case study. In this phase, two additional methodological tactics were used. As suggested by Yin (2014), the third tactic relates to the establishment a *logical chain of evidence*, linking and organising our factual knowledge with the casual mechanisms that interact in the socio-spatial transformations of the selected Mediterranean food landscape, operationalised by the process tracing methodology proposed in this study (Beach & Pedersen, 2019; see subsection 6.4). The fourth tactic proposes the development of *draft case study report* and their revision by key informants and experts, which were carried out using a grounded theory approach (Glaser & Strauss, 1967) to ensure that the emerging findings are consistent and appropriate to local realities and contexts.

In the last step, the comparative analysis between the two case studies is carried out (see subsection 6.2), from which the main findings are drawn, and the main conclusions and policy recommendations are discussed and elaborated. As Glaser & Strauss emphasize, the relevance of a theory to contemporary sociology cannot be separated from the process by which it is generated (1967). Following this grounded theory approach (Glaser & Strauss, 1967) and the theory-building perspective used in the process-tracing methodology, this research attempts to contribute with new theoretical propositions by following an inductive approach based on the analysis of the data and empirical evidence collected in each case study. From these findings, key conclusions are drawn, and key policy recommendations are formulated and discussed in the final conclusions.

TABLE 10: TYPE OF INFORMATION AND ANALYSIS USED IN THIS RESEARCH.

Type of Data	Type of Analysis	Key elements
Statistical Data	Quantitative	Agricultural area and census, tourism visitors and information, socio-economic information, food-related information (diets, enterprises, waste, distribution).
Spatial Data	Quantitative and qualitative	Physical Characterization of the region; regional land use changes; main urban shapes and models; tourism-related urbanizations and infrastructures; food-related urbanisations and infrastructures; formal plans and futures designs; regional climate change scenarios, risks & vulnerability analyses (Table 12), making use of Geographical Information Systems (GIS).
37 Interviews	Qualitative	Semi-Structured Interview to identify main perceptions, drivers, narratives, and actors involved; food governance structures, initiatives, and actions; as well as main transformation pathways, motivations and goals.
Historical photographic collection	Qualitative	Trace and compare main spatial changes from a viewers' perspective
Scientific and technical literature	Qualitative	Review of state-of-the-art literature on urbanization, tourism-related urbanization, food systems, food planning and policies, landscape research, transformations, and food governance
Food-related plans and policies	Qualitative	Content analysis of the role of food (landscape) dimensions in main urban, landscape, tourism and climate change plans and policies (agricultural areas, provision of food, food industries and processing areas, waste management, food consumption and healthy diets, urban-rural relations, climate action).
Empirical Observation	Qualitative	Observe, participate, and analyse different types of relationships between urbanization processes, tourism developments and ongoing food transformations

SOURCE: ELABORATED BY THE AUTHOR.

6.2. Selection and comparison of case studies: Central Algarve (Portugal)

6.2.1. Selection Criteria and relevance of case studies

This section details the methodological approaches and tactics used in the selection of case studies for the analysis of food landscape transformations in European Mediterranean coastal areas.

The comparative methodological approach of this research builds on recent works by Jennifer Robinson and Patrick Le Galès in the development of their latest publication on *comparative global urban studies* (Le Galès & Robinson, 2024). These approaches consolidate earlier work developed by Charles Tilly on comparative historical analysis methods and previous propositions presented by Jennifer Robinson on what she defined as a *comparative urbanism* (2016). These works have made important contributions to broader conceptualisations and discussions about the 'urban' across the diverse and divergent contexts of urban experiences and processes, in what Robinson identifies as a "proliferation of approaches to re-theorising the *urban across difference"* (2016).

These growing efforts trace opportunities to think and decentre the analysis of the urban with an emphasis to *difference* and theoretical diversity, identifying shared features or 'repeated instances' across a variety of contexts, places, and territories (Robinson, 2016; Le Gales & Robinson, 2024). As Le Galès and Robinson report, drawing on the perspective of Jacobs (2012), comparison provides the basis for thinking across cases, making connections, and generating concepts to explore the different spatialities of the urban 'beyond the single city'. Manuel Aalbers argues that the potential of these approaches lies not in their ability to support the understanding of *all* places, but in their contribution to informing us about the different faces, realities, and trajectories of a phenomenon through a comparative effort (2024) that enriches our understanding of the urban and the world in, through and beyond the city (Aalbers, 2024) and its related food systems. These approaches reinforce the theoretical discussions presented in the previous chapters of this thesis under the concept of an *urbanising food landscapes*, contributing to a comparative understanding of our food systems and their ongoing and highly differentiated urban mediated social and spatial transformations.

In his analysis of comparative historical analysis, Charles Tilly (1984) proposes the identification of four types of comparison, defined as a 1) *individualising*; 2) *universalising*; 3) *variation-finding*; and 4) *encompassing* comparative strategies. Jennifer Robinson on her seminal work on the taxonomy of urban comparison, propose six additional comparative tactics, from a) '*comparative gesture*', as the "*light touch* of referring to different urban contexts"; b) putting *cases in wider conversations,* emphasizing the development of detailed case studies and their theoretical implications; c) *composing comparisons*, which can be grounded in shared features, repeated instances or unexpected comparisons; d) *tracing connections* between different places and practices; e) *launching analyses* through the generation of concepts in specific contexts and with wider application; and f) the *limits of translation,* regarding the generation of case-specific outcomes and distinctive meanings (Robinson, 2016). In the context of urban policy, Alison Post (2024) traces different uses and approaches, recognizing the analytical advantage of comparing relatively similar cases, also referred to as 'most similar systems' (Przeworski & Teune, 1970 in Post, 2024), to explore variations of a particular phenomenon across small number of cases. Based on the objectives and research question of this thesis, and building on these complementary approaches, this research decides to adopt an "encompassing" comparison strategy (Tilly, 1984), setting a 'convergence' and 'composing comparison' tactic for the analysis of our main case study with respect to similar studies in the Mediterranean coastal area and their different trajectories. This approach focuses on the examination of shared features and variations while recognizing the connection and relation of the case study with the assumed overarching processes and phenomena that, for the specific purpose of this thesis, relates to an urban mediated transformation of food landscapes. For this scope, similar studies in the Mediterranean coastal areas have been selected to be compared to our case study on the basis of the following criteria: 1) *relevance* to the current and historical situation, 2) *focus* on the phenomena under analysis, 3) *universal applicability* of results, 4) *data availability,* and 5) *policy* recommendations.

The Mediterranean region has undergone major environmental, economic, and social changes over the last 50 years, linked to climate change (MedECC, 2020), increasing population concentration, urban expansion and extensive tourism development along its coastal zones (Lagarias & Stratigea, 2022). These transformations have led to significant vulnerabilities, geomorphological changes (Brandolini et al., 2017, 2021), abandonment and renaturation of rural hinterlands (McDonald, 2000), hydrogeological risks, and increased competition and erosion of agricultural practices and fertile lands (Alphan et al., 2022), especially in mountain areas (Brand & Pettenati, 2022). Concomitantly,

this has also encouraged the development of a growing number of strategies and policies at both local and institutional levels to respond to their negative impacts along their various territories. Landscape policies connected to tourism development, conservation and climate adaptation strategies have also multiplied over these periods, presenting a critical scale of analysis to give sense, plan and manage the relationship between humans and ecosystems, inland and coastal areas. In their recent study, Brand and Pettenati (2022) shed light on the specificity of highly anthropized mountain landscapes, highlighting current strengths and weaknesses to reconnect these areas in virtuous development processes. As the authors present, the literature on mountain territories and communities has been largely approached from the Global South, providing perspectives on food insecurity and food sovereignty, while in the Global North this debate has been directed in relationship with urban (city) territories. The growing recognition of the importance of food systems in relation to these spaces calls for greater efforts to integrate and analyse the transformations of food systems, as well as to shed light on their emerging initiatives, practices and policies that are and can provide local responses to contemporary challenges (Brand & Pettenati, 2022). These complex and dynamic processes require a better understanding of their different trajectories and impacts at multiple scales, connecting both urban and rural, mountain and coastal areas in a comparative food landscape effort. The ongoing transformations in Mediterranean coastal and inland areas offer a valuable set of experiences and initiatives to be explored through a comparative methodology, providing further knowledge and empirical evidence on the different processes and trajectories of these processes in their various territories.

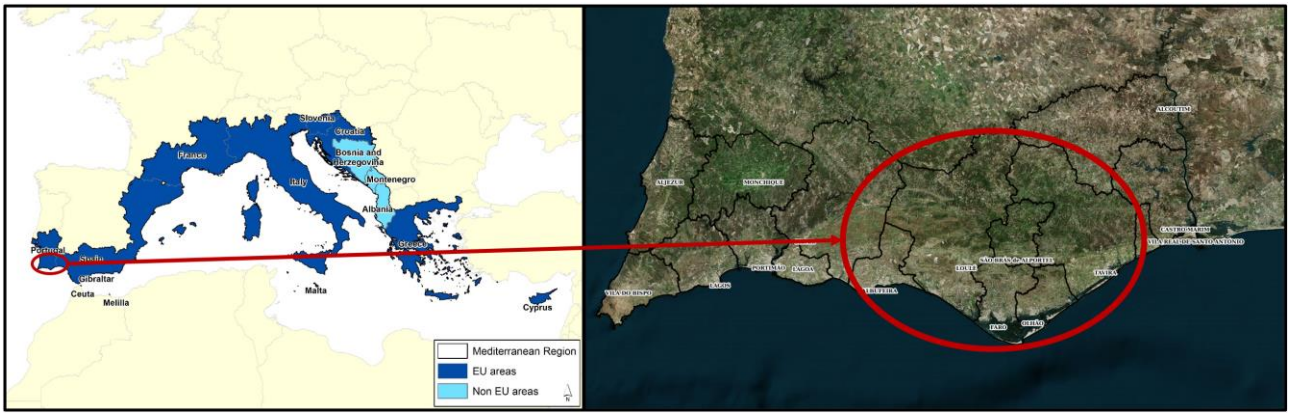
Despite the growing interest in the global need to (sustainably) transform the food system, there is still little research on how these processes have historically been shaped and supported at the regional level and the different trajectories and mechanisms that have facilitated these developments (Dengerink et al., 2021). This research aims to analyse and compare the different influences and interdependencies generated by urban-mediated transformation processes of food systems at both urban and rural levels, building a comparison exercise based on a main case study (Central Algarve) that will be compared to other similar Mediterranean areas, as carried out by De Bruin et al. (2021) for the case of Sub-Saharan Africa and South Asia. The research thus seeks to decentralise the strong emphasis currently placed on main cities and their food systems (e.g. Milan, Lisbon, Turin, Paris, London, Amsterdam, New York, Toronto, etc.), which have gained great visibility in the food literature thanks to their increasing engagement and integration of food in their urban and metropolitan policies. While acknowledging these important insights and efforts, this thesis seeks to shed light on the processes of under-represented regions of the European Mediterranean area where tourism has played and continues to play a major role in their economic and development strategies, especially in their internal areas, and to identify emerging initiatives, policies, and new opportunities for the future. These ‘less visible’ areas offer equally important lessons to reflect upon and contribute to academic and policy discussions on the transformation of the food system and the possibilities of a food landscape approach, planning, and action.

Based on these criteria, this thesis proposes the analysis of a main case study in the Central Algarve area[145] (Figure 41 and Table 11), as the “Mediterranean Portugal” (Ribeiro, 1987), that will be briefly compared to similar studies done by other authors across the Mediterranean coastal areas. This analysis builds on previous comparative efforts developed by the Italian geographer Gaetano Ferro

[145] For the purpose of this thesis the central Algarve corresponds to the jurisdictional areas of the municipalities of Albufeira, Loulé, Faro, São Brás de Alportel, Olhão and Tavira.

(1974), who provided one of the first insightful regional comparative analyses of Algarve and other Mediterranean regions (Sicily and Liguria). Despite the divergent socio-economic, geographical, and cultural trajectories between across these areas, this exercise is helpful to draw key learnings and insights with regard to the 'uniqueness and similarities' of the identified urbanisation processes and trajectories in our case study that could be of special interest for this analysis. Firstly, as in the case of the Algarve region, comparable cases are located in a Mediterranean coastal area, demonstrate strong agglomeration processes along the coast and are representative examples of tourism developments in their respective countries. Secondly, comparable cases exhibit a robust agricultural (or fishing) background and a connection to their hinterland, displaying indications of transformation with the advent of the tourist boom during the 1970s or in more recent periods. This 'food' base plays a pivotal role in this study, representing the nexus between urban areas and their hinterlands, as well as a vital conduit between coastal populations and their internal mountainous or semi-mountainous ecosystems. The rapid changes in local ecosystems, linked to urbanisation and modernisation processes, thus represent a convergent element between the main study and its comparative cases. This is reflected in the progressive abandonment and socio-economic marginalisation of inland communities, which have identified in tourism a potential strategy and political narrative for the revival and sustainable development of their territories. Thirdly, comparable cases share similar geographical locations, being close to important urban centres in their respective countries (such as Lisbon in the case of Algarve), which have exerted significant market and economic impact on the tourism development of these regions. Similarly, comparable cases are located in border areas (such as Algarve and Spain) with neighbouring countries whose economic and tourism development has been a driving force and influence for the region (Seville and Andalusia in the case of the Algarve), and which continue to be key poles of tourism attraction. Another noteworthy feature of the Central Algarve region is the emergence of collaborative initiatives involving a diverse array of stakeholders, including local, inter-municipal, and regional authorities, local producers, consumers, NGOs, academia, and private organisations. From the initial experiences initiated in the 1990s with the LEADER programme (see Box 1) to the recent launch of the REVITALGARVE initiative within the Recovery and Resilience Plan (PRR), these collaborations have identified food systems as a valuable foundation upon which to unite efforts and respond to regional challenges and opportunities from a bottom-up and interconnected approach that links food and tourism development. This study will therefore concentrate on the comparison of main transformation trajectories, as well as on recent local initiatives, actors and policy frameworks aimed at the protection, revitalisation and promotion of rural-urban linkages through food and tourism. Figure 41 illustrates the identified geographical areas that will be analysed in this study.

FIGURE 41: SELECTED CASE STUDY IN THE MEDITERRANEAN AREA.



SOURCE: ADAPTED BY THE AUTHOR BASED ON CLIMATE-ADAPT, 2022 AND IDEALG, 2023

TABLE 11: KEY CHARACTERISTICS OF MAIN CASE STUDY: CENTRAL ALGARVE, PORTUGAL

Area	Municipalities	Total area (km2)	Population 2019	Population density in 2019 (Ind. per km2)	Population (1991 - 2019) in %	Total tourist arrivals in 2019
Central Algarve	CM Faro	202,57	67.632	333,9	+33,2%	308.920
	CM Loulé	765	71.643	93,7	+52,9%	703.801
	CM Olhão	130,9	44.290	338,3	+20,3%	60.852
	CM Albufeira	140,15	44.464	317,3	+41%	1.752.240
	CM Tavira	607	27.155	44,7	+9,2%	201.005
	CM São Bras de Alportel	150	11.018	73,5	+46,4%	7.661
	Total	**1.995,62**	**266.202**	**119,5**	**34,2%**	**3.034.479**

SOURCE: ELABORATED BY THE AUTHOR BASED ON INE

6.3. Socio-Spatial Analysis

This section describes the different methodological approaches and tools that were used in the socio-spatial analysis proposed by this research. The chapter also presents the main indicators and data sources for both spatial (geo-historical approach) and social (semi-structured interviews and process-tracing methods) analyses.

6.3.1. Spatial Analysis and data collection

The geohistorical approach has been defined by Silvia Piovan as a "multi- and interdisciplinary approach that uses techniques and perspectives, mainly from geography, history, and natural sciences, to examine topics that inform the space-time knowledge of environment, territory, and landscape" (2020). The geohistorical approach becomes a useful methodological basis for our spatial analysis of food landscapes, revealing the long-term relations between human-induced changes connected to urbanisation processes and tourism developments in case studies. As examined in detail by Piovan (2020), building on Antrop (2017), the geohistorical approach has been inspired by the traditions and legacy of modern fields of study such as historical geography (Mitchell, 1954; Baker & Billinge, 1982; Butlin, 1993; Graham & Nash, 2000; Baker, 2003; Rose, 2008; Morrissey et al., 2014), historical ecology (Butlin & Roberts, 1995; Egan & Howell, 2001; Meyer & Crumley, 2011), and geoarchaeology (Brown, 1997; Rapp & Hill, 2006), that were produced in part by the works of the French Annales School, the American Carl O. Sauer, and the British Henry Clifford Darby (see Antrop, 2016 and Figure 14).

The geohistorical approach places a key emphasis on the relation between space and time (Mimeur, 2016), reflecting, as proposed here through the study of food landscapes, the long-lasting interactions between the physical environment and human societies (Whyte, 2013). The ongoing dialectical relations between humans' acts and the acts of nature are made manifest in our relation to food and the production of landscapes in our daily need to feed each other (Crumley, 1994). In doing so, this

approach makes use of a large variety of sources to collect and analyse data, such as written records, photographs, maps, remote sensing and other visual materials, artefacts, field surveys, and geomorphological surveys (Piovan, 2020), making especial use of Geographic Information Systems[146] (GIS). This research proposes the use of three different GIS platforms and interfaces for this spatial analysis: regional GIS platforms and databases such as the IDEAlg in the Algarve (https://idealg.ccdr-alg.pt/geoportal/mapa/viewer), the Esri's mapping software ArcGis 10.8, and the Earth Map[147] interface (https://earthmap.org/) developed by the Food and Agriculture Organization (FAO) based on the Google Earth Engine (GEE)[148] technology (https://earthengine.google.com/).

As elaborated by Piovan (2020), the geohistorical perspective becomes a valuable methodology in the study of contemporary urban development impacts in food spaces mainly for three reasons: First, "it is fundamental to an understanding of the *dynamics* of and *changes* in the system that produced a particular setting or situation" (Piovan, 2020; emphasis added). In our case, this could be reflected in a better understanding of the social and economic forces interacting and being reproduced in the widespread socio-spatial transformations of food landscapes being mediated by contemporary capitalist urbanisations and tourism developments. Second, "the historical perspective can help in the management of *problem-solving* and *decision-making processes*, such as the restoration of sites and practices" (Piovan, 2020; emphasis added), collecting scientific evidence on best pathways and strategies to plan and promote food landscapes in a sustainable manner. And third, "the creation of a *scientific record* related to a site, or a process will provide more value if the temporal (historical) dimension is added" (Piovan, 2020; emphasis added), helping experts understand how a particular site has been transformed and why it "should or should not be protected and valorised", building key recommendations on the best way to proceed in their protection, planning and active promotion. As synthetized by Piovan, the geo-historical research supports the understanding of the historical and social production of food landscapes as "*geohistorical products*" (Piovan, 2020).

Building on these approaches, the spatial analysis section of this research focuses its attention on seven key elements connected to the transformation of food landscape of case studies from 1989 to 2019: 1) physical characterization of the region; 2) regional land use changes; 3) main urban shapes and models; 4) tourism-related urbanizations and infrastructures; 5) food-related urbanisations and infrastructures; 6) formal spatial plans and futures designs. The collected data was organised and used as the main evidence base for the process-tracing analysis of the causal mechanisms of the transformation of selected food landscapes. Table 12 describes these different elements linked to the respective data sources and indicators used in this research.

[146] GIS is a framework for gathering, managing, and analysing data using map visualizations and location intelligence (ESRI, n.d.)

[147] Earth Map is a web-based application constituted by a map on which geospatial layers can be easily visualised and statistics can be generated thanks to its graphical user interface. Earth Map integrates a wide range of geospatial data in more than 15 thematic groups covering agriculture, biodiversity, climate, greenhouse gas emissions, fire, forestry, geophysics, geosocial, hydrology, land use and land cover, land degradation neutrality, satellite imagery, soil, vegetation and water (Morales et al., 2023).

[148] Google Earth Engine combines a multi-petabyte catalogue of satellite imagery and geospatial datasets with planetary-scale analysis capabilities (Google, n.d.; Gorelick et al., 2017)

TABLE 12: MAIN ELEMENTS OF THE SPATIAL ANALYSIS.

Type of Analyses	Description	Data Source
Physical Characterization of the region	Main ecological, lithological, and geological areas and biodiversity	Regional cartography, FAO Earth Map, and literature review
Regional Land use Changes	Main regional land-use changes based on Corine land cover groups adapted to the 6 moments of food spaces: Agricultural area, built-up area, infrastructures, forests, transportation	EU Corine Land Cover FAO Earth Map (tool)
Main urban shapes and models	Identification of main urban shapes in the region: main typologies of urban forms	Literature review, regional maps, and photographic collections
Tourism-related transformations and infrastructures	Identification of main tourism-related infrastructures and urban forms: accommodations, supply systems, tourist activities and services	Literature review, regional cartography and databases, photographic collections, and statistics
Food-related transformations and infrastructures	Identification of main food-related infrastructures and urban forms: Food industries, markets, stocks, supply chains, agricultural infrastructures (greenhouses, and type of agriculture)	Literature review, regional cartography and databases, photographic collections, and statistics
Formal spatial plans and Futures designs	Analysis of main urban and landscape plans and planning frameworks (PGUs, PDMs, LMPs, PRGPs)	Official documents and historical archives

SOURCE: ELABORATED BY THE AUTHOR.

6.3.2. Social Analysis and data collection

As presented in the research design, the social analysis of this research is carried out using methodological triangulation, combining different qualitative approaches and sources for data collection and analysis (see Figure 40 and Table 10). The social analysis of this research focuses on the identification of 1) the main transformations of regional food systems according to the perceptions and motivations of the different types of actors; 2) the main actors and governance structures involved in these transformations; and 3) the main food-related policies, plans and their role in these transformations. To this end, the following methods were adopted: 1) literature review of key scientific and technical information; 2) semi-structured interviews (SSI) (McIntosh & Morse, 2015); 3) policy review and qualitative content analysis of main food-related documents; and 4) empirical observation during fieldwork. The collected results formed the factual knowledge base for the subsequent process analysis of the main casual mechanisms of the transformation of selected food landscapes.

6.3.2.1. Semi-Structured Interviews (SSI)

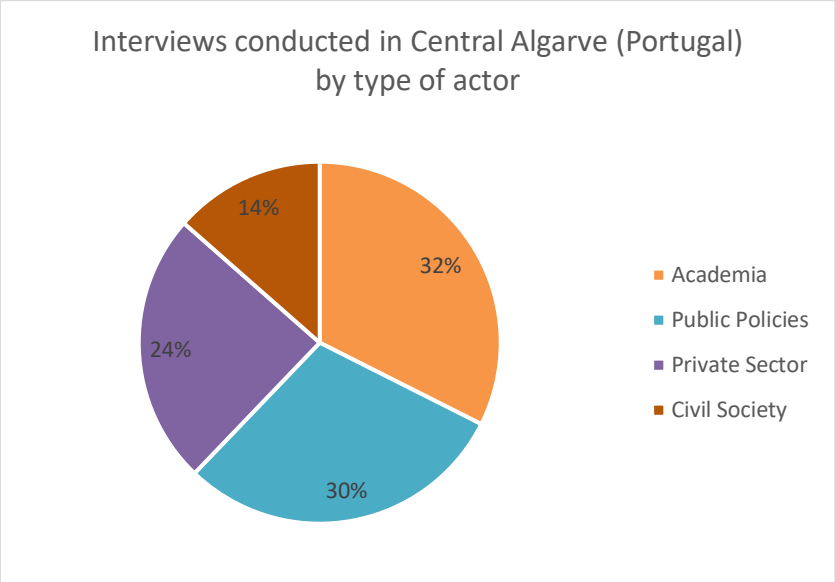
The semi-structured interview (SSI) method has been defined as a way of "eliciting subjective responses from individuals about a particular situation or phenomenon" (McIntosh & Morse, 2015).

The SSI method uses a detailed interview guide (see protocol in Annex 6) constructed from a preliminary literature review of scientific and technical factual knowledge, forming the structure and background of each interview. However, the approach of this research aims to produce findings that are shaped by the respondents and emerge from context, information, and knowledge of local realities (Lincoln and Guba, 1985). In this sense, the SSI methodology provides participants with the freedom and flexibility to answer open-ended questions, bringing in their own experiences, perceptions and knowledge while remaining relevant to the topic (McIntosh & Morse, 2015). In these ways, the methodology ensures comparability of data and identification of participants' subjective knowledge and perceptions.

Fieldwork and data collection took place at different moments between February and June 2023 in Lisbon and the Algarve region. The research collected data from 37 actors in Portugal and 24 in Italy inscribed in four main groups: academia, civil society/NGOs, private sector (agriculture, tourism, and food) and public policy (see Annex 4 and **Error! Reference source not found.** for the list of interviewees and

Figure 42 for the distribution of interviews in each case study by type of actor). The interview included questions about actors' perceptions, experiences, and motivations in relation to the issues concerned in this research. Based on the approach to the co-creation of knowledge used by Hubeau et al. (2017), interviews focused on the following elements, aiming to 1) define how different actors frame and perceive the historical transformation of their regional food systems, including the main drivers, narratives and actors involved; 2) define how actors perceive the development of tourism in the region and its links with the food system; 3) identify main local and regional initiatives and governance structures related to food, tourism and climate change; and 4) define common transformation pathways, narratives, goals and motivations. Each interview lasted an average of one hour and was recorded and transcribed for use in this thesis with the interviewee's verbal consent. The actors were coded in order to maintain their anonymity and to ensure an objective analysis of their opinions. The information was then processed using NVivo 14 software as a qualitative tool to organise, code and analyse the collected material. The data collected was analysed inductively, attempting to identify emergent concepts related to the four focus areas presented above, which were then codified and organised into main clusters and subdivided into related sub-themes. These findings are presented and discussed in the following sections in relation to the theoretical framework presented in the previous chapters.

FIGURE 42: INTERVIEWS CONDUCTED IN THE CASE STUDY BY TYPE OF ACTORS.



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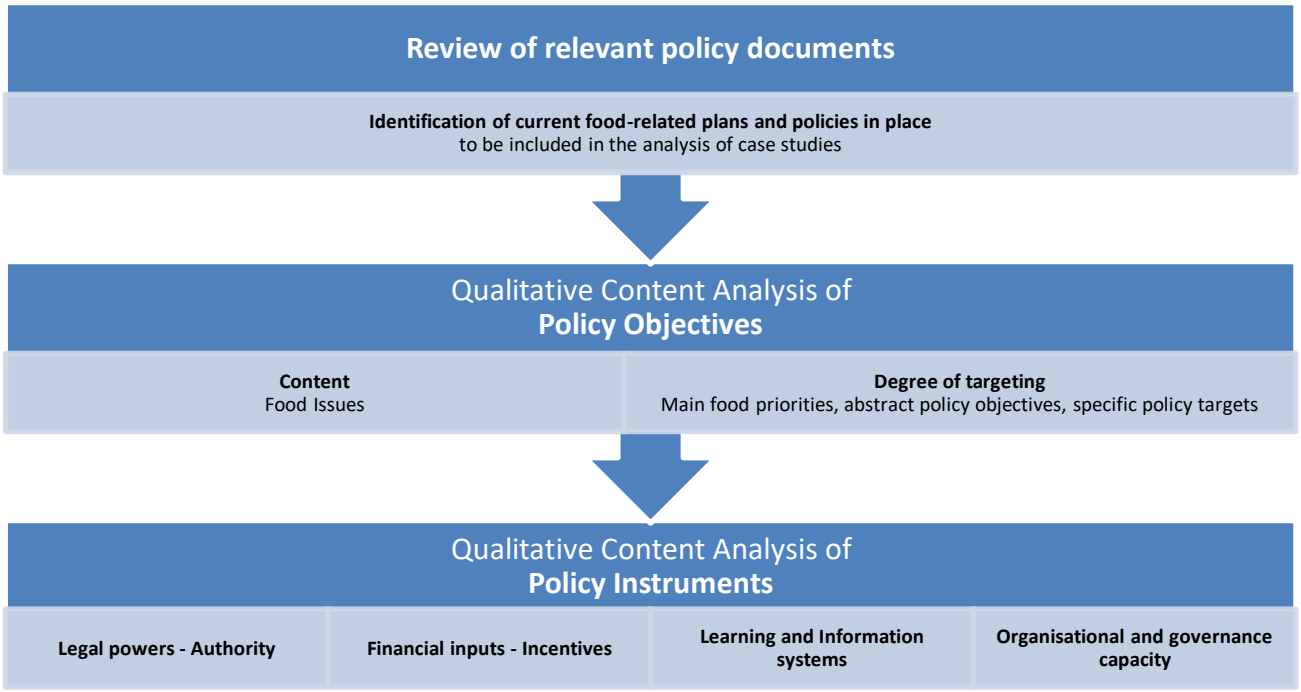
6.3.2.2. Policy Review and Qualitative Content Analysis (CTA)

Content analysis (CTA) has been described as "an approach to the analysis of documents and texts, that seeks to quantify content in terms of pre-determined categories" (Bryman, 2008), constructing an integrative quantitative and qualitative *method of analysis* "to make valid inferences from text" (Weber, 1990 in Prior, 2020). Lindsay Prior presents different ways of using content analysis to analyse communicative and social data, whether from interviews, documents, or discourses, approaching communication not only as a system of messages, but as a constitutive element of social life, discursively sustained and negotiated (see subsection 2.4.3 on the communicative action concept of Habermas). Quantitative (Monticone et al., 2023) and qualitative content analysis (Sibbling et al., 2021; Mukanu et al., 2023) of policy documents and reviews (OECD, 2023) have been widely implemented in the food literature at different scales. This research will adopt the methodological approach implemented by Sibbling et al. (2021) in their comparative assessment of local municipal food policy integration in the Netherlands, by conducting a qualitative content analysis of key policy outputs in our two case studies. The main objective of this analysis is to examine the incorporation of food landscapes into urban and regional policies, plans and strategies, with a particular focus on the nexus between food systems and climate change and tourism development. This analysis will also develop key recommendations, opportunities and future scenarios for operationalising a food landscape approach in the case studies and explore its implications for an expanded 'urban food question' in regional and urban planning studies.

Considering the different moments and elements of food landscapes conceptualised in the previous chapters, this thesis will focus on the analysis of current regional, provincial, and inter-municipal plans and policies in place in the case study (Central Algarve) as boundaries for the analysis of the current policy integration of food landscape approaches. As presented by Sibbling et al. (2021), food policy integration (FPI) is defined as the integration of food challenges into all policy areas of a government, which is examined here through two main aspects: 1) the *objectives* and 2) the *instruments* presented in regional policy documents (Howlett and Rayner, 2007). As discussed by the authors, policy objectives provide relevant information about the policy direction, 'statement of

intent' and priorities at both local and regional levels. Objectives thus represent the fundamental aim or expectation of a government when deciding on a course of action (Walsh, 1994), which can be classified according to 1) their *content* and 2) *degree of targeting* (Howlett, 2011). As presented by Michael Howlett, content describes the substantive issues that a policy addresses, while the degree of targeting can be expressed through three levels: 1) abstract general policy objectives, 2) operationalizable policy objectives and 3) specific policy objectives (2011, 17). Sibbling et al. (2011) operationalise this framework to her food policies analysis by formulating an additional category, '*main priority'*, which is used in this analysis as 1) main (food) priorities and 2) additional objectives, the latter incorporating a simplified version of Michael Howlet's formulation around 1) the abstract general policy objectives and 2) specific policy targets. On the other hand, policy instruments refer to the techniques, interventions and governance tools used by a government to achieve its (food-related) objectives (Walsh, 1994), involving 1) the use of state authority (legal powers), such as (urban) spatial planning, zoning plans and regulations 2) financial inputs, 3) information systems and 4) organisational capacity (Hood, 1983; Howlett, 2005; 2011 in Sibbling et al., 2021). A comparable exercise was devised by Edwards et al. (2024) in their investigation of policy integration and food system transformation. This analysis encompasses the *processes* involved ('how' this is being practised), the *placement* of integration between sectors and objectives, and the elements, or *things*, considered ('what' aspects are included). In their analysis of US urban food policy, Jill Clark and Aiden Irish (2023) outline also a similar framework, summarised in five different policy tools: 1) authority, such as zoning and (spatial) regulations; 2) incentives, such as tax breaks, funding and other financial support; 3) capacity, such as technical assistance, capacity building, incubators and other infrastructure; 4) symbolic, including plans, promises, public campaigns, official commitments, etc.; 5) learning, such as support programmes, monitoring and reporting requirements, food education, etc.). This research inductively explores the types of instruments and objectives set out in regional policies and plans, focalizing on the assessment of the current level of integration of a food landscape approach in current policies of case studies and its possible future opportunities and scenarios, rather than on its actual implementation (Sibbling et al., 2021).

FIGURE 43: METHODOLOGICAL FRAMEWORK OF THE POLICY REVIEW AND WUALITATIVE CONTENT ANALYSIS.



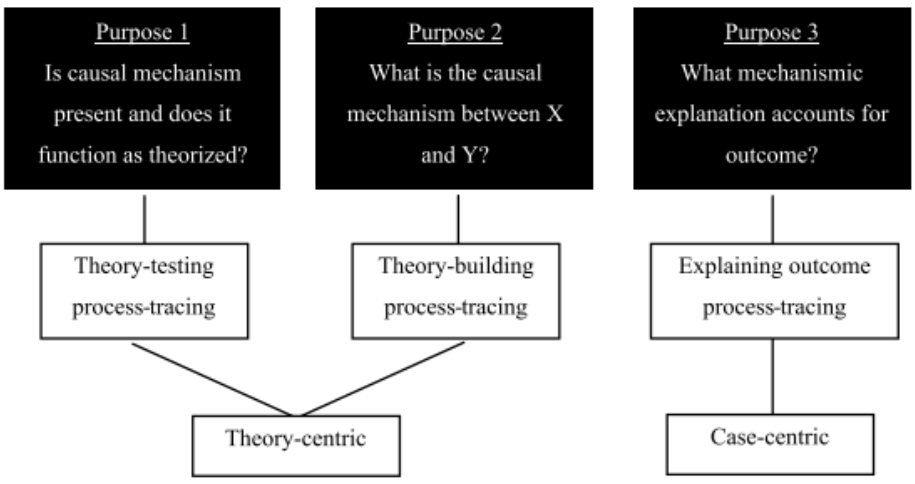
SOURCE: ELABORATED BY THE AUTHOR BASED ON SIBBLING ET AL., 2021.

A review of policy documents in the case studies was undertaken to identify current food-related policies and plans in place that have been formally adopted by the regional, provincial, and inter-municipal councils (see Annex 8 for the main planning documents identified in this research). All selected documents were analysed inductively using NVivo14 as a qualitative tool to code and organise the collected material. The codes and themes that emerged were organised according to the criteria of policy objectives and instruments presented above and on the different moments and elements of food landscape conceptualized in the previous chapters. Figure 43 illustrates the analytical and methodological framework of the qualitative content analysis of key policy documents in case studies.

6.4. Process-Tracing Methodology

The process-tracing methodology (PTM) (Hall, 2008; Bennet & Checkel, 2015; Beach & Pedersen, 2019) is beginning to receive increasing attention in the social sciences and is already prominent in analyses in political science, public policy evaluation, and international relations, among others. As described by Bennet & Checkel (2015), process tracing originated in the field of cognitive psychology in the United States in the late 1960s and early 1970s, where it was used as a technique to study intermediate steps in cognitive mental processes. The methodology later migrated to political science as a tool to describe 'the use of evidence from case studies to make inferences about historical explanations' (George, 1979 in Bennet & Checkel, 2015). More recently, process tracing has also been defined to refer to "the analysis of evidence based on processes, sequences, and conjunctures of events within a case to either develop or test hypotheses about causal mechanisms that might causally explain the case" (Bennet & Checkel, 2015). Causal mechanisms, in turn, are defined as complex systems that produce an outcome through the interaction of multiple parts (Glennan 1996: 52 in Beach & Pedersen, 2019). PTM goes beyond the mere interpretation and identification of correlations but unpacks the intervening causal processes between variables and outcomes (Bennett & George, 1997; Beach & Pedersen, 2019). In short, process tracing is a technique for capturing causal mechanisms in action (Bennet & Checkel, 2015).

FIGURE 44: THREE DIFFERENT USES OF PROCESS-TRACING METHODS.

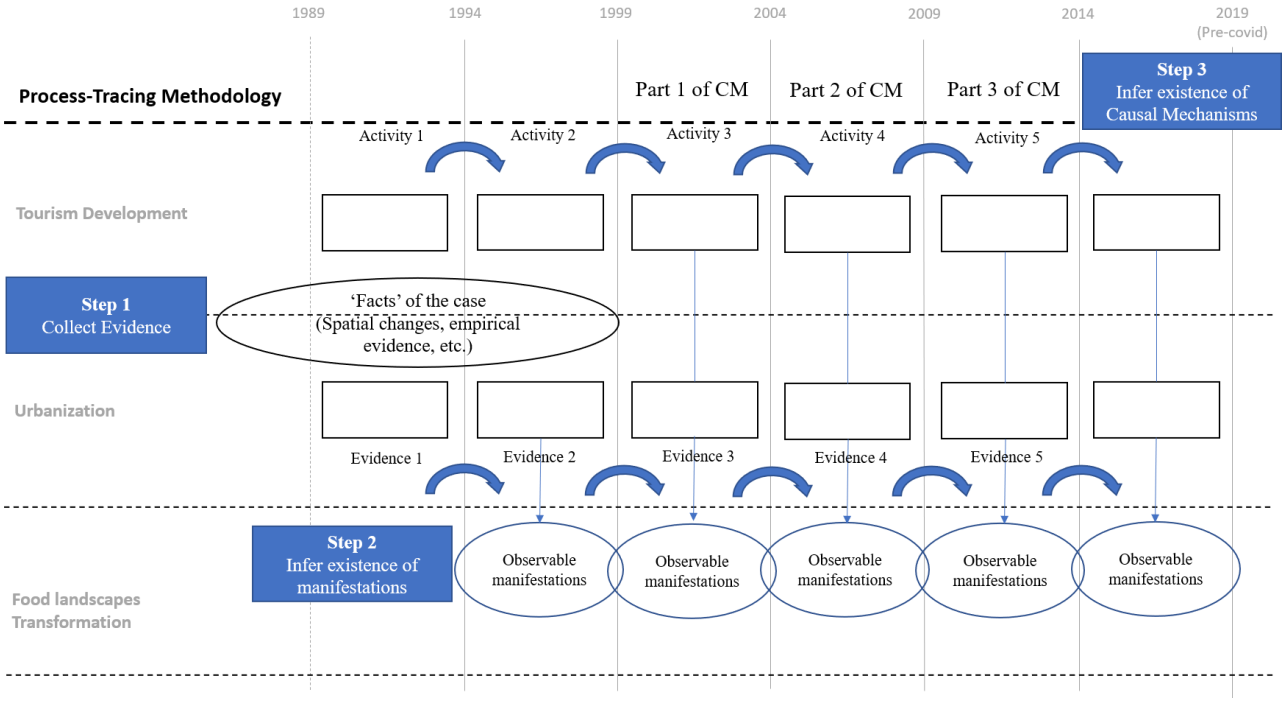


SOURCE: BEACH & PEDERSEN, 2019.

Bennet and Checkel identify two main uses of this methodology. The first, a deductive theory testing approach, which examines the observable effects of hypothesised causal mechanisms within a case

to test whether the theorised mechanisms explain the case. And the second, an inductive theory-building perspective, which provides evidence within a case to develop hypotheses that might explain its causal mechanisms (2015). Beach and Pedersen provide an additional third possible purpose, establishing what they call a case-centric perspective that focuses on providing a sufficient explanation for a particular outcome in a particular context. This completes the three different research situations and variants in which process-tracing methods are currently used (see Figure 44). This research proposes the application of an inductive, theory-centred and theory-building approach to process tracing, operationalising the method in our two case studies, as indicated by Beach and Pedersen in their recent review (2019; see Figure 44). The use of a process tracing perspective is useful for the following reasons: First, the PTM focuses on causal mechanisms, i.e. the 'how', identifying and supporting the theorisation of causal processes underlying the socio-spatial transformation of our two Mediterranean coastal zones. Secondly, the PTM represents an inductive analytical framework for organising the empirical social and spatial evidence collected in each of our case studies, linking the data and theories to the context and reality of the real-world phenomenon under analysis. In this way, the tool supports the identification of main drivers, actors, networks, and power dynamics that have contributed to the current and historical processes of urbanisation in the selected food landscapes. Finally, the PTM provides a space for the integration, or rather the "triangulation", of the different tools and data, both quantitative and qualitative, of our socio-spatial analysis, contributing to a contextual understanding of the different transformations identified in the case studies.

FIGURE 45: THEORY-BUILDING PROCESS-TRACING METHODOLOGY (PTM) USED IN THIS RESEARCH.



SOURCE: ELABORATED BY THE AUTHORS ADAPTED FROM BEACH & PEDERSEN, 2019. NOTE: BOLD LINES = DIRECT INFERENCES; SHADED LINES = INDIRECT (SECONDARY) INFERENCES; SHADED AREA = WHAT IS BEING TRACED.

The first step of the process-tracing methodology consists in the collection of empirical evidence, 'the facts', which will be developed in this research through the socio-spatial analysis proposed above. The second step consists in the inference of observable manifestations based on the factual knowledge about the transformation of selected Mediterranean food landscapes gathered in step 1. Finally. The third step relates to the analysis of causal mechanisms linking both the evidence and the observable

manifestations analysed in the previous steps. Figure 45 illustrates the different steps and the description of the adapted model of the process tracing methodology proposed by Beach and Pedersen (2019), which will be used in this research.

6.5. Reflexive process and positionality:

This section aims to explore the concept of 'situated knowledge' in the context of this research, taking a reflexive approach to my position as a researcher and my interrelationships with those of the participants and interviewees, as well as the social and geographical spaces in which this research took place (Rose, 1997; Leavy, 2020). In this way, this section aims to provide a brief introduction to what Kobayashi (2009) suggests as a critical analysis of the ways and conditions in which geographical knowledge (of the selected landscapes and their transformations) has been formed. As Rose (1997) points out, there is no such thing as complete or omniscient knowledge on the part of either the researcher or the respondents. On the contrary, all knowledge is situated, partially embodied and localised (Haraway, 1988). It is a product of the concrete conditions and contexts in which it is developed (Haraway, 1988; Kobayashi, 2009), influenced by, among other things, past and present relationships, experiences, encounters, and interactions, as well as the social position of individuals, their 'habitus', perceptions and preconceptions of the issues at hand. Reflexivity becomes an important tool for situating the interpretations that emerge from this research, paying attention to the power dynamics, biases, and positionality of this research (Rose, 1997; Leavy, 2020). This analysis may not be complete, but it will attempt to provide a reflective space to consider my role as a researcher, not just as a distant observer, but as a participant and 'tourist' (Urry, 1990, 1995, 2002) entering into the universe of the very phenomena being analysed (see footnote 73; Giddens, 1990). In this case, the transformation of the food landscapes in which I participated during my research.

Acknowledging myself also as a (tourist) researcher in case studies, coming and studying the places, being part of their food system, eating in different places (university canteen, restaurants, at home, at local events, public places, traditional street food festivals and with local people such as fishermen, farmers, university colleagues, friends or even a family meal during the olive harvest) were opportunities to look at myself in a critical way. As a researcher, citizen, and tourist, coming to live in a new urban and rural environment, getting involved in new practices and habits were opportunities to observe, "do"[149], enjoy and meet new people, different trajectories, food habits and preferences. Indirectly, my encounters were also occasions to bring my own positionality, exchanging the passion for food, tastes, and practices (food culture), but also thoughts, critical insights, views and values. Even if it is not explicitly mentioned, our interaction with people through food, at a meal, on a farm, at a market, or even at food festivals, conferences, or cook workshops, allows us to acknowledge our differences and positionalities, to learn from each other, but also to reflect on our roles and responsibilities in the transformation of food landscapes and (political) engagement as food citizens

[149] In the sense of manual labour, physical contact, and action with reality. Our knowledge is built not only in the concepts we read, discuss, and share, but also in the multiple senses we use when we taste, smell, and feel, as well as when we 'do', that is when we eat, cook, choice our food, work the land, harvest olives, or sail a boat to go fishing. These are all practices involved in the multisensory character of space, in our relationship to and social production of the food landscape. It is through our bodies, actions, and senses that we 'do' landscapes, including the way we eat, co-produce and think about food. Studying the transformation of food landscapes also means actively reflecting on, observing, and participating in the daily activities that make us part of their cultural and social fabric, becoming a part of them rather than a detached observer, and therefore being accountable of the micropolitics of research.

(Wilkins, 2005). In this section I will discuss key aspects of the positionality and encounter with informants in the two case studies.

In Portugal, I was able to convey a double representation. On the one hand, my country of origin, Colombia, as a non-European citizen with a Latin American identity. On the other hand, my institutional origin, coming from an Italian university, with which most of the people I met identified. The nature of the relationships is also influenced by these two positions, by the inherited relationships that each of the people I met has with these two places, the people they know, the relationships they have built in the past and their previous experiences with similar positionalities. In Portugal, I had the opportunity to contact, interview and discuss the views of different actors and positions, even at higher levels of responsibility, who openly and kindly decided to receive me and share their views with me. Coming from an international institution and environment, which could frame me as a 'stranger', both outsider and counterpart (see Simmel, 1908; 1950), in a country with a relatively 'smaller' population, were possible reasons for these favourable conditions, which allowed for a more open and less conditioned contact with informants. The relationships I was able to establish with most of the informants in Portugal were more fragmented, limited to specific moments and spaces, such as during interviews and meetings. My different stays and field visits in Lisbon and the Algarve, between February and June 2023, also allowed me to see the changes in space over time, the movement of tourists, the increase in prices, the growing socialisation of food spaces, but also the fluctuating number of nationalities, the diversity of identities and relationships in local (Sao Bras de Alportel, Tavira and their agricultural areas) and international (Lisbon, Faró, Loulé) environments. My research periods were framed within these contexts. Local informants were met in neutral and virtual spaces or in their own environments, but I was not part of them. I was a research 'tourist' who visited, stayed, observed, experienced, and then had to leave. Reflecting on this also allowed me to think about possible strategies to overcome certain biases and limited opportunities for encounters. I decided to organise repeated visits to places and informants, which allowed me to see them at different moments of their lives, at different times of the year and under different conditions: during interviews, but also in non-formal spaces of interaction, allowing a certain degree of spontaneity to emerge and everyday practices to be shared - a meal, a coffee in a bar, or through various visits to their farms or urban-rural projects. There were also some opportunities to meet informants in a more spontaneous way, which allowed me to have a different encounter with them. On these occasions, my position as a researcher was not dominant and discussions took place on other topics and different aspects of their 'lifeworlds', engaging in the 'dense realities'[150] of local conditions. Some spontaneous visits to farms allowed me to see less visible aspects of these spaces, as I had the opportunity to meet migrant workers who could not always speak the local language and who represented a hybrid, almost 'hidden' figure between the local resident and the tourist. Other aspects of these encounters were less obvious. The fact that I was male, white, and blonde, which allowed me to pass most of the time 'unnoticed' or even not 'foreign', was also a recognisable condition of my encounters with informants. It was only through language that differences and other aspects of my positionality became apparent.

This research has not only been an opportunity to deepen my knowledge in the analysis of food-related policies and landscape transformations, but also to critically reflect and situate my role and positionality as a researcher, tourist and food citizen in these processes. The results gathered along

[150] See also Clifford Geertz most famous and influential work on *the interpretation of cultures* (1973) and his definition of ethnography as 'thick description' and culture as text (Geertz, 1973).

this study are thus the synthesis of all these encounters, perspectives, values, stories and positionalities that have, in some way, influenced and guided the different steps of the development of this research.

PART 2. TOURISM, CLIMATE CHANGE AND THE SOCIO-SPATIAL TRANSFORMATION OF FOOD LANDSCAPES

7. Transformation of Food Landscapes: Urbanisation, Tourism Development and Climate Change in the Central Algarve, Portugal

The aim of this chapter is to examine and present the results of the first case study of this research, the central Algarve in Portugal, through the analysis of the transformation of its food landscape and planning strategies from 1990 to 2019. The chapter presents the main planning policies in the region and their relationship with the broader transformation of its food systems in a period of rapid tourism development and socio-economic changes, from the democratisation of the country (1974) to the integration into the European Union (1986), the financial crises (2008-2009 and 2010-2014) and the pre-Covid period (2019). The aim of this research is to study the different trajectories and mechanisms of transformation, as well as the strategies, policies and actions of urban/rural development implemented at local and regional levels.

This chapter is structured into five sections. The first section 7.1 presents the national context of spatial and food planning trajectories in Portugal. This is followed by an introduction to the Algarve region (7.2), spatial characterisation (7.2.1) and relevance to the study of food landscapes and food planning processes in relation to tourism and climate change (). Section 7.2.2 presents an analysis of the main transformations of the various food spaces in the central Algarve region over the past three decades, identifying the most significant changes in land use and socio-spatial infrastructure, as well as the principal urbanisation forms and models that have emerged during this period, with a particular focus on their relationship with tourism and food systems. Section 7.2.2 presents the main spatial design and formal planning frameworks, as well as the main regional and local governance and planning strategies (**Error! Reference source not found.**). These have been derived from the literature review, semi-structured interviews, and qualitative content analysis of key policy documents. In conclusion, section **Error! Reference source not found.** provides a summary of the key points of the analysis and presents the main conclusions for the case study, presenting an overview of the current situation and potential opportunities for a food landscape planning approach as a model for sustainable tourism development and climate action.

7.1. Food Transformations in Portugal: Regional and National Context and Planning Policies

Over the past seven decades, Portugal has experienced significant demographic, social, spatial, administrative and urban transformations, collectively influencing the evolutionary dynamics of its

food systems. The study of food transformations in Portugal has been the subject of numerous studies from a broad range of disciplines, including analyses of the country's nutritional condition (Chen & Marques-Vidal, 2007; Gregório et al., 2014; Graça, 2020; Costa et al., 2023) and policies (Graça & Gregório, 2012; Graça et al., 2016a; 2020), geographies (Ribeiro, 1987), Mediterranean diet (Romano, 2014), landscapes (Cancela-d'Abreu et al., 2004; Firmino, 1999), agriculture (Cavaco, 1985; Santos, 2015), economy (Avillez, 2024), rural development (de Abreu, 1980; Ventura-Lucas et al., 2010), food policies (Delgado, 2019; Delgado, 2020a; 2020b; 2020c; Neto & Delgado, 2021; Calvário & Castro, 2022) and strategies (Oliveira et al., 2017; 2022), planning (Marat-Mendes et al., 2022; Delgado, 2023a; 2023b), governance (Delgado, 2023c), and sustainable transitions (Galli et al., 2020), among many others.

This section presents a brief historical context and trajectory of the agricultural and food sectors in Portugal, together with an examination of the evolution of spatial and food planning policies and programmes, from the development of the first legal figure in 1865 with the Plan of General Improvements (PGM) to the recent update of the National Spatial Planning Policy Framework (PNPOT) in 2019.

7.1.1. Food Systems Transformations in Portugal: Pre-modern phase (1900s – 1950s)

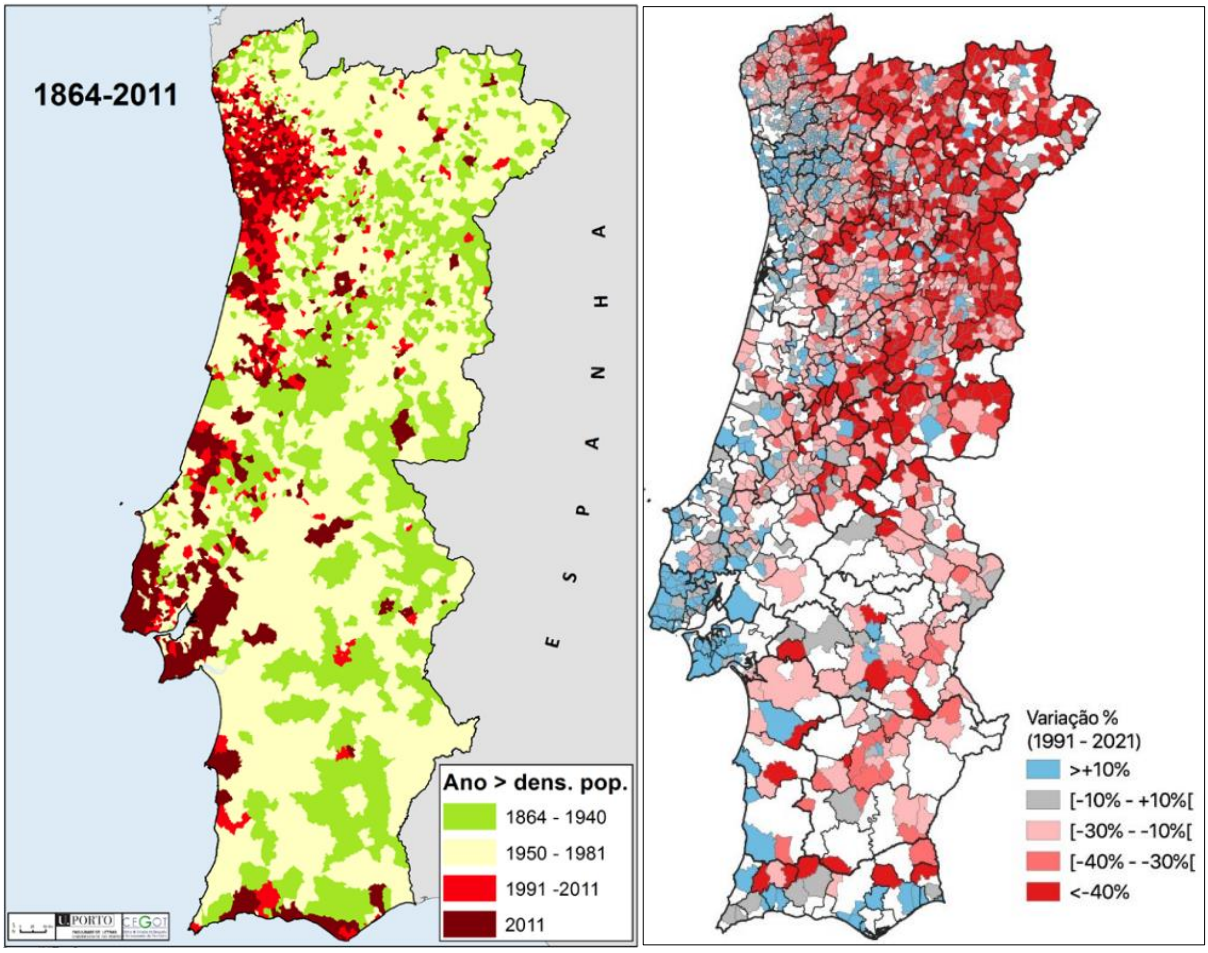
In his study of Portugal's demographic and socio-economic transition during the 20th century, the human geographer João Ferrão (2005) identifies three main phases that provide a useful framework for the analysis of the transformation of the food system in the country. These are the pre-modern, modern and post-modern phases. The initial 'pre-modern' phase has been characterised by a predominantly 'rural' socio-economic structure (Cavaco, 1985), spanning from the late 19th century, during the First Republic (1910-1926), to the late 1950s, under the New State (Estado Novo) regime (1933-1974). In comparison to other European countries, Portugal experienced a relatively slow, late and uneven industrialisation process during this time (Marques et al., 2021), missing the growth of the European 'Belle Époque' (Silva, 1999). In fact, as presented by Silva (1997), prior to the 1950s, the territorial organisation of Portugal was very dispersed, with incipient and sporadic urban and industrial developments concentrated in the regions of Lisbon and Porto (see **Error! Reference source not found.**). This was influenced by high levels of state interventionism and protectionism observed during the New State regime, including a corporatist approach to economic policy, the implementation of public investment programmes, the concentration of economic conglomerates, price regulation, industrial conditioning, and restrictions on foreign investment and market competition (Silva, 1999). This period exhibited elevated birth rates, a gradual reduction in mortality, and an economy that, despite the gradual decline, retained a predominantly agricultural character with divergent development trajectories between a system of self-consumption and subsistence, especially in the northern and central regions of the country, and latifundia and capitalist agriculture in the south, notably the Alentejo and Ribaltejo regions (Santos, 2015).

The gradual growth of the population and the partial closure of borders during World War II resulted in an increasing necessity for agricultural production and expansion in order to meet the food requirements of the population. A series of initiatives were launched during this period with the objective of achieving food self-sufficiency and the promotion of rural lifestyles and economy. These included the 'Wheat Campaign' in 1929, public investments in hydroelectric dams for electricity production and agricultural irrigation, reforestation initiatives, the development of agrarian colonies from 1937 and the creation of the Inland Colonization Committee (JCI) in 1936 (Almeida, 2020;

Marat-Mendes et al., 2022), which resulted in growing production of potatoes and cereals during this period (Santos, 2015). The expansion of agriculture resulted in a notable increase in the simplification and intensity of land use, sustained by a considerable availability of low-cost labour, and the conversion of extensive areas, in particular poor pastures characterised by low productivity rates, into rainfed crops, such as wheat (Santos, 2015). As Henrique Pereira do Santos succinctly states, the rural landscapes of this period were on the verge of rupture, exerting considerable pressure on agriculture[151] and leaving the remaining poor pastures in a state of severe stress (Santos, 2015).

FIGURE 46 (LEFT): EVOLUTION OF POPULATION DENSITY IN MAINLAND PORTUGAL, ACCORDING TO THE YEAR IN WHICH EACH MUNICIPALITY RECORDED ITS HIGHEST POPULATION DENSITY BETWEEN 1864 AND 2011.

FIGURE 47 (RIGHT): PERCENTAGE OF THE CHANGE IN POPULATION DENSITY IN MAINLAND PORTUGAL AT PARISH LEVEL BETWEEN 1991 AND 2021.



SOURCE (LEFT): MARQUES ET AL. 2021, BASED ON INE CENSUSES, AS PART OF THE RESEARCH PROJECT: "TERRITORIALIDADES EM PORTUGAL: IDENTIFICAÇÃO DE MUDANÇAS ESTRUTURAIS E DE SISTEMAS DE PRODUÇÃO TERRITORIAIS.

SOURCE (RIGHT): PEREIRA ET AL. 2022. BASED ON INE DATA BASE, CENSUS OF 1991 AND 2021.

The conjunction of these socio-cultural conditions, the geographical and environmental characteristics of the country and the conservative, propagandistic and isolationist policies imparted by the New State contributed to a strong exaltation, mediation and preservation of the traditional rural and agrarian life systems, characterised by frugal eating habits, and a predominant consumption of vegetables, fruits, olive oil and unprocessed local products, typical of the Mediterranean diet (Graça

[151] Agricultural production during the pre-modern period was also characterised and sustained by the maintenance of relations of colonial exploitation, based on the imposition of compulsory crop production and the extensive use of cheap and forced labour in African colonies (Varela & Demier, 2015; Schmidt, 2013).

et al., 2016a). However, the romantic image of rural life promoted by the New State during this period was increasingly challenged by important socio-economic changes and challenges. The agricultural sector in Portugal continued to experience low productivity and income, leading to a progressive decline in the agricultural labour force (see Table 13) and an increase in rural abandonment and emigration to main urban cores in search of better-paid jobs, such as in France, Switzerland, Belgium or Lisbon (Marat-Mendes et al., 2022). This process consolidated in the period from 1950 to 1980, with rapid rates of urbanisation, rural-urban migration and a broader restructuring of the economy (Barreto, 2017) driven by the growth of industry, trade and other services, such as tourism (see Figure 48).

TABLE 13: AGRICULTURAL POPULATION IN RELATION TO THE TOTAL ACTIVE POPULATION AND AVERAGE SIZE OF THE UTILISED AGRICULTURAL AREA (UAA) PER HOLDING IN HECTARES (HA) FROM 1900 TO 2019 IN PORTUGAL.

Year	1900	1910	1920	1930	1940	1950	1960	1970	1980	1991	2000	2010	2019
Agricultural population (%)	65	59	-	55	52	51	47	32	19	12	13	11	5
Reduction to prev. decade(%)	-	- 9	-	-	- 5	- 2	- 8	- 32	- 41	- 37	8	- 15	- 55
Year	-	-	-	-	-	-	-	-	-	**1989**	**1999**	**2009**	**2019**
Average size of farms (ha)	-	-	-	-	-	-	-	-	-	6,7	9,3	12	13,7

SOURCE: ELABORATED BY THE AUTHOR BASED ON BARRETO, 2017 (1900-1970); CAVACO, 1985; CRAVIDÃO & MATOS, 1990 (1980); ILO, 2021; INE, 2021, 2023ab (1989-2019).

7.1.2. Food Systems Transformations in Portugal: Modern phase and economic boom (1960s – 1990s)

The second phase, which Ferrão (2005) refers to as the 'modern' phase and Santos (2015) delineates within the country's (economic) boom and 'golden age', covered the period from the 1960s to the early 1990s. Francisco Avillez (2024) outlines also a complementary framework to describe the processes of transformation and economic development of the agricultural sector during this period. The first two phases (1960 to 1974 and 1974 to 1986) proposed by the author were characterised by accelerated socio-economic growth, industrialisation and modernisation of the country, coupled with a reinvigorated social, political and economic openness that facilitated enhanced economic integration at the European level. This included Portugal's accession to the European Free Trade Association (EFTA) in 1960, the democratisation of the country with the overthrow of the Estado Novo on 25 April 1974, and the subsequent integration in the European Economic Community (EEC) in 1986. This period marked an important socio-spatial transition in Portugal, with rising fertility rates (Ferrão, 2005), nutrition transitions (Rodrigues et al., 2008) and a shift from the previous predominance of a 'rural' population settled in the interior to the concentration and expansion of urban centres, particularly along the coast[152] (Marques et al., 2021; Cavaco et al., 2021; see **Error! Reference source not found.**), leading to the emergence of an urban culture, diet and a reduction in the relative importance of agriculture in the country's economy. During this period, the country's most significant infrastructural projects were initiated, encompassing highways and transportation, irrigation, ports, shipyards, iron and steel, hydroelectric power, petrochemicals, and other key sectors (Marat-Mendes et al., 2022). This was accompanied by a growth in industrial food production, the introduction of the

[152] By 1970, 25% of the population was residing in cities with a population of more than 10,000 inhabitants, while 10% of the Portuguese population was living in semi-urban areas, particularly in proximity to the coast (Cavaco et al., 2021).

country's first supermarket chains[153], and an increase in wages and urban food demand (Graça et al., 2016a), in particular for animal products. Rodrigues et al. (2008) examined the influence of urbanisation on dietary patterns[154] during this period in the country, showing a progressive decline in the previous predominant adherence to the traditional Mediterranean diet, with an increase in Western dietary patterns characterised by processed products, increased caloric intake and higher consumption of saturated fats and proteins, especially from meat, dairy products and eggs (Amaral, 1994). This, in turn, was associated with a notable increase in chronic diseases and regional nutritional inequalities (Rodrigues et al., 2008), which would become more pronounced in the following decades, motivating the new efforts towards the first national food and nutrition policy, with the creation of the Centre for Studies in Nutrition (CEN) in 1976, as a system for monitoring the nutritional status of the population and for capacity building, and the Institute for Food Quality (IQA),[155] aimed at the formulation of a policy on the regulation, promotion and control of food quality in the country (Graça et al., 2016a; Graça & Gregório, 2012). This period also marked the inception of the regulation and promotion of school diets in the country with the establishment of the Institute of School Social Action (IASE) in 1971[156]. Subsequently, nutritional and health guidelines were introduced and reinforced in 1984, 1992, 2004 and 2007 in order to address the prevalence of unbalanced eating habits in younger populations that had already emerged and which would become increasingly evident in later periods. This included the introduction of supplementary feeding programmes in 1970s and school milk in 1977 (Tüningen et al., 2012).

These two periods were also distinguished by substantial political and institutional transformations within the country's democratic process. These included the 1974 land reform, the price stabilisation system and subsidies, and their subsequent dismantling following the country's agreement with the International Monetary Fund (IMF) in 1978 and 1983. These transformations resulted in mounting pressure on the agricultural production and development model, coupled with higher price inflation and a decline in productivity, yields and production volume (Avillez, 2024) that were connected to the sharp reduction in inexpensive agricultural labour, rural exodus and significant emigration, which evidenced the sector's inability to respond to the growing demand for food (de Abreu, 1980). The process of decolonisation (Oliveira, 2017), rising inflationary pressures and mounting reliance on imported products contributed to this situation. The declining population engaged in agricultural activities was an expression of these processes, decreasing from 65% at the beginning of the 20th century to 51% in 1950, and reporting a rapid reduction to 32% in 1970 (Barreto, 2017), 19% in 1981 (Cravidão & Matos, 1990), and as low as 5% in 2019 (ILO, 2021; see Table 13). However, as Santos

[153] The first supermarket in Portugal, the 'Saldanha', opened in Lisbon in 1961, marking the beginning of a rapid proliferation of similar establishments throughout the city. Subsequently, the inaugural supermarket, 'Paga Pouco', opened in 1963, followed by the establishment of 'AC Santos' in 1968 in the Algarve region. The first large supermarket, 'Pao de Azucar', was introduced in Lisbon in1970, consolidating the expansion of these systems throughout the country (Leite, 2016).

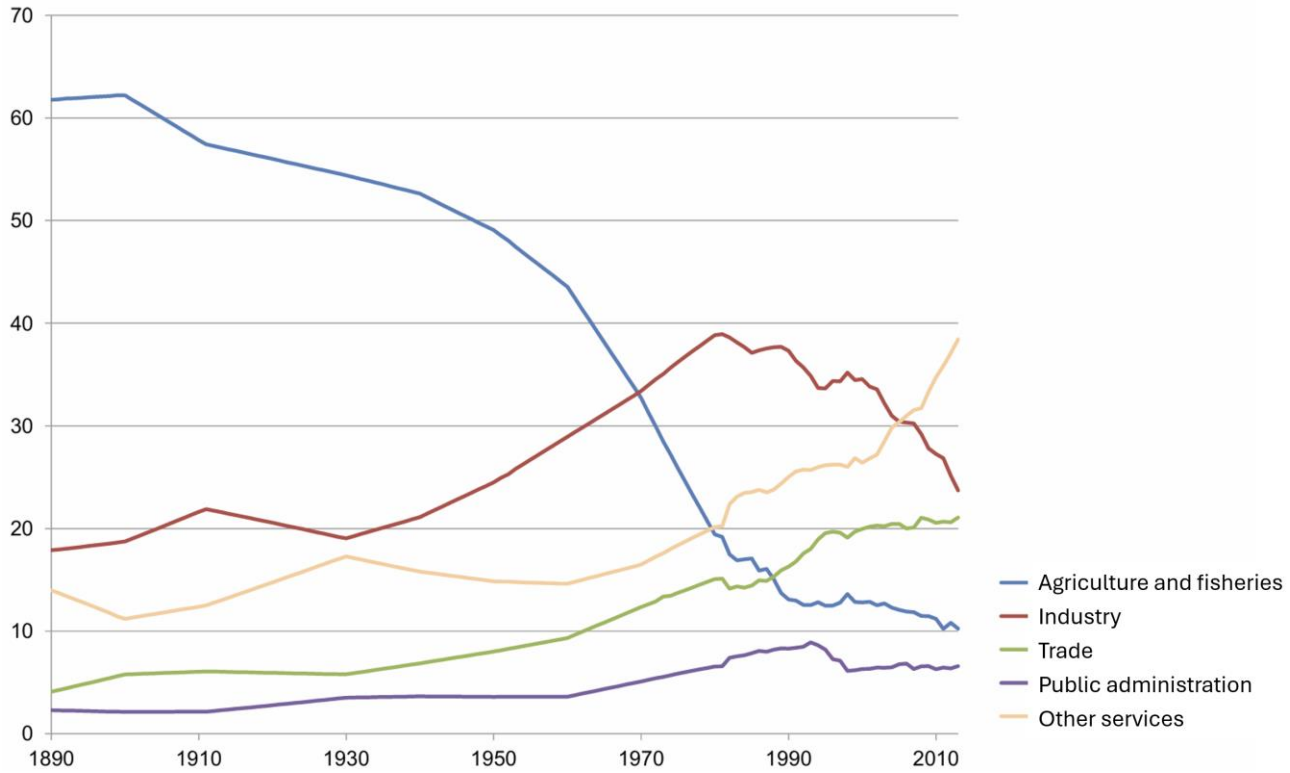
[154] As demonstrated by Henrique de Menezes dos Santos in his analysis of the evolution of the rural landscape in Portugal during the 20th century (2015), urbanisation processes also resulted in an increase in the value, consumption and production of certain foods, such as milk, potatoes, fresh produce and fruit, as seen for the case of the Lisbon and Faro hinterlands, including the simplification of agricultural areas and expansion of wheat cultivation, that were also reflected in the decline of less valuable traditional crops, such as fava beans and cereals.

[155] Decree-Law no. 221 of 1977

[156] In 1991, the IASE underwent a transformation, becoming the Institute for Social Affairs in Education. The competencies of this newly-formed entity were subsequently transferred to the Regional Education Directorates (DREs), with the Institute's abolition occurring in 1993. In 1999, the competencies for the planning and management of pre-primary and primary schools were also transferred to the municipalities, including the management of food services (Tüningen et al., 2012)

(2013) notes, this decline did not correspond with the complete cessation of agricultural activity, which continued to demonstrate a stable growth in gross product, providing a foundation for the industrial development of the country (Avillez, 2024). On the contrary, the abandonment of the countryside and emigration flows, already evident in the previous period, were accompanied by a progressive increase in the technification of agricultural practices, especially in the most fertile and competitive soils, growing food imports, integration in global and regional food supply systems, and the simultaneous abandonment of low-productivity areas, whose working force were absorbed by new urban jobs in industry and commerce, and emigration (Santos, 2013).

FIGURE 48: WEIGHT OF THE DIFFERENT ECONOMIC SECTORS IN THE COUNTRY'S ACTIVE LABOUR FORCE FROM 1890 TO 2010.



SOURCE: TRANSLATED FROM DAS NEVES, J.C. IN SANTOS (2015) BASED ON NUNES (1989) AND INE DATABASE (1890 – 2010)

As in other countries of the region[157], this period also witnessed a substantial transformation of the rural and agricultural landscapes in the country, moving from a subsistence and organic-based economy[158] to one characterised by the technification, mechanisation and modernisation of agricultural practices. Henrique do Santos (2015) analyses these transformations of rural landscapes and identifies two distinct outcomes: on the one hand, the intensification of production and

[157] See for example Gonzalez de Molina et al. (2017) in their examination of the evolution of Spanish agriculture since 1960, Dimitri et al. (2005) for the United States of America, or the compilation of studies on the transformation of agricultural landscapes in Italy (Tosco & Bonnini, 2023). Gonzalez de Molina et al. (2017) reveal a growing intensification, concentration, and productive specialisation, particularly within the domain of livestock farming, linked to the growth in productivity and vertical integration of the agri-food industry, the mechanisation of agricultural processes, changes in dietary habits, and the incorporation of external inputs such as fertilisers and animal feed. These changes have facilitated a reduction in food prices and their relative importance within the family consumption basket, as part of the urban transition of the country's economic structure and the transformation of its food landscapes.

[158] As presented in Edward Wrigley's seminal book (2016), *The Path to Sustained Growth*, organic economies are defined by low energy use, based on flows generated by photosynthesis and agricultural production. These systems are shaped by semi-closed cycles of nutrient and energy metabolism, such as the role of animals and intercropping in soil fertility, manual labour and a land-based economy. The transformation of this system was made possible by the introduction of innovations and technologies associated with an energy-intensive economy, as well as the adoption of synthetic fertilisers for soil nutrition, which allowed the expansion of production beyond territorial boundaries (Santos, 2015).

industrialisation in the fertile areas, and on the other, the gradual restoration of the country's natural systems by the late 1970s and 1980s, including the expansion of forest cover, changes in fire patterns and the return of wildlife (Santos, 2015). These included a general decline in the economic weight of the sector, with the rise of industry, commerce and other services; a reduction in the absolute number of farms; and an increase in average farm size, linked to the growing 'entrepreneurialisation' of agricultural activities and increased specialisation, investment and restructuring of modern production crops, especially from 1990 onwards (INE, 2021; see Figure 48). The 1970s also saw the establishment of the first primary network of school canteens, which led to the expansion of available infrastructure and the professionalisation of school food services and other public food procurement systems in the 1980s and early 1990s[159] (Tünningen et al., 2012). As Rita Calvário and Irina Castro note (2022) this period marked a shift and rupture from the previous focus and linkages between agricultural production and food security towards a greater emphasis on its competitiveness, modernization and development as an economic sector, resulting in a partial abandonment of its social, territorial and environmental dimensions. Several factors supported this process, including the introduction and expansion of motorised transport, railways and agricultural mechanisation, the diffusion of new innovations and technologies, such as the use of synthetic fertilisers,[160] the growing use of chemicals for the control of diseases and pests, and the genetic improvement of animals and plants, and the development of open and interconnected global food supply and distribution systems (INE, 2021; Santos, 2015). These processes were also supported by incentive policies centred on increased food production, reduction of food prices and improvement of food safety standards, which were stimulated under the advent of the Common Agricultural Policy (CAP) launched by the European Economic Community (EEC) in 1962 and Portugal's integration into the EEC in 1986 (Graça & Gregório, 2012).

7.1.2.1. Food systems transformations: Portugal's integration into the European Economic Community (EEC) (1986 – 1992)

The third phase proposed by Avillez under the modern period covers the timeframe between the country's accession to the EEC and the introduction of the first CAP reform in 1992. It represents a process of transition, harmonisation and support for the country's integration into European policies and structural funds, including the 10-year programme of specific support for the development of Portuguese agriculture (PEDAP) and the 1989 Community Support Framework (CSF), aimed at the modernisation of the country and the adjustment to regional prices, production and commercialisation processes in agricultural markets. A shift in trend is observed, with a new focus on privatisation and the greater involvement of farmers organisations and private sector in the governance of technical

[159] This was also reflected in the process of decentralisation and transfer of a number of competences to municipalities in the area of food initiated in 1984 (Presidência do Conselho de Ministros et al., 1984), including the school social action, within which school meals are covered, previously assigned to the Institute of School Social Action (IASE), which was created in 1971 (Trüninger et al., 2012).

[160] The increased use of fertilisers in the country also resulted in a reduction in the use of animals on farms, linked to the growing cultivation of single crops and to a greater degree of animal confinement and intensification (Santos, 2015).

assistance[161] and agricultural development in the country[162] (previously led by the public sector) (Cristóvão & Pereira, 2002), signalling the renewed support to a business-led agricultural model (Calvário & Castro, 2022). This shift was accompanied by an increase in land and labour productivity, and an overall improvement in the sector's performance and nominal value, reinforced by rising prices and inflation, and the continued reduction and specialisation of farm workers and expansion of farm sizes[163] (INE, 2021). During this period, the foundation for the development and organisation of food supply markets at the national level was established with the enactment of Decree Law No. 222 of 1986. This decree law established the fundamental principles and rules regarding the general organisation of food supply markets in response to the emergence of new consumption habits in urban areas, the need to comply with sanitary standards, the development of transport systems and infrastructure, and the advent and expansion of the automobile, with the aim of facilitating access and circulation of food (Ribeiro, 2017). Since their introduction in 1961, retail trade, including supermarkets, hypermarkets and shopping centres came to assume a dominant role in central urban areas, superseding traditional municipal markets (Ribeiro, 2017), reinforcing the separation between agricultural production and food supply and security policies (Cálvario & Castro, 2022). In 1991, the inter-ministerial commission for food markets was established with the objective of promoting their development, initially focusing on the Lisbon region, followed by Coimbra and Faro (Algarve), among others (Council of Ministers Resolution 16/91).

7.1.3. Food systems transformations in Portugal: Post-modern phase

The final 'postmodern' phase analysed here covers the time frame between the 1990s to the beginning of the 21st century (Ferrão, 2005). This period has been characterised by the decline and stabilisation of fertility rates and longer life cycles, resulting in a gradual ageing of the population, in what Teresa Sá Marques et al. called the '*second demographic transition'* of Portugal (2021). This phase has also been characterised by the emergence of significant migratory movements (Fonseca et al., 2021), the intensification of the dichotomy between expanding and growing urban regions and sparsely populated inland areas, especially along the coast, marked by the consolidation and expansion of the agricultural transformation processes initiated in the previous phases (Ferrão, 2005; Marques et al., 202; Pereira et al., 2022). These changes have been facilitated by increasing regional integration into the European single market, support from European cohesion and rural development funds, and the availability of new agricultural labour through new migratory flows.

7.1.3.1. CAP reforms, growing investments and new approaches to agricultural and food development in Portugal (1992 – 2003)

Avillez (2024) examines three additional phases within this latter postmodern period. This includes the period between the two reforms of the European Common Agricultural Policy (CAP) in 1992 and

[161] As demonstrated by Carvovil (2021), the format of agricultural investment incentives has resulted in the gradual dismantling of public rural extension services, which have been supplanted by private action, with a limited access for many farmers.

[162] An example of this is the PROAGRI programme, which was included in the PEDAP support from the EEC to the country in 1989, with the aim of strengthening the technical and managerial capacity of farmers' organisations to improve the provision of extension services to their members, seeking a stronger engagement and co-responsibility from private actors in the management of technical assistance and agricultural development (MAPA-DGPA, 1989 in Cristóvão & Pereira, 2002).

[163] The average farm size almost doubled from about 5 ha to more than 9 ha in 1999 (INE, 2021)

2003, the country's financial crisis between 2010 and 2014, the 'greening' of the CAP during the 2013 and 2020 reforms, and the emergence of the COVID-19 pandemic in 2019.

The CAP reforms,[164] initiated at the outset of this period in 1992, represented a pivotal shift in the European approach to the promotion and sustenance of the agricultural sector, which had a decisive influence on the agricultural development in Portugal. These reforms represented a significant shift from the initial 1962 objective of ensuring food security and production, which had resulted in the accumulation of considerable regional food surpluses, environmental degradation, and abandonment of rural areas (Van der Ploeg & Renting, 2000). The new reform sought to align agricultural systems to global market prices and enhance their competitiveness and productivity, in favour of a business-driven model for the sector (Calvário & Castro, 2022). This resulted in a notable decline in agricultural prices for producers, which was partially offset by the provision of direct financial assistance (Cordovil, 2021). A series of measures were implemented, including the gradual reduction of low-productivity land, market price support and the unlimited purchase guarantee for agricultural products (Milicevic, 2023), as well the introduction of a new system of compensatory income payments, linked to cultivated area, livestock numbers and historical yields that benefitted areas with intensive farming practices, especially in the Alentejo and Northern region[165] (EC, 1999; Cordovil, 2021). The advent of new markets and competition also prompted the introduction of measures to safeguard local agricultural and food products based on the differentiation of quality and geographical origin at the European level. This was achieved through the enactment of the Protected Designations of Origin (PDO) and Protected Geographical Indications (PGI) in 1992 (Reg. No. 2081/1992) and their subsequent improvement and confirmation in 2006 (Reg. No. 510/2006). The growing awareness of the repercussions and the fundamental role of agriculture and forestry in ecological balance and landscape conservation, as evidenced by the Rio Convention in 1992, also motivated the introduction of the concept of voluntary agri-environmental measures[166] (EU Reg. 2078/92). These measures were incipient in the country at the time (Firmino, 1992), but would be reinforced in later periods. (EU Reg. 2078/92). These new engagement coincided with the launch and experimentation of the first LEADER approach (1991-1994; see Box 1) on local development and participation that resulted in the creation of around 20 Local Action Groups (LAG) in the country, with 43% of their investment focused on rural tourism (Firmino, 1999).

In Portugal, this support was materialized with the introduction of the Support Programme for the Modernisation of Agriculture and Forestry[167] (PAMAF) within the Community Support Framework

[164] The first reform of the CAP in 1992 was partly a response to regional commitments under the Agreement on Agriculture (AoA) within the World Trade Organization (WTO), which entered into force in 1995 and was negotiated during the Uruguay Round (1986-1994) under the leadership of Agriculture Commissioner MacSharry, and is therefore known as the MacSharry reform. In particular, the AoA addressed a growing liberalisation of agricultural markets and the decoupling of direct payments to producers from production support.

[165] As Francisco Cordovil (2021) notes, the implementation of the CAP gave rise to pronounced imbalances, particularly following the 1992 reform. This resulted in considerable territorial disparities in favour of large-scale farming systems, particularly in the Alentejo region, with approximately 2% of CAP beneficiaries receiving more than one-third of the total aid, while small-scale producers, who represent approximately 90% of CAP beneficiaries, received less than one-third of this aid. Cordovil also highlights the 2019 Agricultural Census (INE) results, indicating that about 40% of farmers in Portugal continue to report not receiving direct CAP support. These findings are corroborated by Viegas et al. (2023), who ascertain that the majority of these proportions are those with farms smaller than 2 hectares, exhibiting an exclusion rate of 60% in contrast to farms larger than 5 hectares, which have an exclusion rate of only 15%.

[166] These included: 1) diminution of pollutants in agriculture (Group I), extensification/maintenance of traditional agricultural systems (Group II), conservation of the resources and rural landscape (Group III), professional training (Group IV) (IFADAP, 1997 in Firmino, 1999)

[167] Official Gazette no. 121/1994, Series I-A of 1994-05-25

(1994-1999) and the Rural Development Plan[168] (RURIS), approved in 2001 and implemented until 2006. The primary objectives of the PAMAF were to enhance the competitiveness of the agricultural sector, ensure the economic viability of agricultural holdings, and safeguard natural resources and the environment, focusing on: a) agricultural infrastructure; b) support for agricultural holdings; c) forestry; and d) research, experimentation and development (RDI), training and organisation. This contributed to the acceleration of earlier transformations in the agricultural sector, with an increased capitalisation, nominal value and volume of production (Avillez, 2024), especially in large-scale farming and agribusiness (Firmino, 1999). Nevertheless, persistent inflation and food prices, combined with growing (urban) food demand and wage growth in other sectors (see Figure 48) resulted in an unfavourable real net value for producers, which could not be offset by the growth in productivity factors (in particular land and workforce). Cordovil (2021) also reports a low real national productivity and gross added value of the agricultural sector between 1989 and 2016, especially when compared to other southern European countries (Spain and Italy).

BOX 1: THE LEADER APPROACH IN THE EU RURAL DEVELOPMENT POLICY

The LEADER programme was first introduced in 1991 as a 'Community Initiative', funded under the EU Structural Funds, with the objective of implementing a participatory, bottom-up approach to rural development. The initiative was subsequently extended to coastal areas in 2007 and became a mandatory component of all rural development programmes funded under the European Agricultural Fund for Rural Development (EAFRD), with a minimum budget allocation of 5% and 2.5% during the 2007 programming cycle (European Communities, 2006). The term 'LEADER' is an acronym derived from the French phrase 'Liaison Entre Actions de Développement de l'Économie Rurale', meaning 'Links between actions for the development of rural economy' (ENRD, 2021). In 2014, it was further extended to urban areas, becoming available in the European Regional Development Fund (ERDF), the European Social Fund (ESF) and the European Maritime and Fisheries Fund (EMFF) as a multi-funded "Community-Led Local Development" (CLLD) model. The approach is centred on the implementation of Local Development Strategies (LDS) by Local Action Groups (LAGs) and Fisheries Local Action Groups (FLAGs), composed of a balanced and representative membership of the different private and public sectors within rural or coastal communities (ECA, 2022). They represent clearly defined geographical areas with a population criterion of approximately 10,000 to 150,000 (EU Reg. No. 1303/2013) (ENRD, 2021). The CLLD/LEADER approach includes seven key features: 1) bottom-up approach; 2) area-based approach; 3) local partnerships; 4) integrated and multi-sectoral strategy; 5) networking; 6) innovation; and 7) (inter-territorial and international) cooperation (European Communities, 2006).

Concurrently, this period saw the first experiments in urban programming at the European level, given that urban policy and planning is outside of the competences of the European Union. These pioneering experiments took the form of the Urban Pilot Projects, which were launched between 1990 and 1993 and the introduction of the URBAN I and II Community Initiatives (CIs) between 1994 and 1999, which concentrated on urban regeneration and cohesion from a local perspective (Medeiros & van der Zwet, 2019). These experiences inspired the incorporation of the urban scale into European regional development policies, programming and funding schemes (ERDF), which led to the

[168] The RURIS was established with the objective of promoting competitive agriculture through four principal components: the implementation of agri-environmental measures; the provision of compensation; the reforestation of agricultural land; and the implementation of agricultural reform.

emergence of initiatives such as POLIS, POLIS XXI, PROSIURB and, subsequently, the Integrated Sustainable Urban Development (ISUD) instruments. As Merieder and van der Zwet (2019) highlight, these initiatives paved the way for the establishment of the first cycle of the URBACT programme in 2002 and the following cycles (II: 2007-2013; III: 2014-2020; and IV: 2021-2027), centred on cooperation and exchange of knowledge and good practices between cities and other levels of government and thematic networks, as well as in the symbolic renaming of the Department for Regional Policy (DG REGIO) to the 'Directorate General for Regional and Urban Policy'.

The financial support provided by the European funds introduced in this period, such as the European Regional Development Fund (ERDF) in 1989 and the Cohesion Fund (CF) launched in 1994, resulted in a notable surge in investment and infrastructure development projects within the country[169] (Cavaco et al., 2021), especially in the north, central and Alentejo regions (EC, 2024d; see Table 14). These investments gave rise to the construction of new logistic infrastructure at the national and local levels, including the development of motorways, water and irrigation plants[170] (such as the Alqueva dam), and the launch of significant urban projects such as the Expo 98 and the Vasco da Gama bridge in Lisbon. As had been initiated at the end of the previous decade, this period also witnessed the construction of main food supply and distribution centres in the country,[171] relocating these functions from city centres (as municipal markets) to easily accessible peri-urban areas, such as the supply market of the Lisbon region (MARL) in 2000 and of the Faro region (MARF) in 2003. These transformations coincided with the positive increase in the national economy and gross domestic product during the 1990s, the launch of the European single market in 1993 and the introduction of the Euro in 2002, which facilitated the free internal movement and exchange of (food) goods, services, capital and people, as well as the development of more efficient, interconnected food supply systems. The growing integration and exchange gave rise to heightened concerns regarding food safety and sanitary control connected to the wake of the food-related incidents that occurred in the late 1990s, in particular the 1996 bovine spongiform encephalopathy (BSE) crisis in the United Kingdom, also known as the mad cow disease. This crisis elevated food safety concerns to the forefront of the European food debate (Graça et al., 2016a), culminating in the adoption of the EU General Food Law Regulation[172] and the establishment of the European Food Safety Authority (EFSA) in 2002. This was followed by a comprehensive package of new legislation, including Regulation (EC) No. 852/04, which sets out the general rules for food business operators on the hygiene of foodstuffs, the implementation of good practices and the principles of Hazard Analysis and Critical Control Points (HACCP). Under the surge of a ‘new rural development paradigm’ (Van der Ploeg et al., 2000; OECD, 2006, 2016), the European food policy underwent in this way significant shift from a productivism and market support-oriented approach, driven by the first CAP

[169] The first allocation of European funds to Portugal had a favourable result for the country, prior to the enlargement of the Union to Eastern European countries in 2004 and the emergence of greater international competition, in particular with the accession of China to the World Trade Organisation in 2001.

[170] As noted by Cordovil (2021), this has been nevertheless accompanied by a notable shift in the regional distribution and percentage of irrigable agricultural area of the Portuguese mainland, with a continuous decrease of approximately 22% to 15% between 1989 and 2010. This correspond to a reduction in the weight of the northern zone (from 54 to 30% between 1989 and 2019) and an almost doubling in the Alentejo and Ribatejo regions (from 30 to 57% during the same period), who benefited from these new irrigation plants.

[171] Supply markets were developed in an interministerial and joint public-private effort, conceived as "modern, spacious, multi-purpose wholesale food marketing units, which should progressively ensure the marketing of other products, both food and non-food, as well as the installation of complementary support service areas" (Decree law 222/86).

[172] The General Food Law established the fundamental principles, rules, requirements and procedures for food and feed safety throughout the production and distribution chain (from farm to fork) in the EU (EC Regulation No. 178/2002 of the European Parliament and of the Council of 28 January 2002).

to the adoption of a precautionary and post-productivism view focusing on the control of health and hygiene, environmental protection, agricultural productivity, multifunctionality, and the freedom of trade and movement (Almestedt, 2013). These measures received a renewed support with the implementation of the Agenda 2000 under the CAP, reinforcing the necessity for and establishing the rules governing the enhanced control, traceability and professionalisation of the agri-food sector under an agri-environmental approach that motivated the introduction in Portugal of the national Food Quality and Safety Agency for control and surveillance in 2000 and the Food and Economic Safety Administration (ASAE) in 2005 (Galli et al., 2020). Cálvario and Castro (2022) also highlight the transition and shift in the national food policy from a production- and food-supply-oriented approach to a health- and risk-oriented one, centred on 'producer awareness', increased 'consumer information' and food safety 'surveillance' and monitoring. This shift reinforced the distinction between agricultural development and food nutrition and safety policies, while failing to acknowledge the interconnection between food-related risks and the underlying transformations of 'agricultural models' that had occurred in previous periods (Cálvario & Castro, 2022).

TABLE 14: SHARES OF THE VARIOUS EUROPEAN FUNDS AND PROGRAMMING CYCLES BY REGION (NUTS II) IN PORTUGAL

Programming Cycle	CSF I	CSF II	CSF III	NSRF	Partnership Agreement
Period	1989–1993	1994–1999	2000–2006	2007–2013	2014-2020
Norte	29,5%	30,3%	31,9%	38,2%	41,9%
Centro	18,7%	20,7%	15,4%	27,9%	25,7%
Lisboa	27,6%	22,6%	22,5%	5,0%	12,5%
Alentejo	6,9%	10,4%	11,9%	15,5%	9,5%
Algarve	**3,5%**	**4,5%**	**6,6%**	**4,1%**	**2,7%**
Acores	6,7%	6,4%	6,1%	6,8%	5,2%
Madeira	7,1%	5,2%	5,5%	2,5%	2,4%
Portugal	100%	100%	100%	100%	100%

SOURCE: ELABORATED BY THE AUTHOR BASED ON EC, 2024D (HISTORIC EU PAYMENTS: REGIONALISED)

Note: CSF: Community Support Framework; NSRF: National Strategic Reference Framework

7.1.3.2. Integrated and place-based territorial management in the Portuguese food landscapes (2003 – 2010)

The fifth phase proposed by Avillez (2024), corresponds to the period between the second reform of the CAP in 2003 and the economic restructuring during the country's financial crisis[173] between 2010 and 2014. This period was characterised by a significant stagnation of the economy and its public debt, influencing the reduction and stabilisation of the previous upward trend in the income, capitalisation and productivity of the agricultural sector. This phase also marked the consolidation of the country's trend and focus on modernisation, ‘entrepreneuralisation’ and development of agri-food businesses, with a notable increase in the average extension of farms larger than 50 hectares, which came to represent 67.3% of the total utilised agricultural area in 2009 and 69.4% in 2019 (compared to 53% in 1989) but only 3.6% of the total number of farms (Avillez, 2024). The agricultural structure of Portugal thus retained a high degree of diversification, characterised by a significant number of small farms and a remarkable regional differentiation. This comprised a mosaic of different farming

[173] This support was situated within the Memorandum of Economic and Financial Policies carried out between Portugal, the European Commission, the European Central Bank (ECB) and the International Monetary Fund (IMF) in 2011. These last three institutions together came to be known as the Troika (European Parliament, 2014)

systems, including a small number of large agribusiness farms, extensive farming (especially in the Alentejo region and largely dependent on direct subsidies as a source of income), small and medium-scale market-integrated agriculture, and small-scale local or subsistence farming[174] (Cordovil, 2021; Governo de Portugal, 2012b). Notwithstanding the endeavours and investments made in this sector, national food self-sufficiency remained relatively low, particularly in crops such as wheat, barley, maize, potatoes, beef and cheese (Avillez, 2024; INE, 2021). This was offset and supported by growing food imports and an increased integration with regional and global food supply systems. In 2013, for instance, domestic production constituted merely 56% of the food consumed in the Lisbon Metropolitan Area (LMA), with the remaining 44% imported from other countries. Of these, 38% originated from Europe, while the remaining 6% originated from other global regions. At the national level, the Algarve contributed 6.5% of the total, the Central and North regions contributed 31.1% and 21.6%, respectively, while the AML region itself only accounted for 12% (Beni & Ferrão, 2017). High rates of self-sufficiency in other commodities were retained, particularly eggs, milk, butter, nuts, citrus fruits and rice, and a notable expansion in vegetable, fresh fruit and olive oil production (Avillez, 2024; INE, 2021).

The nutritional transition and impacts of chronic diseases and obesity that were already evident in the country by this time, led to a renewed engagement and attention on food policies in the country from the public health. This was concretized with the approval of the National Plan to Combat Obesity in 2005, the European Charter against Obesity in 2006 and the subsequent launch of the National Platform against Obesity in 2007. These developments constituted pivotal precursors towards the advent of an integrated and intersectoral policy in Portugal, which was formalised in the approval of the National Programme for the Promotion of Healthy Eating (PNPAS) in 2012 (Graça et al., 2016a; Graça & Gregório, 2012). These endeavours were further bolstered by advancements in the promotion of a *food education* and the provision of a nutritious diet within the school environment (Baptista, 2006), now under the responsibility of municipalities and Regional Education Directorates (DREs) (see footnote 156), as well as Portugal's accession to the European Fruit Consumption Scheme in 2009 (EC Reg. No. 288/2009), and the introduction of the School Feeding Reinforcement Programme in 2012 (Tüningen et al., 2012).

The 2003 CAP reform and the following CAP's 'Health Check' of 2009 represented new transitional milestones for the agricultural and food sector in the country, marking a continuation of the dismantlement of price and production support measures initiated in 1992 and the reorientation towards the enhancement of farm competitiveness and alignment to agricultural trade and international market prices, in accordance with the agreements on agriculture reached with the WTO at the end of the 1990s (Milicevic, 2023). This process included the establishment of the Single Common Market Organisation (CMO), which was designed to provide support in the event of price crises or market disturbances. Direct support to farmers was structured into a more comprehensive 'single farm payment' system, based on the stability of farmer's income, in view of their new exposure to an open market. Nevertheless, several researchers (Sinabell et al., 2013; Volkov et al., 2019;

[174] A considerable discrepancy in qualifications, requirements and technological utilisation persists amongst these disparate categories of farmers (Cordovil, 2021). In 2009, the number of farms in the agricultural sector in Portugal was still dominated by small-scale farmers, with holdings of less than 5 hectares accounting for approximately 74.8% of the total number of farms. This figure has continued to decline, reaching 72.2% in 2019, which represents a significant reduction compared to the 81.6% registered in 1989. The proportion of small-scale farmers in the total utilisation of agricultural land remained in contrast very modest, with a 10.8% registered in 2009 declining to 9.2% by 2019. This represents an almost 50% reduction compared to the 18.9% recorded in 1989 (INE, 2021; Avillez, 2024).

García-Bernardo et al., 2021) have demonstrated how these payments reinforced the imbalance in the allocation of CAP assistance (Viegas et al., 2023). The 2003 reform also served to consolidate the basis of the new two-pillar structure of the CAP[175] between the European Agricultural Guarantee Fund (EAGF) and the new introduction of the European Agricultural Fund for Rural Development (EAFRD) in 2005. At the national level, the CAP's support was manifested through the PRODER programme between 2007 and 2013, focusing on the enhancement of the competitiveness of the agricultural sector (axis 1) and the deployment of substantial investments in agricultural infrastructure, including irrigation systems, innovation and business development, among other strategies. Furthermore, PRODER focused on the sustainable management of rural areas (axis 2) through integrated territorial interventions for biodiversity and landscape conservation based on agricultural and forest-environmental objectives, as well as the stimulation of rural development (axis 3) through the implementation of local development strategies and the diversification of the economy and creation of new employment (Governo de Portugal, 2012a). By 2011, 76% of Portugal's territory exhibited low or very low territorial dynamism, with a pronounced socio-spatial divide between urban coastal areas and the countryside. This led to an increased recognition of the need to reinforce urban-rural relations and national territorial cohesion (Oliveira).

In addition to the above-mentioned progress and investment in infrastructure and food legislation (nutrition and safety), this period marked a renewed political commitment to multi-level policy integration, regional cohesion and the territorialisation of the Structural Funds, paving the way for the emergence of a new approach to regional development based on integrated territorial management, multifunctionality, sustainable development and a particular emphasis on the relationship between urban areas and their wider territories. In Portugal, a notable example of this engagement was the POLIS programme under the third Community Support Framework (2000-2006), which focused on the requalification and competitiveness of urban areas and the improvement of their environment and quality of life (RCM No. 26/2000) in 40 cities throughout the country (Cavaco et al., 2021). Other national initiatives launched during this period were the Integrated Territorial Action Programme (AIBT), centred on geographical and functional proximity, territorial integration and inter-municipal cooperation of low-density (e.g. mountains and rural areas); as well as the Programme for the Consolidation of the National Urban System and Support for the Implementation of Municipal Master Plans (PROSIURB). The PROSIURB programme, which ran from 1994 to 1999, had the objective of valorising medium-sized cities, strengthening the implementation and development of their spatial plans and the complementary network of urban centres (MPAT Order No. 6/94 and 7/94, 26 January). These initiatives were framed within the development of new spatial planning policies, such as the new Framework Law on Urban Planning in 1998 (Law No. 48/98 of 11 August), the launch of the European Spatial Planning Development Perspective (ESDP) in 1999, the approval of the National Spatial Planning Policy Programme (PNPOT) by the Council of Ministers in March 2006, and of the 2015 National Sustainable

[175] The first and original pillar, the European Agricultural Guarantee Fund (EAGF), was devised with the objective of furnishing direct financial assistance and market-oriented measures to guarantee a stable and reliable supply of safe, healthy, and affordable food. The second and new pillar, also designated the European Agricultural Fund for Rural Development (EAFRD), was initiated in 2005 as a strategy for advancing a new rural development agenda across three priority axes: agricultural competitiveness, environmental protection, diversification of the economy and quality of (rural) life. This also included a cross-cutting axis focusing on the expansion and mainstream of the LEADER approach on local development and participation (ENRD, 2021; see footnote Box 1).

Development Strategy (ENDS) and Implementation Plan, including the monitoring indicators (PIENDS)[176] in 2007 (RCM No. 109/2007) (see subsection 7.1.4).

These urban and spatial policies were consolidated with the advent of the new cohesion policy cycle, as outlined in Portugal's National Strategic Reference Framework (NSRF)[177] for the period between 2007 and 2013. This new framework and accompanying programmes defined a clearer convexity and shift in the country's regional policy from a predominantly sectoral approach towards a multi-sectoral, multi-level and territorial urban-rural approach based on the coordination of multiple actors and their governance structures at central, regional and local levels (Cavaco et al., 2021). This included initiatives such as the Collective Efficiency Strategies (EEC) and its Programme for the Economic Valorisation of Endogenous Resources (PROVERE), which aimed to enhance the competitiveness of the economies of low-density territories and the valorisation of their distinctive endogenous resources, capacity building and cooperation between the various actors; as well as the launch of the European Territorial Agenda (Promoted by the Portuguese Presidency of the EU Council) and the introduction of the Polis XXI policy[178] (2007 to 2013), in what Cavaco et al. (2021) framed as a new place-based policy experimentation period. As indicated by Cavaco et al. (2021), the Polis XXI policy represented a tangible manifestation of the ongoing discourse surrounding territorial planning and development at the European level. This discourse centred upon the promotion of locally-based development, the concepts of territorial cohesion and the territorial development of a polycentric urban system and city-region, as outlined in the EU Territorial Agenda of 2007 and 2011. The Polis XXI programme concentrated on urban regeneration, competitiveness and innovation, and the provision of facilities within the National Urban System, placing particular interest on the supra-municipal notion of the city-region. These experiences laid the groundwork for the new orientation of future rural development policies, based on the formulation of differentiated and territorially grounded strategies capable of responding to the various objectives of European funds and the enhancement of the interconnectedness, attractiveness and competitiveness of European city-regions (Cavaco et al., 2021). This has led to a renewed emphasis on urban-rural relations, and on the articulation between different policy instruments and initiatives based on an integrated, polycentric and cooperative spatial development between multiple sectors and stakeholders (EC, 1999).

7.1.3.3. Alternative food networks and territorial integration of regional development policies (2012 – 2019)

The final phase of analysis encompasses the period between the country's financial crisis in 2012, the imposition of health restrictions by the advent of the SARS-CoV-2 pandemic in 2019 (Ventura et al., 2020; Gregório et al., 2021; Aguiar et al., 2022) and the subsequent invasion of Ukraine in early 2022[179] (UN, 2022; van Meijl et al., 2024). These scenarios posed significant challenges to the sector,

[176] The ENDS emphasised the integrated development of the territory, the qualification of urban systems, the improvement of environmental quality and the promotion of sustainable production and consumption, emphasising territorial integration both vertically, between different levels of planning, and horizontally, between different sectors.
[177] The Portuguese NSRF (2007-2013) concentrated on three thematic agendas: human potential, competitiveness and territorial enhancement.
[178] As described by Campos and Ferrão (2015), the POLIS XXI policy is framed in three dimensions: intra-urban, with regeneration operations at city level; inter-urban, with support for the formation of cooperation networks for competitiveness and internationalisation; and urban-rural, through integration actions between urban and rural areas.
[179] The invasion of Ukraine has resulted in significant disruptions to food supply chains, with notable implications for food security in sub-Saharan Africa and other parts of the world (UN, 2022a, 2022b). In Europe, the disruption has

leading to a renewed interest in improving domestic food supply and production, and the emergence of alternative food sourcing initiatives. The market-based focus on improving competitiveness and value-added exports was maintained, but the promotion of local markets for small-scale agriculture and the mobilisation of alternative support systems such as the third sector, volunteerism and food banks were strengthened to address the growing food insecurity of vulnerable groups (Cálvario and Castro, 2022). The agricultural sector demonstrated a favourable economic trajectory in multiple key areas, including productivity (particularly in regard to labour, land and assets), yields, agricultural capital and the utilisation of intermediate consumption goods. Collectively, these factors contributed to the expansion of agricultural production, expressed in the growth of both real and nominal values (Avillez, 2024). There was also a relative stabilisation of the downward trend in the number of holdings and the labour force, together with an increasing concentration of holdings of more than 50 hectares and a first increase in the number of paid employees (INE, 2021; see note 174). This occurred in parallel with the consolidation of the progressive ageing and professionalisation of agricultural producers, as evidenced by the proportion of farmers over 65 years of age, which has risen from 28.8% in 1989 to approximately 52.5% in 2019 (INE, 2021; Avillez, 2024). Agricultural policy maintained an emphasis on technological intensification, modernisation, mechanisation[180] and entrepreneurial orientation. However, as documented by Galli et al. (2020) and Avillez (2024) and observed in the previous period, the increase in food demand was accompanied by a sustained reliance on food imports, particularly of cereals, fruits, fats and oils, vegetables, sugars and other products, while maintaining a high level of production of milk, cheese, eggs, olive oil and some meats, such as sheep, poultry and pork (Galli et al., 2020). This was in line with the regional integration and the growth of food distribution logistics centres and retail and supermarket chains in the country's urban areas (see also Salvador, 2019, for the case of Lisbon).

The renewed regional impetus on environmental concerns, the necessity to adapt to intensifying global market competition and the consequences of climate change resulted in a surge of support for the transition to sustainable agricultural systems, as evidenced by the 2013 CAP reform (2014-2020) and the subsequent 'green orientation' of the CAP in 2021 (2023-2027) (Miliveciv, 2023). Some of these practices included the diversification of crops, the protection of permanent grasslands and the promotion of landscape conservation and heterogeneity through the maintenance of 'ecological focus areas' (EC, 2013). The 2013 CAP[181] reform served to consolidate the processes initiated in 2003 with the abolition of all demand control measures, including the abolition of milk quotas in 2015 and sugar in 2017 (EC, 2013). Furthermore, a streamlined menu of measures was devised with the

particularly affected the supply of maize and cereals for animal feed and the food industry. This has resulted in a general increase in fertiliser costs, energy prices and food prices, which can be attributed to the influence of Russia and Ukraine on these export items. This is in addition to the general inflation and increase of prices that has been observed since the recovery from the global pandemic (Caprile, 2022; European Council, 2024).

[180] In just 30 years from 1968 to 1999, the number of tractors on Portuguese farms almost doubled from just over 17,000 to almost 170,000 in this period (INE, 2021).

[181] In contrast to the preceding support cycle, which concentrated on central axes with minimal investment, the CAP rural development policy (2014-2020) adopted a flexible approach, encompassing six priority areas that reflect the structure of the rural development programme in Portugal (PDR-2020): 1) the promotion of knowledge transfer and innovation; 2) the improvement of the competitiveness of all types of agriculture and sustainable forest management; 3) the promotion of the organisation of the food chain, including processing and marketing, and risk management; 4) the restoration, preservation and enhancement of ecosystems; 5) the promotion of resource efficiency and the transition to a low-carbon economy; and 6) the promotion of social inclusion, poverty reduction and economic development in rural areas. The European Union (EU) has set a minimum expenditure of 30% of these funds for land management and the fight against climate change, a sum that will grow to 40% in the next funding cycle (2023-2027), and at least 5% earmarked on the LEADER approach (EC, 2013).

objective of fostering the sustainable management of natural resources and maintaining equilibrium in rural development and support to all types of agriculture across the food chain. These included: innovation[182], a knowledge-based agriculture, modernization and restructuring of farms, support for young and small producers, risk management tools, organisation of farmers, organic farming, agri-environment payments, forestry, cooperation, basic services, and the LEADER approach, among others. Consequently, the 2013 reform incorporated novel environmental criteria for the provision of sustainable farming practices, collectively designated as the "greening" of farm payments[183], and streamlined a new Basic Payment Scheme (BPS) to enhance a fairer distribution of support with an equity-based and enhanced targeting approach. This resulted in the phasing out of the historical reference payments by 2019, as part of the 'internal convergence' process (EC, 2013). Nevertheless, as numerous researchers have demonstrated, despite these endeavours and the favourable consequences of the 2013 reform (Hanson, 2021), the distribution and extent of the redistributive payment within the EU remained limited and characterised by elevated levels of inequality in favour of the most profitable and extensive farms (Viega et al., 2023; see footnote 165).[184]

At the national level, this support was translated into the implementation of the Rural Development Programme (PDR-2020), which ran from 2014 to 2020, and the introduction of comprehensive policies and actions focused on four main areas (see also footnote **Error! Bookmark not defined.**): 1) innovation and knowledge[185]; 2) competitiveness and organisation of production[186]; 3) environment, resource efficiency and climate[187]; 4) local development[188]; as well as technical assistance, and the introduction of exceptional support measures to address the impacts of the global COVID-19 pandemic and the invasion of Ukraine by Russia (PDR2020, 2024). Integrated territorial approaches came to be the dominant paradigm during this period, as did food system approaches under a 'farm to fork' perspective across the food chain. This corresponded to a notable increase in the integration between agricultural and food policies (e.g. food safety and nutrition), reinforcing their territorial anchoring, rural-urban linkages and spatial planning dimensions (Cálvario & Castro, 2022). As Cavaco et al. (2021) identify, the period from 2014 to 2020 also saw a clear reversal from the previous prioritisation of 'hard infrastructure solutions', which were prominent in the late 1990s and

[182] Such as the European Innovation Partnership for Agriculture & Sustainability (EIP-Agri), fostering knowledge transfer, cooperation and investments in physical assets (EC, 2013).
[183] This emphasis will be further strengthened in the new CAP (2023-2027) by setting a minimum of 25% for eco-schemes, including measures such as organic farming, crop rotation, carbon farming and agroecology.
[184] As Viegas et al. (2023) show, a large share of CAP funds continues to be unequally distributed in favour of very profitable and large farms, such as those in the Alentejo and northern areas of Portugal, to the detriment of other regions, such as the Algarve and the Central region, where ageing, the prevalence of forest fires and rural depopulation are latent problems for their regional development. The country also shows a greater imbalance compared to the European average, with almost 8.9% of the total number of beneficiaries receiving around 68% of the total national budget in 2020, compared to 8% of beneficiaries receiving 58.55% of direct payments at EU28 level (Viegas et al., 2023).
[185] This included capacity building and the dissemination of information, as well as the provision of advisory services. (PDR-2020, 2024)
[186] This encompassed measures pertaining to the investment and enhancement of agricultural production, collective infrastructure, and the support of young producers, in addition to the valuation of forestry resources, the establishment of producer organisations, risk management, and the recuperation of productive potential (PDR-2020, 2024)
[187] This included measures for the promotion of organic farming, agri-environmental support, soil conservation, efficient use of water, the promotion of traditional permanent crops, the maintenance of animal, plant and forest genetic resources and indigenous breeds, forest mosaic, silvopastoral and environmental systems, among others (PDR-2020, 2024).
[188] This encompassed the LEADER approach, which prioritised the development of local capacity and the reinforcement of connections between Local Action Group (LAG) networks. It also entailed the implementation of strategies and investments in agricultural production, processing and marketing, the diversification of economic activities and the promotion of local products, the establishment of short supply chains and local markets, as well as inter-territorial and transnational collaboration between LAGs (PDR-2020, 2024).

early 2000s, to a focus on innovation, capacity-building, governance and the creation of a knowledge-based agriculture and related jobs (see Table 15).

The new European programming cycle (2014-2020) introduced in this way a new multi-fund and flexible approach to strengthen the alignment and articulation between the different instruments and European Structural and Investment Funds (ESI) into integrated packages tailored to fit specific territorial needs and opportunities (EC, 2015). The new integrated territorial (or place-based) approached provided a set of strategic objectives, thematic and investment priorities that could be adapted to the different territorial contexts and objectives through the thematic and regional Operational Programmes (TOPs and ROPs) in the framework of what would become the new policy of the Partnership Agreement, Portugal 2020 (See Table 15). This cycle was also accompanied by the introduction and standardisation of new European territorial planning instruments, promoting a structured dialogue for the design and implementation of multi-level policy approaches and the use of multiple funds at the territorial level (Cavaco et al., 2021). These include the Integrated Territorial Investment (ITI) projects, which focus on the inter-municipal and metropolitan scale; the Community-Led Local Development (CLLD), as the successor of the LEADER approach and focused on the local and community scale; and the ERDF Integrated Sustainable Urban Development (ISUDS) instruments at the municipal scale. These frameworks consolidated the integrated and place-based approach to the formulation and implementation of territorial projects, providing key planning tools to promote the coordination and cooperation between different layers of governance, sectors and stakeholders (EC, 2015; Medeiros & van der Zwet, 2019). For example, ITI projects are also linked to the development of 'Territorial Development and Cohesion Pacts' (PDCT) as territorial investment instruments framed in the 'Integrated Territorial Development Strategy' (EIDT). In Portugal, the ITI provides and reinforces the implementation tools at the NUTS II level of the Inter-Municipal Councils (IMC) and Metropolitan Areas (MA), already established by the country's new spatial planning regime in 2003 and reinforced in 2014, which act as authorities responsible for the coordination and elaboration of these instruments. On the other hand, the CLLDs continued the experience and work initiated by the LEADER approach since 1991 (see Box 1) as a tool for local development and community participation through the development and implementation of 'Local Development Strategies' by '(Fisheries) Local Action Groups' (LAGs/FLAGs), focusing on the dynamism and revitalisation of local economies through place-based social innovation and bottom-up approaches. Finally, the instruments for integrated sustainable urban development[189] (ISUDS) focus on the municipal level, including the elaboration of strategic frameworks for their implementation, such as the 'Plan for Sustainable Urban Development Strategies' (PEDUS), the 'Action Plan for Urban Regeneration' (PARU), the 'Integrated Action Plan for Disadvantaged Communities' (PAICD) and the 'Action Plans for Sustainable Urban Mobility' (PAMUS). This reinvigorated focus on urbanism at the European level was synchronous with novel advancements in urban planning in Portugal. The first spatial planning regime was inaugurated in 1998, with a subsequent update in 2014 that fortified planning instruments at municipal, metropolitan, and inter-municipal levels (see subsection 7.1.4). This was also accompanied by the introduction of new urban-based strategies, including the Sustainable Cities Strategy for 2020, which was launched in 2015 (RCM 61/2015).

[189] In the 2014-2020 funding cycle, 103 ISUDS were approved in Portugal, with a total budget of €797 million. This figure includes all Portuguese NUTS II regions, with the exception of the Algarve region, which chose not to apply due to insufficient financial capacity to include it within its priority axes on its regional operational programme (Medeiros & van der Zwet, 2019).

Since the inclusion of the Municipal Master Plans in 1982, the municipal level has assumed an increasingly prominent role and responsibilities in the management of the spatial planning in the country, offering local authorities key tools to facilitate the transformation of food systems and to engage in strategic planning. In addition to the spatial instruments and responsibilities defined in the 2014 Spatial Planning Law (Law 31/2014), municipalities were granted further competencies for the management of additional components of the food system during this period. This encompassed the enactment of novel legal frameworks pertaining to local farmers' markets, which were ratified in May 2015 (Decree 85/2015). This legislation provided local authorities with innovative instruments for the advancement and growth of local markets and short supply chains, which were restructured and reinvigorated despite their diminished role in the city's food supply during this period, with the rise of supermarkets (see Salvador, 2019 for the case of Lisbon) and food supply centres for wholesalers (MARL or MARF). This encompassed the promotion of healthy eating and the establishment of cooperation protocols between neighbouring municipalities, motivating the renewal of the National Strategy for Green Public Procurement (ENCPE 2020) in 2016 (RCM 145/2016), building on the experience gained during the first launch of the strategy in 2007 (ENCPE) for the period between 2008 and 2010 (RCM 65/2007). Furthermore, in 2019 the new regime for the promotion of sustainable consumption of local production in public canteens and restaurants was approved. This established criteria for the selection and purchase of food products according to their origin and environmental impact and quality, with a particular focus on local and seasonal products, including those produced by family farmers, organic producers and those with protected designation of origin. These regimes reinforced the role of municipal councils in the development of territorial school feeding systems, which have been under their responsibility since 1984 (Cálvario and Castro, 2022; see footnote 156).

As noted by Cálvario and Castro (2022), the Government's 21st programme for 2015-2019 started to adopt a systemic perspective on food as a strategic element within the country's public policy. The programme sets out objectives for food supply and the substitution of food imports, as well as health policy and the promotion of access to adequate and healthy food. It also seeks to strengthen links with public management instruments such as collective catering and the promotion of local markets, with a view to fostering territorial cohesion and urban-rural linkages (Cálvario & Castro, 2022). This integrated vision reached a remarkable consolidation during the period between 2010 and 2020 with the affirmation of national public health policies related to food and nutrition (Graça et al., 2016a; see subsection 7.1.2). This was motivated by the growing body of evidence indicating the impact of poor dietary habits and nutritional transitions in the country, especially linked to cardiovascular diseases and the growing trends of obesity. As evidenced by Graça et al. (2016b), by 2014, more than half of Portuguese adults were overweight (52.8%), and up to 50.7% of the population was food insecure, in particular vulnerable groups at risk of poverty and social exclusion[190]. This included the introduction of the National Programme for the Promotion of Healthy Eating (PNPAS) and its food insecurity surveillance system in 2012 (Direção-Geral da Saúde, 2012), followed by the Integrated

[190] In Portugal in 2014, 19.5% of households were at risk of poverty compared to 17.2% in 2019 (corresponding to the percentage of the population with income below 60% of the median income per adult equivalent after social support) (INE, 2024). This figure reaches 26.4% when including social exclusion, compared to the 21.1% in 2019 (corresponding to severe material and social deprivation (SMSD) applied to the lack of at least 7 out of 13 elements necessary and desirable for an adequate life, including persons living in a household where working age members worked time equal to or less than 20% of their total working time potential during the previous year) (Eurostat, 2024)

Strategy for the Promotion of Healthy Eating (EIPAS) in 2017 and the update of the PNPAS[191] in 2020 (Graça et al., 2016b). The food and nutrition policies that were initiated during this period were accompanied by a series of supplementary measures, platforms and strategies that have contributed to the consolidation of a more integrated food policy approach, in line with the rural development objectives set out in the PDR-2020. These included the National Commission to Combat Food Waste (CNCDA) launched in 2016 and its National Strategy (ENCDA) and Action Plan to Combat Food Waste (PACDA) approved in 2018 (RCM 46/2018), with the mission to reduce food waste through an integrated, multidisciplinary and a whole-of-government approach involving representative from 10 different areas of governance; the Family farming statutes at national level (Decree 64/2018); the National Organic Agriculture Strategy (ENAB) and its Action Plan (AP), with the objective of facilitating productive reconversion and stimulating the production and promotion of organic products between 2017 and 2027, as well as the launch of the National Rural Network Programme in 2009[192], the National Organic Production Observatory (ONPB) and the National Council for Food and Nutrition Security[193] (CONSANP) in 2018. These represent significant governance platforms and exchange mechanisms to facilitate the advancement of inter-ministerial and multilateral work, and the participation of a diverse range of stakeholders on food-related matters. Under the auspices of the CONSANP, two key initiative have been launched. These are the National Plan for Balanced and Sustainable Food (PNAES)[194] and the National Strategy for Food Security and Nutrition (ENSANP)[195]in 2021, laying the foundations for the development of the National Network for a Balanced and Sustainable Food (RNAES)[196] in 2023.

These progresses have also been accompanied by a renewed commitment among various territorial authorities to integrate food as a fundamental element of urban policies, actions, and strategic

[191] The National Programme for the Promotion of Healthy Eating (PNPAS) is part of the eleven priority health programmes of the National Health Plan (Order no. 6401/2016).

[192] The National Rural Network Programme (PRRN) is created in the 2007-2013 programming cycle and reinforced in the Portugal 2020 strategic framework, funded by the European Agricultural Fund for Rural Development (EAFRD) as a mechanism for the exchange of information and expertise among rural actors, coordinated by the Secretariat for Planning and Policies of the Ministry of Agriculture, Rural Development and Fisheries (Decree-Law No. 66/2009).

[193] The National Council for Food and Nutrition Security (CONSAN-P) was established by Council of Ministers Resolution No. 103/2018 as a participatory inter-ministerial platform promoting collaboration with civil society, the academic community, the public and business sectors. Its objective is to ensure an integrated vision and action on food and nutrition security issues, with a view to developing a sustainable and healthy food system. The CONSANP is based on four main axes: 1) Policy integration and governance; 2) Vulnerable groups, health and nutrition; 3) Functioning of the food chain; and 4) Communication.

[194] The PNAES was launched in 2021 as part of the Terra Futura Innovation Agenda and in alignment with the ENSAP and under the CONSANP. The PNAES is structured around four axes: 1) Consumption; 2) Production; 3) Mediterranean Diet; and 4) Education and Food Literacy. The overarching objective is to stimulate national production, promote the adoption of more sustainable production and distribution systems based on short supply chains and local initiatives, and encourage the adoption of a more nutritionally balanced and informed diet. The PNAES also seeks to enhance food systems, promote the consumption of high-quality local products, safeguard the Mediterranean Diet through the implementation of incentives to achieve 20% adherence by 2030, and raise awareness and provide guidance to consumers and the general public on the importance of adopting a nutritionally balanced and informed diet (DGADR, 2021)

[195] The objective of the ENSANP is to encourage the implementation of comprehensive measures to facilitate the transition to sustainable, healthy, inclusive and resilient food and nutrition. This is to be achieved through four strategic pillars: policy integration and governance; vulnerable groups, health and nutrition; a well-functioning food chain; and communication.

[196] The RNAES is a research and innovation project funded by the Programme for Recovery and Resilience (PRR) with the aim of 1) promote behavioural changes for a healthy and sustainable diet; 2) study and monitor the different factors that influence and promote a healthy Mediterranean diet; 3) create a structure for characterising territorial food systems that supports the decision and definition of intervention priorities; 4) promote the networking and institutional articulation of the activities of the PNAES. The RNAES is implemented through 4 lines of action: consumption, products, Mediterranean diet and communication (RNAES, 2024)

frameworks, including pioneering instances at the municipal level such as Torres Vedras, Funchal, Matosinhos, and Lisbon, and the inter-municipal community of the Beiras Baixa, among others[197]. These endeavours have been further supported by global agreements, such as the Milan Urban Food Policy Pact (MUFPP) launched in 2015 and signed by four Portuguese authorities, as well as recent European and regional food-related projects (such as FoodLink and FoodClic in Lisbon, FoodTrails in Funchal, or Prato Certo and Local Food Systems (SAL) in Algarve), that have motivated the formation of new urban food strategies (see Oliveira for Lisbon), policies and networks for the collaboration, exchange, and dissemination of knowledge related to the promotion of sustainable urban food systems, such as the Alimentar Cidades Sustentaveis Association (ACSA).

These developments contribute and align to the new European frameworks, such as the Green Deal (2019) and its Farm-to-Fork strategy (2020); the Climate Pact (2020); the Biodiversity Strategy 2030 (2020); the 'Food 2030—Pathways for action' (2020) and the European Organic Plan (2021). Other important initiatives launched at the end of this period include the Innovation Agenda for Agriculture 2030 - Terra Futura (RCM 86/2020), as well as the new Partnership Agreement in the Community Support Framework, Portugal 2030 for the period up to 2027. These national policy and planning frameworks served to consolidate the new policy framework and approach to the agri-food sector, thereby strengthening the interlinkages between agricultural and food supply, nutritional, environmental and rural development policies, under a strategic and integrated approach to the food system (Oliveira, 2022).

TABLE 15: EUROPEAN PROGRAMMING CYCLES AND INVESTMENT AREAS IN PORTUGAL.

Programming Cycle	Period	Investment Areas
Pre-accession	1983–1993	Infrastructure
First ERDF	1986–1989	Accessibility and Education
CSF I	1989–1993	Urban renewal, productive systems
CSF II	1994–1999	LEADER, Rural areas, public equipment, libraries, public markets
CSF III	2000–2006	Coastal areas, school, LEADER+, infrastructure, accessibility
NSRF	2007–2013	Supra-municipal projects, urban partnerships, innovative projects
Partnership Agreement	2014-2020	Place-based Integrated territorial projects, multi-sectorial and multi-fund approach

SOURCE: ELABORATED BY THE AUTHOR BASED ON ROCHA-MEDEIROS, 2014; CAVACO ET AL., 2021

Note: CSF: Community Support Framework; NSRF: National Strategic Reference Framework; ERDF: European Regional Development Fund

7.1.4. Trajectories of spatial and urban planning frameworks in Portugal and their relation to food landscapes

The planning frameworks of Portugal, along with its urban, spatial and food structure, have undergone a substantial transformation over the past seven decades. This transformation can be traced back to the country's first formal spatial planning instrument, the General Improvement Plan (PGM), introduced in 1864, followed by the introduction of the General Urbanisation Plans (PGU) in 1934 and the Urbanisation Foreplans in 1946, which would serve as key tools to respond to the new impulse of urban modernisation after the Second World War. Since the 1980s, a number of significant legislative developments shaped the evolution of Portugal's urban planning framework. These include

[197] See also the publication on best food practices in Portugal from sustainable production to consumption (Delgado, 2020a).

the introduction of the Municipal Master Plan in 1982, followed by the Regional Planning Act in 1988 and, ten years later, the Spatial Planning[198] Act in 1998, which resulted in the launch of the first National Spatial Planning Policy Programme (PNPOT) in 2007, the introduction of the Intermunicipal Planning level under the New Spatial Planning Act in 2014, and the update of the PNPOT in 2019 (see

Table 16).

7.1.4.1. The advent of spatial planning policy in 20th-century and during the New State Regime

The process of institutionalisation of the first formal planning instruments in Portugal had a relatively late emergence, driven primarily by the continuous but still incipient development of its two main cities, Lisbon[199] and Porto (Lôbo, 1995). The initial instrument, the General Improvement Plans (PGM), was introduced in 1865 with the objective of facilitating the modernisation, adequate health and safety conditions of these cities in terms of infrastructure, urban water, transport (main urban roads), lighting, public health and other aspects. Additionally, it aimed to support and control the growing development by private initiative, which would only come to fruition at the beginning of the 20th century. The spatial and social structure of the country was still predominantly rural, characterised by a clear distinction between urban and rural planning. The former was addressed through instruments such as the PGM, while the latter was addressed through an agroforestry policy

[198] It is important to distinguish the concept of *'ordenamento territorial'* officially used in Portuguese law, which we translate here as spatial planning. Cavaco et al. (2021) define it as the "science, policy field and administrative technique that deals with the organisation and spatial development of cities, regions and territories in general", based on an integrated and intersectoral approach. This concept integrates both the "territorial development" dimension, seen as the coordinated action of economic, social, environmental and cultural developmen at the different levels of governance, as well as the management and planning of "land use" from a physical, regulatory and zoning approach (Cavaco et al., 2021).
[199] However, as Mullin (2007) observes, one of the earliest formal planning exercises in Portugal occurred during the reconstruction of the city centre of Lisbon following the earthquake and tsunami that devastated a portion of the city in 1755. This initiative was spearheaded by Sebastião José de Carvalho e Mello, the future Marquês de Pombal, who served as Minister of State at the time (Mullin, 2007).

approach, encompassing plans for forestry, rural land and irrigation (Campos & Ferrão, 2015; see subsection 7.1.1).

The latest developments of these frameworks occurred only until the 1930s, in a different socio-political context, with the advent of the authoritarian regime in 1926 and the establishment of the New State in 1933 (until 1974). This resulted in the emergence of a new urban planning doctrine, which was shaped by the long-term visions of the new Minister of Public Works and partly Mayor of Lisbon, Duarte Pacheco (1932-1936 and 1938-1943), as founder of modern Portuguese planning (Lôbo 1995). Pacheco introduced structural reforms to the country's legal framework for urban planning and development, which resulted in the introduction and obligatory nature of a new French-inspired instrument, the General Urbanisation Plans (PGM). These were applied to agglomerations of more than 2,500 inhabitants, as established in Decree Law 24802 of 1934 (Campos & Ferrão, 2015), formalising the fundamental distinction between urban policies and plans and the planning of rural and agroforestry activities (Campos & Ferrão, 2015; Marat-Mendes et al., 2022). Subsequently, the General Urbanisation and Expansion Plans were established (Decree Law 33921 of 1944), and the General Directorate of Urbanisation Services (DGSU) (Decree Law 34.337) was constituted as the central authority to oversee the implementation of the policy, thereby reinforcing the state's control over the country's urban development. However, the lack of technical and human capacity constrained its progress to few cities, where the initial urban plans were formulated.[200] These included avant-garde models with a regional and complex understanding of the city and zoning instruments, representing the first visions of a metropolitan region, inspired by the Howards Garden city model, green belts and a functional organization of the city (Marat-Mendes et al., 2022).

As demonstrated by Vidal (2021), this period also witnessed a growing consensus on the significance of tourism for local development and urban planning. This emphasised the necessity for the restructuring of services, the professionalisation of the tourism sector and the organisation of tourism in the country, with the objective of enhancing the 'offer' in terms of local public services and resources that were previously only available in larger urban centres. This was accompanied by the establishment of (tourism) 'initiative committees' and the concept of 'tourist zones', which constituted novel territorial divisions or social spaces for the administration and construction of a place's identity and capacity for tourist development (Mero, 1991), as exemplified by the emblematic cases of Praia da Rocha and Quarteira in the Algarve region.

Following the death of Duarte Pacheco, the advances achieved in the previous decade were reversed. In 1946, the 'Urbanisation Foreplans' (DL 35931) were introduced, enabling municipalities to operate urban developments from technical spatial studies without the need for central approval or legal or public binding frameworks (Campos & Ferrão, 2015). As Gonçalves (1989) elucidates, this resulted in a disincentive for the development of more complex plans, which were not approved between 1944 and 1971, allowing proprietors and urban developers to regain control over the temporal, spatial, and formal aspects of urbanisation (Campos & Ferrão, 2015). This process was consolidated in 1965,

[200] As documented by Marat-Mendes and Oliveira (2013), the early urban planners of this period in Lisbon and Porto were significantly influenced by the French, English and Italian school of thought, especially by the Institut d'Urbanisme de l'Université de Paris (IUUP), with the arrival of notable urban planners such as Etienne de Groër, Georges Meyer Heine, Donat Alfred Agache, Jean-Claude Nicolas Forrestier and Pierre Joseph Pezerat in the case of Lisbon, the garden city movement initiated by Howard Ebenezer in 1902 and Patrick Geddes' valley and regional scale, promoted by notable urban planners such as Antao Almeida Garret, Barry Parker and Ezequiel Campos, as well as the Italians Marcello Piacentini, Giorgio Calza Bini, Vincenzo Civico and Giovanni Muzio, in the case of Porto, who made a remarkable contribution to the development of these cities and the concretisation of these new planning frameworks.

when private initiatives assumed greater significance with the advent of a novel urban policy instrument, the *'loteamento urbano'*, which served as a framework for the allocation of land for infrastructure and real estate development projects in areas not encompassed within urban plans. This mechanism came to represent the dominant model during a period of substantial urban expansion and modernisation of the country, particularly in rural areas close to main cities, including illegal urbanisation processes (Campos & Ferrão, 2015; Cavaco et al., 2021). This disengagement also saw the abandonment of the garden city model promoted by early urban planners in the 1940s and 1950s, which contributed to the sharp separation and declining role of the countryside, short food chains and agriculture in this new phase of urbanisation (Marat-Mendes et al., 2022). As seen in previous chapters (see subsection 7.1.2 and Figure 48), the 1960s still corresponded to a predominantly rural population,[201] which would experience a rapid decline during this period, stimulated by the increasing development of industry, urbanisation and the mechanisation and modernisation of agricultural practices in the country. This would also be reflected in changing food habits in the country, with an (urban) food transition away from its rural, Mediterranean and local base (Rodrigues, 2008).

7.1.4.2. The new Democratic Spatial Planning Policy, regionalisation and the Europeanisation process

The extensive urban and tourist development that the country experienced during this period gave rise to the necessity of reinforcing the orientation and regulation of these effects at the regional level, addressing the imbalance between the progressive urbanisation of coastal areas and the management of the inland's rural and natural regions (Cavaco et al., 2021). This approach was incorporated into the formulation of new 'regional' plans, such as the Lisbon Master Plan in 1964 and the Algarve Regional Development Plan in 1965 ('Plano Diretor do Algarve'), representing the inaugural instances of spatial planning at the supra-municipal level. However, these plans did not lead to tangible results as none of them was finally approved (Cavaco et al., 2021). Four years later, in 1969, the Portuguese government reinforced this approach with the introduction of six new planning regions (North, Centre, Lisbon, South, Madeira and Azores) and the creation of the Regional Planning Commissions (CPR) as the bodies responsible for planning and implementing regional development policies (Cavaco et al., 2021). Ten years later, in 1979, the CPRs were replaced by the new Regional Coordination Commissions (CCRs), the predecessors of today's CCDRs, which strengthened the convergence of regional development processes and their link with European frameworks and the central government. The new structure of the CCRs was equipped with more tools to contribute to the technical, financial and administrative support of local authorities, with the development of the Technical Support Cabinets (Gabinetes de Apoyo Técnico dirigidos a los municipios - GAT). The CCRs would also be a key link with the new developments in environmental protection, nature conservation and spatial planning that would be consolidated in the decade of the 1980s (Cavaco et al., 2021).

The 1970s saw the continuation of previous urban planning processes, with greater clarity being brought to the hierarchy and application of existing planning instruments. This included the introduction of Setting Plans (Planos de Conjunto), Urbanisation Plans (PU) and Detailed Plans (Planos de pormenor – PPM), as set out in Law 560/71 and Decree 561/71 of 1971. However, as

[201] In 1960, 47% of the population still worked in agriculture, a proportion that would rapidly decline to 32% in 1970 and 19% in 1980 (Barreto, 2017).

Marat-Mendes et al. (2022) argue, these frameworks accentuated the separation of rural areas and gave a predominant orientation to the role of municipalities in the elaboration of detailed plans within the city and its immediate surroundings, while leaving the planning of the broader settings (planos de conjunto) to the central state (Pereira 1997). In 1976, the 'Soil Law' (DL 794/76) was passed with the aim of maintaining the characteristics and conditions necessary for the control and defence of urban land. This provided greater legal tools to facilitate the reorganisation and control of agglomerations, industrial parks, the recovery of degraded areas and urban green spaces.

The new democratic period after the 25 April Revolution, brought a fundamental transformation in the country's planning structure with the enactment of the Municipal Master Plan (PDM) Law in 1982. This new framework aimed to increase the scope and effectiveness of planning instruments to cover the entire municipal administrative territory, promoting the coordination of the PDM as a spatial, social and economic development strategy, and the empowerment and autonomy for territorial planning and financing at the municipal scale, as established by the 1976 Constitution of the new democratic regime (Cavaco et al., 2021;

This period also represented a significant advance in environmental policy, marked by the introduction of the National Agricultural Reserve (RAN) in 1982 and the National Ecological Reserve (REN) in 1983. These legal instruments were designed to regulate and restrict land use, protect natural resources, and promote sustainable development in response to the growing pressures of urban expansion and accelerated development observed during the previous two decades. Furthermore, the RAN and REN serve as instruments for the preservation of strategic zones for the development and promotion of agriculture, especially in soils with high productive potential, and for the preservation and management of ecosystems, natural habitats and their natural resources. These instrument were later accompanied by the approval in 1987 of the Law of Environmental Bases (Law 11/87), which favours territorial planning for the appropriate expansion of urban areas, landscape management, nature conservation and ecosystem maintenance in the promotion of a healthy environment and well-being of people, including food, as well as the adoption of the Law of Cultural Heritage in 1985 (Law 13/85), for the survey, study, protection, conservation and valorisation of material and immaterial cultural assets, and the establishment of the National Network of Protected Areas in 1993 and the European NATURA 2000 Network under the Fundamental Network for Nature Conservation (RFCN) and the National System of Classified Areas (SNAC). In 1995, the Special Territorial Planning Plans (PEOT) were introduced with the objective of implementing differentiated management strategies for specific areas, including coastlines, protected zones, public water reservoirs, and estuaries. These plans were designed to ensure the protection of natural resources and values within these areas, while facilitating compatible and sustainable territorial use through the implementation of special spatial regimes.

This renewed environmental approach merged with the accession to the European Economic Community in 1986, resulting in a period of institutional harmonisation and significant investment in infrastructure and regional development (See subsection 7.1.2.1). The new European support resulted in the reinforcement of planning frameworks at the regional level, with the institutionalisation of regional plans and the creation of the Directorate-General for Regional Development (DGDR), which became the responsible body for the study and promotion of regional policy and the coordination of Community structural funds, especially the European Regional Development Fund (ERDF). In 1988, the Regional Planning Law (Law 176-A/88) was approved, introducing the first Regional Spatial Plans (PROT), including the PROTAL plan for the Algarve region between 1988 and 1991 (RCM

33/88) and the PROTAML plan for the Lisbon region in 1989. Consequently, the CCRs were assigned greater responsibilities (Decree 130/86), which coincided with the implementation of a new geographical delimitation of territorial units for statistical purposes (NUTS) within the country. This new system corresponded with the existing levels of management and also reflected the country's agricultural regions and zones (Decree 46/89).

Notwithstanding the reinforcement of the regional level, as emphasised by Cavaco et al. (2021), spatial planning remained predominantly oriented towards an urban planning and zoning approach (Cavaco et al., 2021), reinforced by the new legal regime of municipal spatial plans enacted in 1990 (Law 69/90). This legislation established the obligatory nature of the PDMs, making their procedure and execution mandatory throughout the municipal territory. The legislation in question established the obligatory nature of the PDM and set forth a requirement for its revision every ten years. In addition, it presented the new legal regime for their processing and application, including their articulation with other municipal and supra-municipal programmes and projects, as well as to comply with the protection and enhancement of agricultural and forestry areas, such as the RAN and the REN. As previously discussed (see 179), the introduction of mandatory municipal spatial plans across the country was accompanied by the implementation of new support programmes, including PROSIURB (1994-1999), which aimed to consolidate the national urban system and facilitate the implementation of the PDM. The advent of new windows of support and planning opened avenues for the implementation of novel integrated territorial approaches (Cavaco et al., 2021), driven by the ongoing experiences in other European countries and the new approaches enshrined in the European Spatial Development Perspective, published in 1999.

In their 2022 study, Marat-Mendes and colleagues present a valuable analysis of these planning frameworks in light of the significant transformations that were occurring in the food system during this period. In their analysis, the authors identify a notable absence of a strategic and integrated vision of food and 'rural' areas in spatial planning, management and coordination at the municipal level, restricting itself to the classification of rural or agricultural land without any articulation with the territorial project (Marat-Mendes et al. 2021). This approach has resulted in the prioritisation of urban developments and instruments, with the corresponding neglect and separation of food and productive spaces in the municipal development vision. This has occurred simultaneously with an increasing externalisation and transfer of responsibilities for food provision to the private sector, as evidenced by the spread of supermarkets, supply chains, logistics and distribution throughout the national territory (Morley & Morgan, 2021), confirming a vision of the food system based purely on private initiative and management (Marat-Mendes et al. 2021).

7.1.4.3. Contemporary Spatial Planning System, (inter)municipalism and the failure of regionalisation

The progress made in regional integration since the country's accession to the European Economic Community was reversed at the turn of the century and the beginning of the 21st century. In 1998, the parliament initiated a referendum on the proposal to regionalise the country and introduce new administrative regions, which was ultimately rejected. In the same year, the parliament approved the first legislation establishing the legal foundations of the spatial and urban planning policy in the country (Law 48/98 and Decree 380/99), reinforcing the role of the municipal and inter-municipal and Metropolitan planning scales. An integrated and hierarchical system was established, comprising a set of instruments for territorial planning subdivided into strategic development-oriented spatial

plans, regulatory and land use plans[202] with a zoning-oriented nature, and sectoral[203] and special planning policies. The system encompasses the national, regional, intermunicipal, and municipal levels, establishing the legal framework for the planning process of each of these instruments (elaboration, approval, public consultation, and ratification by the central government). This encompassed the introduction of the National Spatial Planning Programme Policy (PNPOT), the confirmation of the Regional Spatial Planning Plans (PROT) of 1988, the introduction of the Intermunicipal Spatial Planning Plan (PIOT), sectoral development policies (Sectoral Plans - PS), the Special Spatial Planning Plans (PEOT) of 1995, such as the Coastal Area Management Plans (POOCs), the Management Plan for the Hydrographic Basins for the Ribeiras do Algarve Hydrographic Region (PGBH – RH8), as well as management plans for protected areas and for public water reservoirs. This also included territorial plans, such as the Municipal Master Plan (PDM) of 1982, the Urbanisation Plan (PU) and the Detailed Plan (Plano de pormenor – PPM), while leaving the PDM as the sole regulatory and mandatory tool in the country. These instruments were subsequently ratified with the publication of the Legal Framework for Territorial Management Instruments (RJIGT) in 1999 (Decree 380/99).

In the aftermath of the unsuccessful regionalisation process of 1998, a new legal regime was established in 2003. This served to confirm the formation of the associative municipal scales of the Metropolitan Area (MA), the Intermunicipal Communities (CIM) and the intermunicipal associations (for specific purposes), defining their respective functions, operational entities and procedures. Concurrently, novel regional entities were established, namely the Regional Coordination and Development Commissions (CCDRs), which superseded the CCRs, established in 1979, and the Regional Directorates for Environment and Spatial Planning (DRAOTs). The CCDRs assumed the role of strategic coordination at the regional level, assuming responsibility for policy formulation, planning and the elaboration of Regional Development Plans (RDPs). They facilitate the coherence and articulation of European intervention actions and funds at the regional level, as well as the elaboration, evaluation and revision of regional spatial plans (PROT), among other responsibilities. The CCDRs unify and integrate a range of responsibilities, including those pertaining to spatial planning and regional development, the environment, urban regeneration, nature conservation and biodiversity. Subsequently, in 2012 and 2013, the role of the CCDRs was reaffirmed (Decree 228/2012) and their organisational model was defined as peripheral to the direct administration of the state. The legal regime of Metropolitan Areas and Intermunicipal Communities was also updated (Law 75/2013), resulting in the formation of the new delimitation of the national NUTS II and III in 2015, that consolidated the harmonisation with European frameworks and processes. At the same time, 2013 marked a further step towards the consolidation of the role of municipalities and their communities in areas of great importance for the agri-food system, with the approval of the Legal Regime of Local Entities (Law no. 75/2013), which broadened the range of competences of the local level in areas such as: spatial and urban planning, rural and urban facilities, heritage, culture and science, health, environment and basic sanitation, consumer protection, promotion of development, education (and management of its food services), social action, energy, transport and

[202] The Spatial and Urban Planning Law also provides the following key definitions of land use classification: rural land with agricultural, livestock, forestry or mining prospecting potential; protected natural areas; recreational areas with or without non-urban infrastructure; urban land with urbanisation and building potential or already urbanised.

[203] These include sectoral planning policies that complement territorial frameworks in sectors such as: mobility, communications, energy, geological resources, education, culture, health, housing, tourism, agriculture, commerce, industry, forestry and environment.

communications, leisure and sport, housing, civil protection, municipal police and local external cooperation.

Box 2: recent advances in CCDR and their role in the development of food landscapes

The recent restructuring of the CCDRs in 2023 (Decree 36/2023) constitutes another pivotal point of reference for the examination of the evolution of regional food systems planning in the Algarve. This decree establishes the new CCDRs, I.P., as public institutes of special regime and regional scope. This represented a consolidation of their role in the development of regional development strategies, provision of technical support, and planning and management of the cohesion policies in regional programmes and European territorial cooperation, while integrating new responsibilities for the articulation of regional public policies in the field of environment, cities, economy, culture, education, health, territorial planning, nature conservation and agriculture and fisheries. In consequence, the CCDRs, I.P. start to assume the responsibility for the formulation and implementation of agricultural, rural development and fisheries policies previously treated only by the Regional Directorates for Agriculture and Fisheries (DRAPs).

Another significant milestone in the evolution of spatial planning in the country was reached in 2007 with the approval of the first National Spatial Planning Policy Programme (PNPOT) (Law 58/2007), representing the highest national instrument within the spatial planning system established in 1998. The PNPOT serves as a strategic territorial development instrument, identifying the primary territorial policy options, as well as the principal challenges and relevant trends for the formulation of national spatial development vision and territorial, sectorial and special plans in the medium- and long-term planning period (Governo do Portugal, 2007). The PNPOT ensure coordination of public policies aligning with other strategic instruments, such as the National Strategic Reference Framework (NSRF) for the period 2007-2013 (see subsection 7.1.3.2), the 2015 National Sustainable Development Strategy (ENDS) (RCM No. 109/2007; see footnote 176), and the National Climate Change Programme (PNAC) (RCM 56/2015), among others. The 2007 PNPOT establishes six principal lines of action, focusing on the conservation and enhancement of biodiversity, natural resources, and cultural and landscape heritage; the promotion of territorial competitiveness and integration within Iberian, European, Atlantic, and global contexts; the promotion of polycentric development of territories; the reinforcement of integration infrastructures, territorial cohesion and equity; the development and use of advanced information and communication networks and infrastructures; and the quality and efficiency of territorial management (see for example footnote 178 and the launch of the POLIS and POLIS XXI initiatives during this period). Informed, active and responsible participation of citizens and institutions in planning processes are also promoted. In 2007, additional modifications were also made, including the introduction of a mandatory Strategic Environmental Assessment (SEA) for all plans and a streamlined ratification process for PDMs (Cavaco et al., 2021). This coincided with the update of the REN and RAN that took place in 2006 and 2009, respectively.

The ongoing changes in territorial dynamics, in particular the progressive urbanisation and urban and tourist expansion in the coastal areas of Lisbon, Porto and Algarve, continue to present significant challenges for the spatial planning system of this period (Cavaco et al., 2021). The national 'soil policy', which was established 40 years ago in 1976, also presented significant limitations to counteracting these changes (Marat-Mendes et al., 2022). The land use classification system that was in place during this period afforded PDMs a considerable degree of flexibility, which was conducive

to urban development and real estate speculation. The formulation of the new Spatial Planning Act with the 2014 Law on the 'General Bases of the Public Policy on Land, Spatial Planning and Urbanism' (Law 31/2014) constituted a clear response to these dynamics under the new framework of the sustainable development agenda promoted by the ENDS in the country. The 2014 law introduced a novel regulatory regime for land use in inter-municipal and municipal spatial plans, providing a new legal basis for the management, rational use and safeguarding of land quality in the realisation of its environmental, economic, social and cultural functions. This new 'Land Law' entailed an update of the classification and qualification of land, with the introduction of a distinction between rural and urban land uses. On the one hand, rural land is defined as land that is suitable for agricultural, livestock and forestry activities; for the conservation, exploitation and exploration of natural, geological or energy resources; as well as for natural, cultural, tourist, recreational, leisure or risk protection purposes. Conversely, urban land is defined as fully or partially urbanised or built-up areas. The new legal framework thus introduces the deletion of the category 'land for development' (or *'solo urbanizavel'*), which had been used to designate land destined for future urban development. This has the effect of removing an ambiguity that previously existed in these plans, and which opened the space for urban land speculation, linked also with tourism developments as in the case of the Algarve region. Furthermore, the legislation conferred enhanced authority over land to municipal authorities, encompassing mechanisms for compensation in instances of revocation of rights or expropriation, as well as the expiration of urban planning privileges ('*reserva do solo'*) in the event that the designated urban land use does not materialise. As synthetized by Cavaco et al. (2021), the objective of this new framework was twofold: firstly, to contain urban sprawl and, secondly, to provide elements to promote territorial management and to take advantage of the investments made in urban infrastructure. The necessity of prior economic and financial viability assessments for land-use planning decisions are therefore also included, as well as the transfer of the buildability of a specific area of land in accordance with the land-use plans and the purposes set forth in the law. Furthermore, the new legal framework provides also instruments aimed at restructuring ownership in order to reduce fragmentation and dispersion in land use, reconfiguring cadastral boundaries, implementing rehabilitation and regeneration operations, and undertaking other actions as set forth in territorial programmes and plans.

The 2014 Soil, Spatial Planning and Urbanism law maintained the existing structural and hierarchical framework of the 1998/9 spatial planning system, differentiating between two categories of planning instruments: On the one hand, those of a strategic nature, the spatial programmes (PNPOT, PROT, PIOT), which provides the main national and regional guidelines on territorial development and organisation, including sectoral programmes, such as the PEOTs and POOCs. And on the other hand, those of a more regulatory nature, the spatial plans (PD(I)M, PU(IM), PP(I)M), focusing on the implementation of specific planning options and actions. The law encourages coordinated interaction between the various planning instruments, including the national, regional, inter-municipal and municipal levels. As a distinctive feature, the new law reinforced the intra-municipal scale, fostering coordination and interrelation between contiguous municipalities. This is achieved through the introduction of three new optional planning instruments, namely the Intermunicipal Master Plan (*Plano Director Intermunicipal*-PDIM), the Intermunicipal Urbanisation Plan (*Plano de Urbanização Intermunicipal*-PUIM) and the Intermunicipal Detailed Plan (*Plano de Pormenorização Intermunicipal*-PPIM). The new integrated national planning framework was confirmed a year later with the publication of the Revision of the legal regime for spatial planning instruments (RJIGT) (Decree 80/2015) in 2015, establishing the current country's planning structure.

Box 3: Spatial Planning Framework and Territorial Management System in Portugal

Spatial and urban planning policy in Portugal is structured in compliance with the latest Spatial Planning Act, approved in 2014 (Law 31/2014), and its associated Territorial Management System (see Figure 49), approved in 2015 (Decree 80/2015). This planning framework is organised through the coordinated interaction of four main levels:

a) national; b) regional; c) inter-municipal; and d) municipal.

The national level pursue objectives of national interest and establish the principles and rules to be observed by the regional programmes. These are realised through three main planning instruments:

a) the National Spatial Planning Programme (PNPOT); b) the Sectoral Programmes (PS); and c) the Special Programmes (PEOT; POOC; POPNRF; PGBH).

The regional level is governed by the Regional Programmes and Plans (PROT), while the inter-municipal level comprises four main planning instruments:

a) the Intermunicipal Programmes (PIOT); b) the Intermunicipal Master Plan (PDIM); c) the Intermunicipal Urbanisation Plans (PUIM); d) the Intermunicipal Master Plans (PPIM).

The municipal framework is realised through the following plans:

a) the Municipal Master Plan (PDM); b) the Urban Development Plans (PU); c) the Detailed Plans (PPM).

The above-mentioned territorial programmes are binding on public bodies, while the territorial plans are binding on public bodies and, directly and immediately, on individuals. In this way, they identify public interests and ensure their harmonisation and territorial expression.

Territorial programmes and plans are thus based on the following territorial resources:

a) areas related to national defence, security and civil protection; b) natural resources and values; c) areas of danger and risk; d) agricultural and forestry areas; e) areas for the exploitation of resources and forests; f) areas for the exploitation of energy and geological resources; g) ecological structure; h) architectural, archaeological and landscape heritage; i) urban system; j) location and distribution of economic activities; k) transport and mobility networks; and l) infrastructure networks and public facilities.

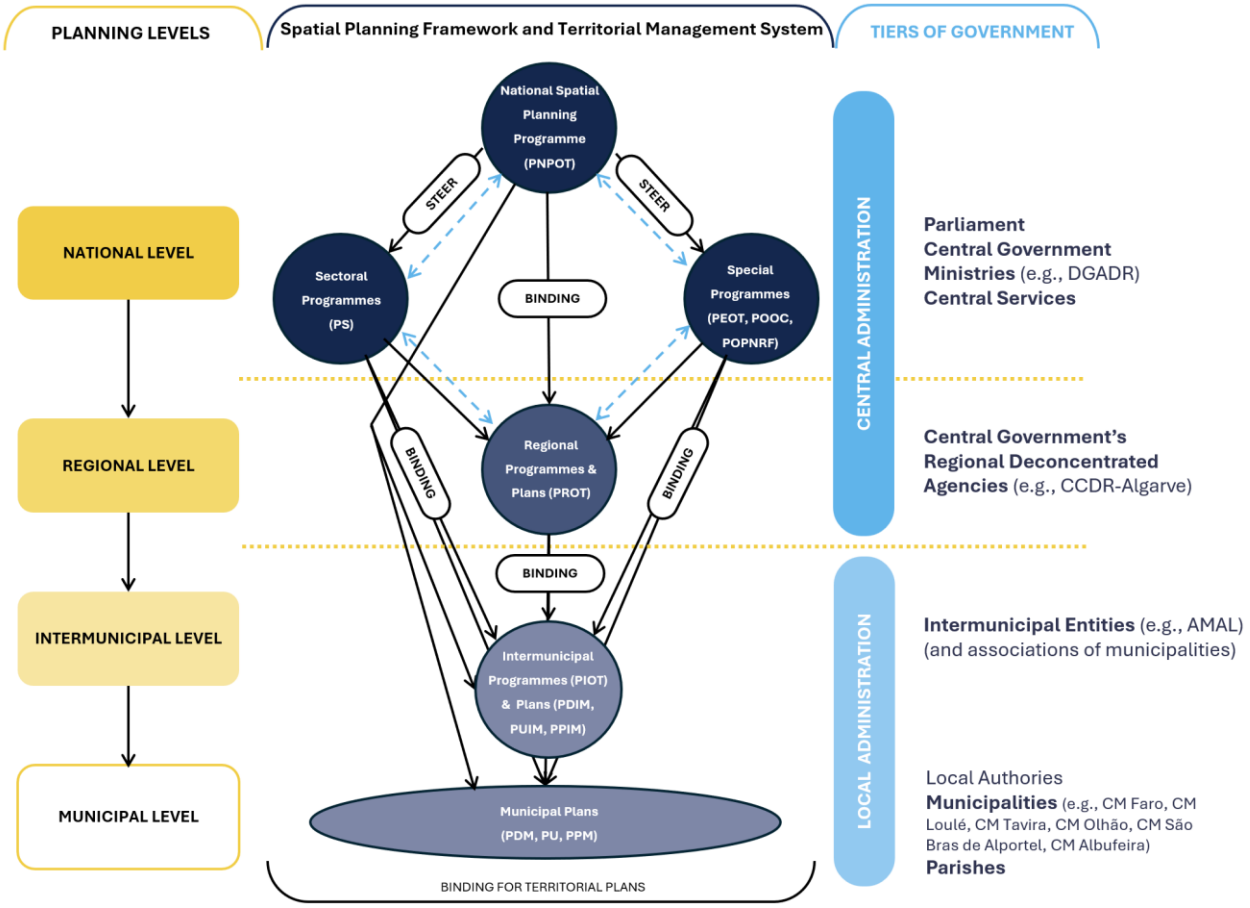
The period between 2010 and 2020 also saw the elaboration of other significant planning frameworks, including the launch of the River Basin Management Plans (PGBH) in 2010 (first cycle: 2010-2015; and second cycle: 2016-2021), aimed at the management, protection and environmental, social and economic enhancement of waters at river basin district level, the National Irrigation Programme (PN-Regadios)[204] launched in 2018, as well as the Regional Forestry Programmes (PROF)[205] and the Forest management plans (PGF) launched in 2009 (Decree 16/2009) and updated in 2019 (Law

[204] The National Irrigation Programme (PN-Regadios) was created in 2018 with the objective of contributing to the extension, rehabilitation and modernisation of existing irrigation in the country and the creation of new irrigated areas. The programme's ultimate mission is to enhance agricultural activity by improving the quality of products and increasing the productivity of production factors for the period 2014 to 2023 (RCM 133/2018))

[205] The PROF serves as a sectoral planning tool to promote and guarantee the production of goods and services and the sustainable development of forest areas through a multifunctional approach, integrating the functions of production; protection; conservation of habitats, fauna and flora species and geo-monuments; silvopastoralism, hunting and fishing in forest areas; silvopastoralism, hunting and fishing in inland waters; and recreational activities and landscape improvement (Law 16/2019)

16/2019). The National Architecture and Landscape Policy (PNAP)[206] was also launched in 2014, followed by the National Climate Change Programme (PNAC) and the National Climate Change Adaptation Strategy (ENAAC) in 2015. Another notable planning instrument launched at the end of this decade include the Landscape Transformation Programme (PTP) and its measures under the Landscape Planning and Management Programme (PRGP) launched in 2020. The PRGPs aim to plan and programme the transformation of vulnerable forest landscapes through multifunctional and resilient initiatives that promote their economy and the remuneration of the ecosystem services they provide. The programme is structured on a co-organised funding model with local actors through the Recovery and Resilience Plan (PRR), with a first pilot held in the Monchique mountain and with 20 others in action until 2025, including the Caldeirao mountain range in the Central Algarve area.

FIGURE 49: SUMMARY OF THE CURRENT SPATIAL PLANNING FRAMEWORK AND TERRITORIAL MANAGEMENT SYSTEM IN PORTUGAL



SOURCE: MODIFIED FROM CAVACO ET AL., 2021

7.1.4.4. The new National Spatial Planning Policy Programme (PNPOT) and the role of Food

The National Spatial Planning Policy Programme (PNPOT), launched in 2019, represented a significant evolution in Portugal's spatial planning compared to the first iteration introduced in 2007. This included the incorporation of a more inclusive governance model and a monitoring system of indicators that allows for a more accurate evaluation of the policies. This is evidenced by the reinforcement of the Spatial Planning Status Report (REOT) and the establishment in 2019 of the Spatial and Urban Planning Observatory, under the coordination of the Directorate General of

[206] As evidenced already in the Spatial Planning Act, the PNAP confirms and reinforces the country's commitment to the protection and promotion of its cultural, architectural and landscape heritage.

Territory (DGT), as an institutional structure to promote the regular monitoring and evaluation of the territorial dynamics and the spatial planning system throughout the country. The new PNPOT maintains the legal structure of the territorial management system (Law 31/2014), providing more clarity and guidelines to strengthen the integrated approach between the different instruments[207] and territorial scales, while promoting interministerial and intersectoral coordination, vertical articulation between the different subnational scales, and horizontal articulation between the different functional regions.

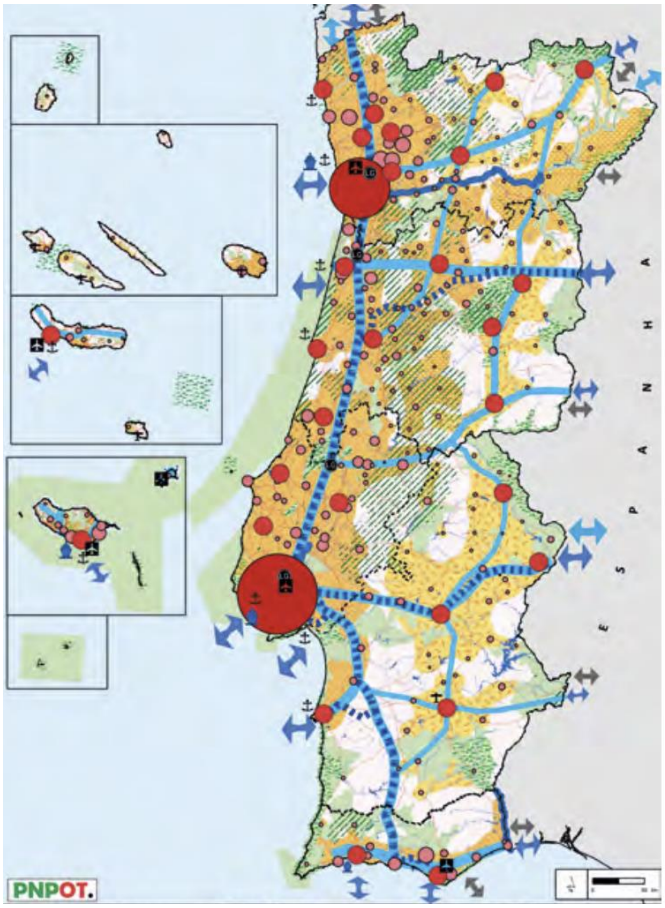
The PNPOT establishes the strategic horizon of the country towards 2030, analysing longer-term scenarios and trends up to 2050 while placing particular emphasis on contemporary challenges, including climate change, population ageing, the digital transition and the socio-economic changes associated with globalisation and economic transition. It emphasizes the importance of integrated territorial approaches, based on social, economic and connectivity systems, that were not addressed in the previous edition. The main territorial priorities identified in this new framework are: the sustainable management of natural resources, the strengthening of a polycentric urban system, the improvement of territorial diversity and inclusion, the reinforcement of connectivity, both internal and external, and the promotion of territorial governance and networks. These networks should promote links between major cities and the surrounding regions and stronger rural-urban cooperation measures, which are considered to be key factors of internal territorial cohesion, evidencing a strong articulation with European spatial and regional development frameworks.

The territorial model promoted by the PNPOT represents a pivotal step towards the spatial translation of the country's development strategies, organized across a set of four fundamental territorial systems: the natural system (e.g., RNAP, NATURA2000, REN, RAN), the urban system[208] (polycentric, inter-urban and rural-urban territorial cooperation), the socio-economic system and the connectivity system (e.g., ecological, transport, energy, maritime, food). This model serves to inform land-use planning and the territorial implementation of multi-sectoral and multi-scalar public policy measures, defining the regulatory foundation and socio-spatial framework for the implementation of urban and food initiatives in the country. The PNPOT emphasises the significance of strategic planning within the food system, with a particular focus on reducing waste and enhancing food security. In fact, the new PNPOT emphasises the necessity of ensuring the primary function of food production, founded upon principles of sustainability, within the context of climate change, changing availability and quality of water, as well as the processes of soil desertification. Among its measures, it promotes the strengthening of a competitive agriculture that incorporates more innovation and knowledge and takes into account the maintenance and recovery of biodiversity, as well as the valorisation of local products and healthy and safe food, organic farming, food security, and the reduction of food waste levels in the different stages of the agri-food chain (Governo de Portugal, 2019).

[207] The 2019 PNPOT articulates with the new maritime spatial plan adopted in 2014, although it is developed independently of the PNPOT.

[208] The PNPOT identifies 3 types of territorial subsystems with variable geometries. These are 1) "territorial subsystems to be valorised", which refer to functional urban regions with a metropolitan or poli-urban character, relatively dense, with fragmented and dispersed growth, based on high functional relationships structured by public transport. 2) "territorial subsystems to be consolidated", characterised by sub-regional areas polarised by medium-sized cities, whose urban-rural relations still need to be intensified and urban networks consolidated. 3) "territorial sub-systems to be structured", representing rural areas with low urban density, poor accessibility and relatively few services, which need to be strengthened in order to ensure territorial equity.

FIGURE 50: TERRITORIAL MODEL PRESENTED BY THE PNPOT (2019)



SOURCE: PNPOT (2019)

The PNPOT places an emphasis on the development of territorialised productive synergies and symbiosis, and the promotion of short production and consumption circuits, which serve as a foundation for more effective planning of the food system (Governo de Portugal, 2019). In doing so, the PNPOT encourages the reinforcement of rural-urban and urban-urban relationships with the objective of enhancing value chains associated with the urban food system and short agri-food circuits. This approach is expected to result in increased food self-sufficiency and food security, the retention of economic activities and young people in the primary sector, and the reinforcement of the sustainability and attractiveness of natural resources and landscapes. It also encourages territorial strategies and organisations that foster proximity production and consumption, in particular by enabling alternative food production, fostering food basins and local markets, and promoting the reduction of food waste (Governo de Portugal, 2019)

The PNPOT identifies a number of useful instruments, including the development of specific spatial planning exercises at the inter-municipal level for the integration of sectoral and special programmes, where proximity agriculture/food could be included, as we all territorial organisation solutions aimed at increasing the resilience of natural, agricultural and forestry systems and communities, sustainability and connectivity of the landscape and food sovereignty (Governo de Portugal, 2019). The PNPOT underscores the imperative of devising strategies that are tailored to the specific characteristics of each territory and the potential of its resources, advocating for more balanced and polycentric economic dynamics, based on the complementarities and intrinsic value of territorial diversity. This entails a focus on the role and potential of economic clusters and competitive poles, including those related to the agro-industry, as well as agrifood systems (including vineyards, olive

groves, milk and dairy products, fruit, vegetables and legumes), agroforestry, and tourism (Governo de Portugal, 2019). It also recognizes the economic standing of rural territories, underscoring their productive capacity and the added value associated with the services they can provide to communities (including carbon sinks, energy production, food production, and the exploitation of mineral resources) (Governo de Portugal, 2019.

7.1.4.5. Towards the analysis of food landscape transformations and spatial planning in the Central Algarve.

This chapter offered a concise overview of the diverse and intricate food transformation processes that have occurred in the country over the past seven decades. It elucidates the principal transitions, mechanisms, and policy frameworks that have shaped these developments, integrating insights from both urban, tourism and food planning processes at the European and national level.

Table 16 presents the principal spatial planning frameworks developed in Portugal from 1864 to 2020, accompanied by Figure 49, which describes the various spatial plans and the prevailing governance structure at the different planning scales in Portugal. Finally, Table 17 provides a summary of the trajectory of the main food transformations experienced during this period, linked to the main food planning policies and instruments. This analysis illuminates the contextual factors, trends and policy frameworks that have shaped the transformation of our case study in the central Algarve in Portugal, which will be presented and discussed in the subsequent section.

TABLE 16: CHRONOLOGY OF THE MAIN SPATIAL PLANNING FRAMEWORKS IN PORTUGAL.

Year	Type of Plan	Related Laws	Type of Government
	Birth of the first urban planning frameworks		
1755	Lisbon earthquake and subsequent urban reconstruction efforts: Marques de Pombal		Monarchy
1864	Plano Geral de Melhoramentos (PGM)	Law of 31 Dec. 1864 Law 10 of 19 Jan. 1865	End of Monarchy
1933	**New State Regime (1933 – 1974)**		
1934	General Urbanisation Plans (PGU)	Law 24.802 of 21 December 1934	New State Regime
1944	General Urbanisation and Expansion Plans Directorate-General for Urbanisation Services (DGSU)	Decree 33.921 Decree 34.337	
1946	Urbanisation Foreplans (Anteplano)	Law 35-031, 250/1946	
1959	Social Housing	Law 42454	
1969	Regional Planning Commissions (CPR) Secretary of State for Housing and Urbanism and Housing Fund	Decree 49 033 / 1969	
1971	Redefinition of the hierarchy and implementation of Plans: Setting Plans; Urbanization Plans; Detailed Plans	Law 560/71 Decree 561/71	
1974 **1976**	**25 April Revolution** **New Constitution**		
1976	Soils Law	Decree 795/76	Democracy
1979	Regional Coordination Commissions (CCRs) in place of CPRs	Decree 494/79	
1982	Municipal Master Plan (PDM) National Agricultural Reserve (RAN)	Law 208/82 May 1982 Decree 451/82	
1983	Reserva Ecológica Nacional (REN)	Decree 321/83	

1985	Cultural Heritage Law	Law 13/85	
1986	**Portugal joins the EEC**		
1986	CCRs responsibilities extended to regional spatial planning Directorate-General for Regional Development (DGDR)	Decree 130/86	Democracy EU Member
1987	Environmental Management Law	Law 11/87	
1988	Regional Planning Law	Law 176-A/88	
1989	First geographical delimitation of the Nomenclature of Territorial Units for Statistics (NUTS)	Decree 46/89	
1990	Municipal Master Plans Act: Mandatory nature of PDMs	Law 69/90	
	1992 CAP Reform		
1993	National Network of Protected Areas (RNAP)	Decree 19/93	Democracy EU Member
1995	Special Spatial Planning Plans (PEOT)	Law 151/95	
1996	Framework Act for Forestry	Law no. 33/96	
1998	Spatial Planning Act: Basic Law on Spatial Planning and Urbanism Policy (introduction of the PNPOT, PROT, PS)	Law 48/98	
1999	Legal regime for spatial planning instruments - RJIGT	Decree 380/99	
	Legal regime for urban development and building operations	Decree 555/99	
	Failure of regionalization: administrative regions rejected in the 1998 referendum **2003 CAP Reform**		
2003	Regime, framework of attributions and competences of Metropolitan Areas (AM) and InterMunicipal Communities (CIM)	Law 10/2003 Law 11/2003	Democracy EU Member
	Regional Coordination and Development Commissions (CCDRs) created in place of the CCRs and the Regional Directorates for the Environment and Spatial Planning (DRAOT)	Decree 104/2003	
2005	Water Law	Law 58/2005	
2006	Update of the REN	Decree 180/2006	
2007	First National Spatial Planning Policy Programme (PNPOT)	Law 58/2007	
	2015 National Sustainable Development Strategy (ENDS), Implementation Plan, and monitoring indicators (PIENDS)	RCM No. 109/2007	
2009	Launch of the Regional Forestry Programmes (PROF) and Forest management plans (PGF)	Decree 16/2009	
	Update of the RAN	Decree 73/2009	

2008 **2010** **2013**	**Global Financial Crisis (2008)** **Portuguese Financial Crisis (2010-2014)** **2013 CAP Reform**		
2012 **2013**	Update of CCDRs	Decree 228/2012	Democracy EU Member
	Legal framework for Metropolitan Areas (AM) and Intermunicipal Communities (CIM)	Law 75/2013	
	River Basin Management Plans (PGBH) Cycle 1	RCM 16/2013	
2014	New Spatial Planning Act: including the PDIM, PUIM and PPIM	Law 31/2014	
2015	Revision of the legal regime for spatial planning instruments	Decree 80/2015	
	Restructuring of rural landholdings	Law 111/2015	
	National Architecture and Landscape Policy (PNAP)	C. Min. Res. 45/2015	
	National Climate Change Programme (PNAC 2020/2030) and 2020 National Climate Change Adaptation Strategy (ENAAC)	C. Min. Res. 56/2015	
2016	National Water Plan (PNA)	Decree 76/2016	
	River Basin Management Plans (PGBH) Cycle 2	RCM 52/2016	
2018	National Irrigation Programme (PN-Regadios)	RCM 133/2018	
2019	Revised PNPOT	Law 99/2019	
	Second generation of Regional Forestry Programmes (PROF)	Law 16/2019	
	Update of the REN (new CC commitments and frameworks)	Decree 124/2019	
	COVID-19 Pandemic		
2020	Landscape Transformation Programme (PTP) Landscape Planning and Management Programme (PRGP)	C. Min. Res. 49/2020	Democracy EU Member
	Integrated Areas for Landscape Management (AIGP).	Decree 28-A/2020	
	National Energy and Climate Plan 2030 (PNEC 2030) and extension of the ENAAC 2020 to 2025	C. Min. Res. 53/2020	
2022	**Ukraine War**		

SOURCE: ELABORATED BY THE AUTHOR

TABLE 17: OVERVIEW OF KEY FOOD SYSTEMS TRANSFORMATIONS, FOOD POLICIES AND PLANNING FRAMEWORKS IN PORTUGAL DURING THE 20TH CENTURY UNTIL 2019.

Year/ Period		Socio-political Milestones	Key European Urban and Food Programmes	Key National Food Policies	Planning Frameworks	Food Systems Transformation
Pre-Modern	1910 to 1960	First Republic and New State Regime WW I and WW II		Wheat Campaign (1929) Agrarian Colonies (1937)	PGM (1864) PGU (1934) and Urbanisation Foreplan (1946)	Simplification and intensity of land-use Promotion of rural and agrarian life Decline of agriculture
Modern	1960 to 1974	New openness Accession to the EFTA (1960) 25 April Revolution and Democratisation of the country (1974)	Introduction of the CAP (1962) CMO (1970)	Land Reform (1974)	Hierarchy and implementation of plans: Setting Plan, Urbanisation Plan and Detailed Plan (1971) CPRs (1969)	First supermarket (1961) Food industry nutrition transition Urban food culture
	1974 to 1986	New Constitution (1976) Integration in the EEC in 1986	Adoption of the CFP (1983) Pre-accession to EU Funds (1983-93)	Soils Law (1976) First Food and Nutritional Policy (1978)	CCRs (1979) PDM (1982) RAN (1982) REN (1983) Cultural Heritage Law (1985)	Modernization of agriculture, transport, logistic and irrigation infrastructures Renovation of municipal markets, rural abandonment, growing urban food demand, Dietary transition
	1986 to 1992	Harmonisation with EEC policies and Institutional Adaptation Economic boom	First ERDF (1986-89) CSF (1989-93) First Urban Pilots Projects (1990-93) CAP and CFP Reforms (1992) Agreement on Agriculture (1995)	Supply Markets (1986: Decree 222/86; 1991: Res. 16/91) PROAGRI under the PEDAP (1989)	Environmental Management Law (1987) Regional Planning Law (1988) Municipal Master Plans Act (1990): PDM mandatory	
Post-Modern	1992 to 2003	Policy Integration and Coherence Economic boom Rio Convention (1992)	CSF (1994-99) URBAN I and II Community Initiatives (1994 – 99), Landscape Convention (2000) URBACT (2002-06) General Food Law and CFP reform (2002) 2003 CAP Reform and 'Health Check' (2009)	PAMAF (1994-1999) RURIS (2001-2006) Regional Operational Programmes (ROP) POLIS and POLIS XXI	RNAP (1993), Special Spatial Plans (1995) Spatial Planning Act (1998): PNPOT, PROT, PIOT, PEOT, PS PROSIURB (1994-99) ESDP (1999)	Wholesale markets and infrastructure: MARL (2000) and MARF (2003), motorways and water and irrigation plants, expansion of supermarkets Dietary transition and food-related diseases
	2003 to 2012	EU to east (2004) Global (2008) and Portuguese Financial Crisis (2010-14) Troika and austerity policy package	CSF (2000 – 06) Food Safety Regulation (2004) NSRF (2007-13) URBACT II (2007-13)	ASAE (2005) PRODER (2007-13) PROVERE PNPAS (2012)	CCDR (2003) POLIS (2000-06) and POLIS XXI (2007-13) First PNPOT (2007) ENDS and PIENDS (2007)	
	2012 to 2022	Territorial and place-based integrated approaches Paris Agreement and Milan Urban Food Policy Pact (2015) COVID-19 Ukraine War	Portugal2020 (13-20) URBACT III (2014-20) CAP-CFP reform (2013/21) Green Deal(2019), 'Farm-to-Fork' strategy (2020) Climate Pact (2020) Organic Plan (2021) Portugal 2030 (21-27)	PDR-2020 (2014-20) EIPAS (2017) ENAB (2017) ENCDA, PACDA and CONSANP (2018) Terra Futura & PNPAS (2020) PNAES & ENSANP (2021)	New Spatial Planning Act (2014): PDIM, PUIM, PPIM PNAP (2015) PN-Regadios (2018) PROF (2019) new PNPOT (2019) PTP & PGRP (2020)	Alternative food systems, urban food networks Urban food policies/strategies

SOURCE: ELABORATED BY THE AUTHOR.

Note: EFTA: European Free Trade Association; EEC: European Economic Community; EU: European Union; MARL: Food Supply Market of the Lisboa Region (Mercado Abastecedor da Região de Lisboa); MARF: Food Supply Market of the Faro Region (Mercado Abastecedor da Região de Faro); CAP: Common Agricultural Policy; CFP: Common Fisheries Policy; CMO: Common Market Organisation; ERDF: European Regional Development Fund; CSF: Communitry Support Frameworks; NSRF: National Strategic Reference Frameworks; PEDAP: Specific Programme for the Development of Portuguese Agriculture; PAMAF: Agricultural and Forestry Modernisation Support Programme; RURIS: Plan for Rural Development; ROP: Regional Operational Programme; ASAE: Food and Economic Safety Authority; PRODER: Rural Development Programme; PROVERE: Programme for the Economic Development of Endogenous Resources; PNPAS: National Programme for the Promotion of Healthy Eating; EIPAS: Integrated Strategy for the Promotion of Healthy Eating; ENAB: National Strategy for Organic Farming; CONSANP: National Council for Food and Nutrition Security; PNAES: National Plan for Balanced and Sustainable Food; ENSANP: National Strategy for Food Security and Nutrition; PGM: General Improvement Plans; PGU: General Urbanisation Plans; CPRs: Regional Planning Commissions; CCRs: Regional Coordination Commissions; PDM: Municipal Master Plans; RAN: National Agricultural Reserve; REN: National Ecological Reserve; RNAP: National Network of Protected Areas; PNPOT: National Spatial Planning Programme; PROT: Regional Spatial Planning Plan; PEOT: Spatial Planning Plans (PEOT); PS: Sector Plans; PROSIURB: Programme for the Consolidation of the National Urban System and Support for the Implementation of Municipal Master Plans; ESDP: European Spatial Planning Development Perspective; CCDR: Regional Coordination and Development Commissions; ENDS: National Sustainable Development Strategy; PIENDS: Implementation Plan of the National Sustainable Development Strategy; PDIM: Intermunicipal Master Plan; PUIM: Intermunicipal Urbanisation Plan; PPIM: Intermunicipal Detailed Plan; PN-Regadio: National Irrigation Programme; PROF: Regional Forestry Programmes; PTP: Landscape Transformation Programme; PGRP: Landscape Planning and Management Programme.

7.2. Urbanisation, Tourism and the Transformation of Food Landscapes: The Central Algarve region

In the preceding chapter, the various processes and trajectories that have shaped the transformation of the agri-food sector, its policies and regional development funds were examined, with particular emphasis on the evolution of spatial planning frameworks in the country and their relationship with food. This chapter will examine the principal changes and impacts of this context at the regional level, with the central Algarve region in the south of the country serving as a case study. This analysis will be divided into two main areas of investigation. The first will entail a characterisation and spatial analysis of the transformation of the food landscape. The second will comprise an analysis of the planning and governance frameworks that shape this transformation, as well as an examination of the perceptions and positions of the region's key actors from the food, tourism, and planning sectors. This latter investigation will draw upon the insights gleaned from 37 semi-structured interviews conducted in the region. In conclusion, recommendations will be put forth regarding the reinforcement of the food landscape approach in the planning and regional development of the Algarve.

The Central Algarve represents a case of particular interest for the analysis of food transformations, urban and tourism developments, and governance in Portugal, due to a number of factors: The Algarve is one of the regions with the highest tourist flows, vulnerability to climate change and an active civil society presence (e.g. InLoco, QRER), private sector involvement and public bodies (such as the Intermunicipal Community of the Algarve (AMAL) and the Commission for Coordination and Regional Development (CCDR-Algarve), among others) in food-related issues. The various policies, plans and actions undertaken over the last 30 years, driven by the rapid development of international and national tourism, have had a significant impact on the territorial organisation of the region, with major investments in transport infrastructure and in the tourism sector. As will be discussed in subsequent sections, these processes have had a significant impact on the transformation of the region's agricultural production and food processing zones, as well as on the development of modern distribution and supply systems, including the construction of large markets, changes in consumption patterns and food waste. This, in turn, has influenced the region's environmental sustainability, its tourism offer and its adaptation to climate change.

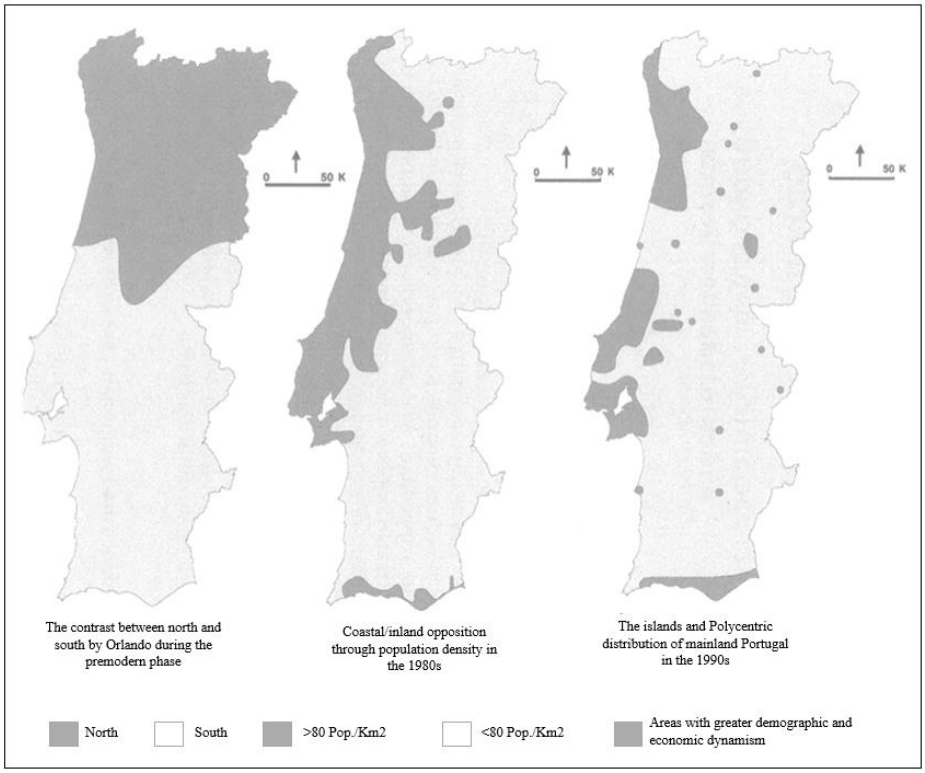
The Central Algarve region exemplifies a spatial planning approach of considerable municipal value, as a result of the national planning system and the mandatory nature of its Municipal Master Plans (PDM). This has led to greater responsibility at the municipal level for managing agricultural land use and promoting their natural and food resources (see subsection 7.1.4.3, Box 2 and Box 3). The launch of new development plans has also served to reinforce the strategic relationship between food and agriculture, tourism and climate change, such as the Regional Research and Innovation Strategy for Smart Specialisation (RIS3), the Regional Operational Programme (CRESC ALGARVE 2020) and, more recently, the Algarve Regional Programme (ALGARVE 2030) and the REVITALGARVE initiative, which emphasise regional alignment and coherence for the joint and networked development of these sectors. This has been facilitated by the emergence of new European funding opportunities focusing on food, the valorisation of food products and experiences linked to tourism, the development of public institutional food supply systems, landscape management strategies and inter-municipal cooperation, such as AMAL. The Algarve's planning structure is also guided by regional spatial planning frameworks, such as the Regional Spatial Plan (PROT Algarve), approved in 2007 and prepared by the CCDR-Algarve, and the National Spatial Planning Policy Framework, updated in 2019 (see subsection 7.1.4.4). The Algarve region thus represents an optimal case study

for the investigation of planning processes and the strategic utilisation of food as a catalyst for regional development and transformation from a bottom-up perspective. This approach serves to reinforce the principles of territorial integration and the advancement of inter-institutional and inter-sectoral collaboration, which are increasingly crucial for the attainment of European funding and the competitive positioning of the region.

7.2.1. Spatial models for the characterisation of the case study

This section provides an overview of the different approaches to the spatial characterisation of the Algarve region. To do this, we will first examine the spatial macro-divisions identified at national level and their influence on the territorial organisation of the region. For instance, Ferrão (2002) identifies three distinct macro-regional spatialities that are characterised by a unique trajectory of evolution and expression of the different country's territorial identities (see Figure 51). The first can be situated in the pre-modern, or 'traditional', period, which is characterised by an opposition between the Northern and Southern regions, as evidenced by the different studies on the development of agrarian systems during this time (see subsection 7.1.1), including geographical and historical studies such as those of Orlando Ribeiro and Amorim Girão. Conversely, Ferrão identifies a second spatial division that is characteristic of the modern phase regarding the contrast between (urban) coastland and (rural) inland areas. This contrast can be linked to the urbanisation processes that were carried out during the economic boom of the 1970s and the consolidation of the tourist sector analysed by demographic and urban development and planning studies by the end of the 20th century. Finally, the post-modern phase emphasises a polycentric and polyurban structure of the country, based on an archipelagic spatial organisation and (rural-urban / urban-urban) organisation of networks, which reflects the territorial and integrated cohesion approach promoted by European regional development tools and the most recent spatial planning programmes (e.g., PNPOT, PROT; see subsections 7.1.4).

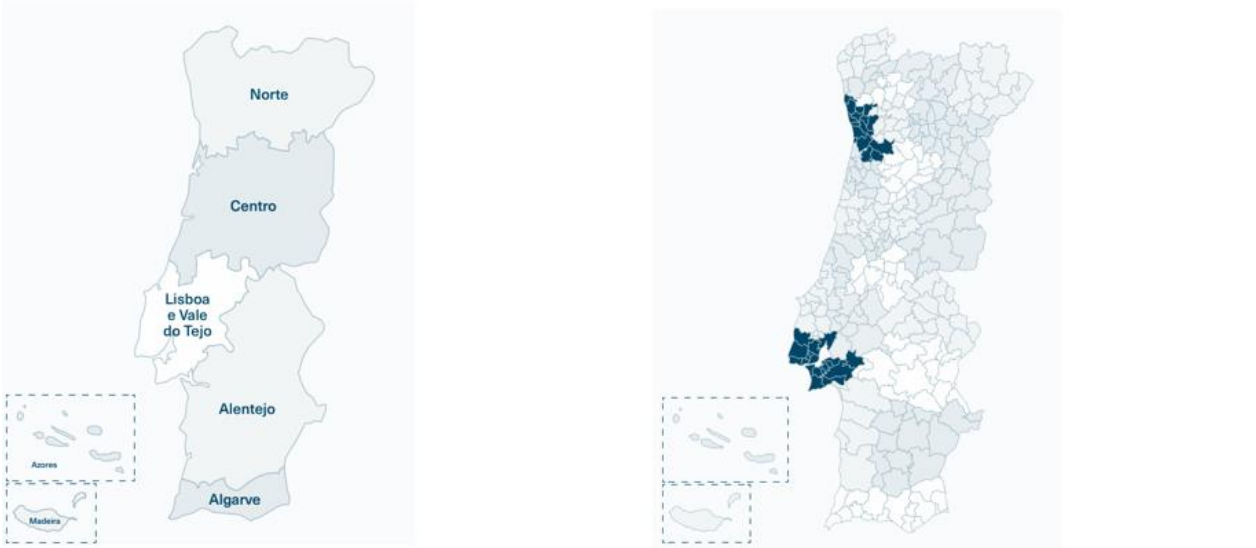
FIGURE 51: MACRO-REGIONAL DIVISIONS IDENTIFIED BY FERRÃO FOR CONTINENTAL PORTUGAL



SOURCE: TRANSLATED BY THE AUTHOR BASED ON FERRÃO, 2002

The three frameworks, in particular the last two, are of interest for this analysis, providing key insights into the evolutionary processes of the agrifood sector in the central Algarve region. These processes can be traced from the strong tourism urbanisation and rural abandonment that were experienced in the region from the 1970s to the present day. The Algarve was in deed one of the regions with the most clear expressions of tourism urbanisation processes in the country (see subsection 5.2), contributing, in a first instance, to the dichotomy between the collapse of the country's agrarian structure and its concentration around the coastline, particularly along the Faro-Loulé-Albufeira-Portimão axis in what could be seen as the '*coastalization*' of the country. The postmodern model, on the other hand, manifests itself in the increasing polyvalence of the urban centres, the greater economic, social, political and administrative interdependence of the municipalities (inter-municipalism), and the consolidation of mobility networks, which has become more pronounced following the infrastructure investments of the 2000s. This polycentric organisation of the region is anchored in the development of Faro International Airport in July 1965, as a gateway for the development of tourism in the region, and in the two parallel roads that form the regional linear and horizontal corridor and its partial vertical segmentation. This corridor emphasises the structure between the different ecological regions and urban settlements, which could be defined along an urban-rural transect from the urban (coastal) areas, through their immediate hinterlands and dispersed urbanisation processes, to the rural areas in the low mountain ranges of Monchique and Caldeirão in the interior. This parallelism between the spatial dynamics and identities analysed in the country and the processes of territorial organisation in the region has led to the Algarve being referred to as a "*Little Portugal*" (Cavaco et al., 2021), representing a relevant example for regional analysis and development.

FIGURE 52: TERRITORIAL MANAGEMENT SCALES IN PORTUGAL



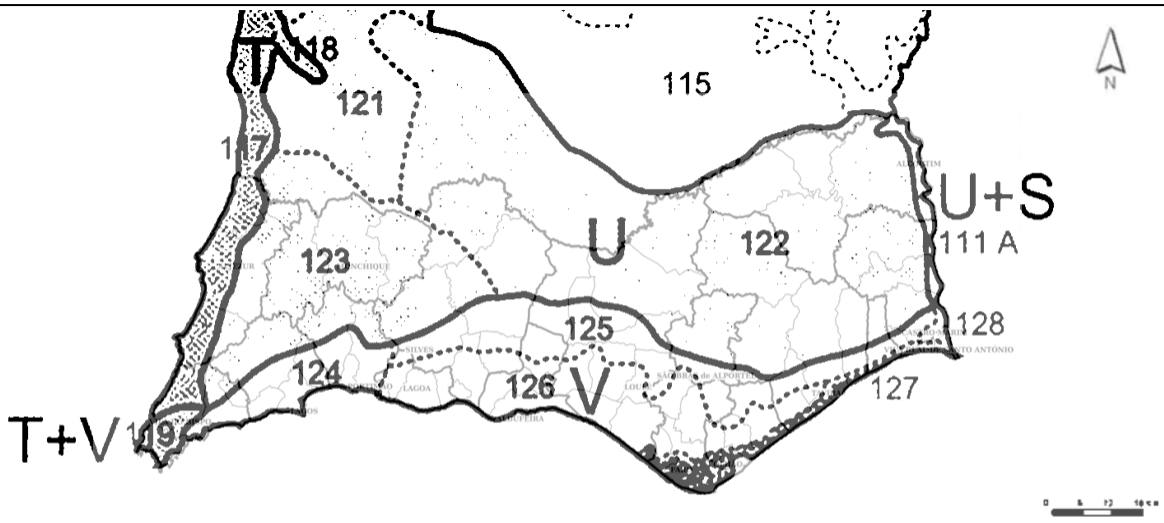
SOURCE: ELABORATED BY THE AUTHOR

The spatial configuration of the country can also be represented in political-administrative terms through the spatial division of the governmental structure, confirmed in the latest revision of the country's NUTS II and III in 2015. This corresponds to a division into 5 macro-regions for regional planning, supported and managed by the Regional Coordination and Development Commissions (CCDRs) for the North, Centre, Lisbon and Tagus Valley, Alentejo and Algarve on the mainland, and

the island regions of the Azores and Madeira (see first left map on Figure 52, and Box 2 on recent progresses on the role of CCDRs in food-related planning). There are also 21 inter-municipal associations, confirmed in 2013 by Law 75/2013, including the Lisbon and Oporto metropolitan areas and the Algarve Inter-Municipal Association (AMAL). Complementing this multi-level administrative framework, the country is also divided into a total of 4,257 'freguesias', as the lowest territorial scale, which are organised across 308 municipal councils, of which 16 are in the Algarve (see Figure 52).

FIGURE 53: LANDSCAPE UNITS AND GROUPS OF THE ALGARVE AND ALENTEJO REGION PROPOSED BY CANCELA D'ABREU AND COLLEAGUES IN 2002.

Territorial Units: Multiple Landscape units



Source: Cancela d'Abreu et al., 2002

U 122: Serra do Calderão
U 123: Serra de Monchique and surroundings

V 124: Western Algarve
V 125: Barrocal Algarve
V 126: Central Algarve coast
V 127: Ria Formosa
V 128: Foz do Guadiana

T 117: Alentejo and Vicentine coastline
T 119: Ponta de Sagres and Cape St. Vincent

SOURCE: ORGANIZED BY THE AUTHORS BASED ON CANCELA D'ABREU ET AL., 2002; 2004.

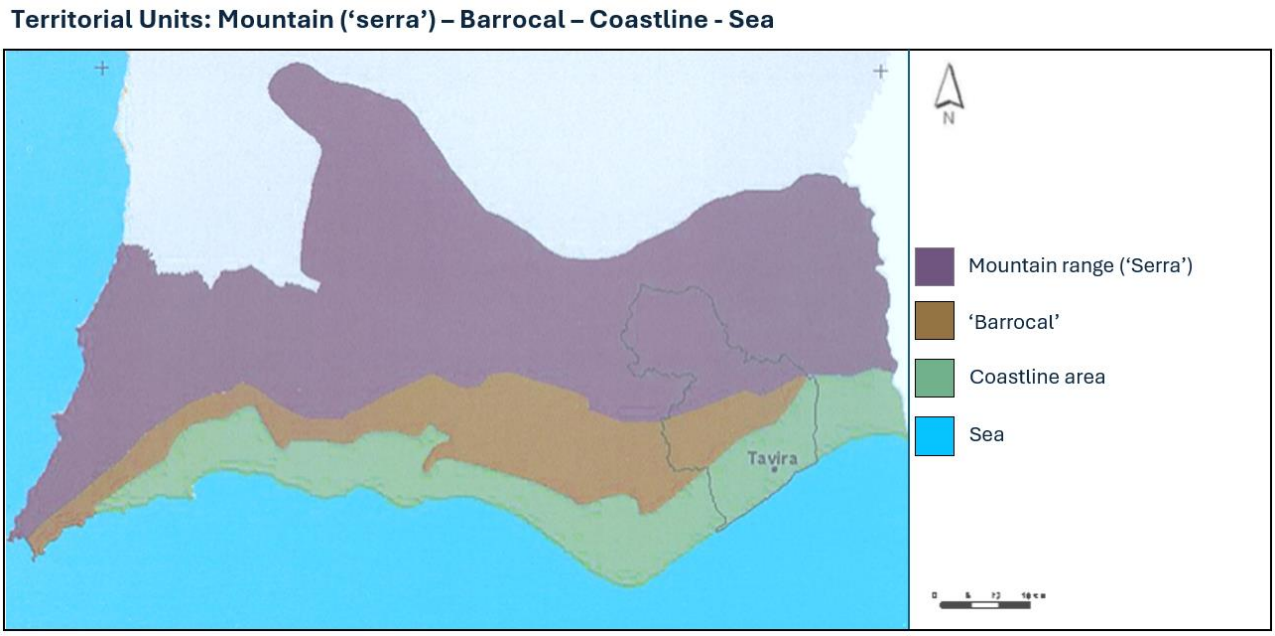
Portugal presents a remarkable territorial and landscape diversity of great richness. As Cancela d'Abreu and colleagues (2002; 2004) point out in their work on the identification and characterisation of the Portugues and Algarve landscapes[209], these different expressions can be organised into geographical divisions or landscape units with a relative affinity in terms of their natural characteristics, i.e. morphological, lithological and climatic, as well as in terms of land use systems (such as agrifood), (urban) population distribution and major trends of landscape transformation. Cancela and colleagues identified a total of 128 landscape units, grouped into 22 main categories, understood as areas with relatively homogeneous characteristics and specific patterns to which a certain character is associated. For the Algarve region, the authors identify 9 specific units within three macro-groups (see Figure 53): Algarve and Alentejo coast (U), Algarve (V) and Alentejo coast and south-west Vicentino (T), where we find the Sierra de Monchique and its surroundings (U 123),

[209]Following the approval and guidelines of the European Landscape Convention in 2000, the country undertook a new exercise to identify and characterise its landscapes based on their different socio-environmental and natural characteristics. This task was entrusted to Cancela d'Abreu and his colleagues at the University of Évora, resulting in the first comprehensive publication of Portuguese landscape units and classification (Cancela d'Abreu et al., 2002).

the Sierra de Calderão (U 122), the lower Guadiana Valley and its tributaries (U 111A) , the western Algarve (V 124), the Algarvian ‘Barrocal’ (V 125), the central Algarvian coast (V 126), the Ria Formosa (V 127), the Foz de Guadiana (V 128), as well as the Alentejo and Vicentine coasts (T 117) and the Ponta de Sagres and Cape St Vincent (T+V 119).

Drawing on other works by geographers Orlando Ribeiro (1986), Freitas and Ferreira (1999) and the early descriptions by Raul Proença (1926), Cancela d'Abreu and colleagues repropose the general use of the division based on three macro-sections between the mountainous zone ('sierra'), the 'barrocal' ('plain') and the coastline ('litoral'), highlighting the importance of more detailed analyses that frame the existing particularities, transition zones and diversity of the respective landscape units (see ERROR! REFERENCE SOURCE NOT FOUND.**)**. The sierra (mountain range) is characterised by slate and granite soils, mainly covered by shrub and tree vegetation, often including strawberry trees (‘madrinheiros’), rock roses and acorns, with the Monchique area in the western Algarve and the Caldeirao area in the central Algarve. The ‘Barrocal’, on the other hand, can be seen as an intermediate zone between the mountains and the coast, consisting mainly of limestone and shale soils, with agricultural systems such as dry orchards and crops such as oranges and other citrus fruits, almonds, olives, figs and carob trees. Finally, the coastal area is characterised by the presence of humid and fertile soils, where a large proportion of horticulture, floriculture and greenhouse crops are located, such as Campina de Farro. This area of the region concentrates most of the population and its tourist, economic and infrastructural activities.

FIGURE 54: SPATIAL DIVISION OF THE ALGARVE REGION: MOUNTAIN, BARROCAL AND COASTLINE



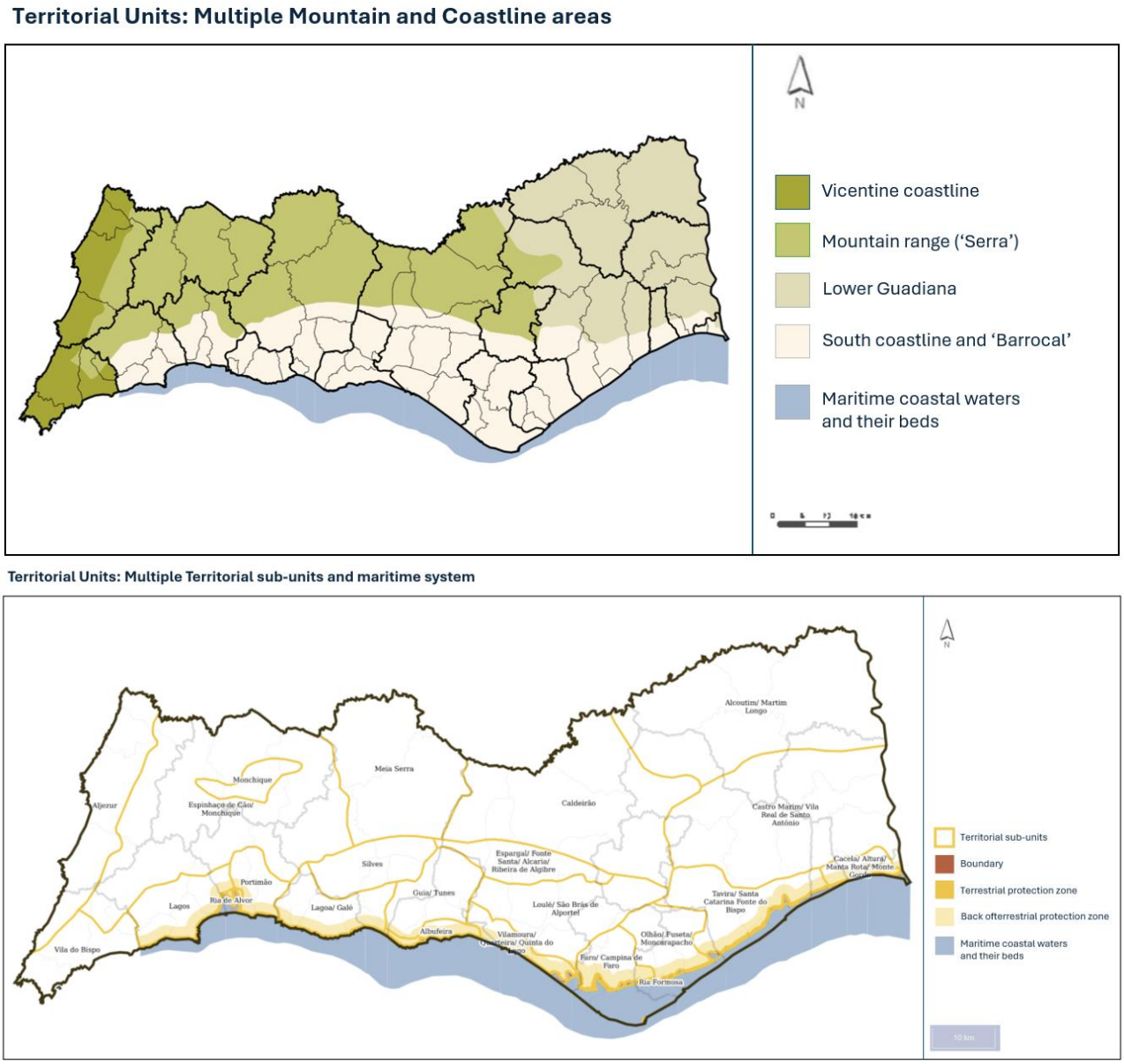
SOURCE: CANCELA D’ABREU, 2004

The Regional Spatial Plan for the Algarve region (PROT-Algarve) also presents an additional division of the region based on five territorial units and their marine systems. This includes the Vicentine coastline (protected area) in the west part of the region; the mountain range ('serra') including the main regional massifs of Monchique and Caldeirão; the Lower Guadiana area in the east part of the region; the integration between the southern coastline and the 'Barrocal ' in the middle

part of the region (for its valorisation)[210] and, finally, its marine system of coastal waters and their beds. This macro-division also includes the classification of territorial sub-units outside the municipal administrative area, such as Campina de Faro (including its peri-urban area of productive orchards); the area between Olhão, Fuseta and Moncarapacho; the area between Tavira, Santa Catarina and Fonte do Bispo; the area of the Caldeirao mountain range; the area between Alcoutim and Martim Longo; the area between Loulé and São Brás de Alportel; the coastal area between Vilamoura and Fonte do Bispo; the area of the Caldeirao mountain range; the area between Alcoutim and Martim Longo; the area between Loulé and São Brás de Alportel; the coastal area between Vilamoura, Quarteira and Quinta do Lago; the area between Guia and Tunes; and the area of Espargal, Fonte Santa, Alcaria and Ribeira de Algibre, among others. Figure 55 presents the main territorial units and subunits individually, including the martitime system, while Figure 56 presents the consolidated version proposed by the PROT-Algarve, without the maritime system.

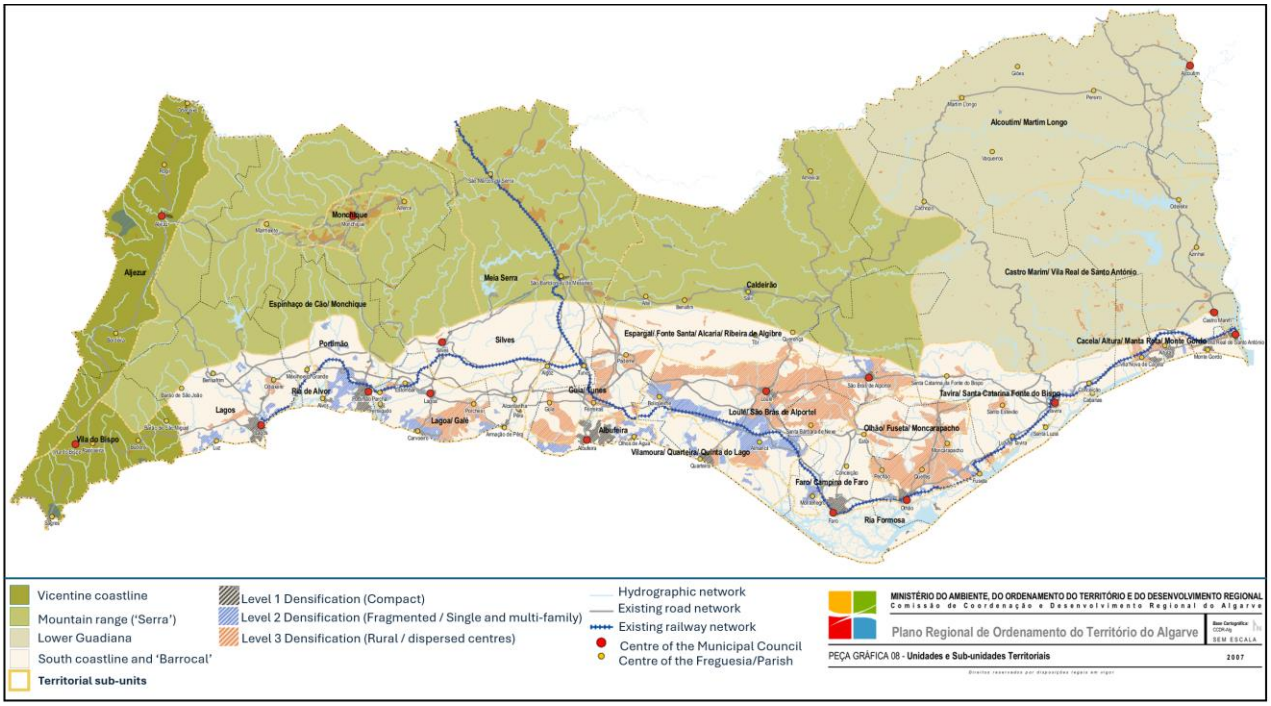
[210] The PROTAL identifies a gradual extension of the spatial dynamics representative of the coastline in the Barrocal area, reducing their differentiation and the usefulness of their spatial division and planning, but maintaining their formal characteristics of relief and forest cover. These two areas are therefore classified as a single group (PROT-Algarve, 2008).

FIGURE 55: TERRITORIAL UNITS AND SUB-UNITS AND MARITIME SYSTEM IN THE ALGARVE REGION PROPOSED BY THE PROT-ALGARVE (2007)



SOURCE: ELABORATED BY THE AUTHOR BASED ON THE PROT-ALGARVE, IDEALG, 2023.

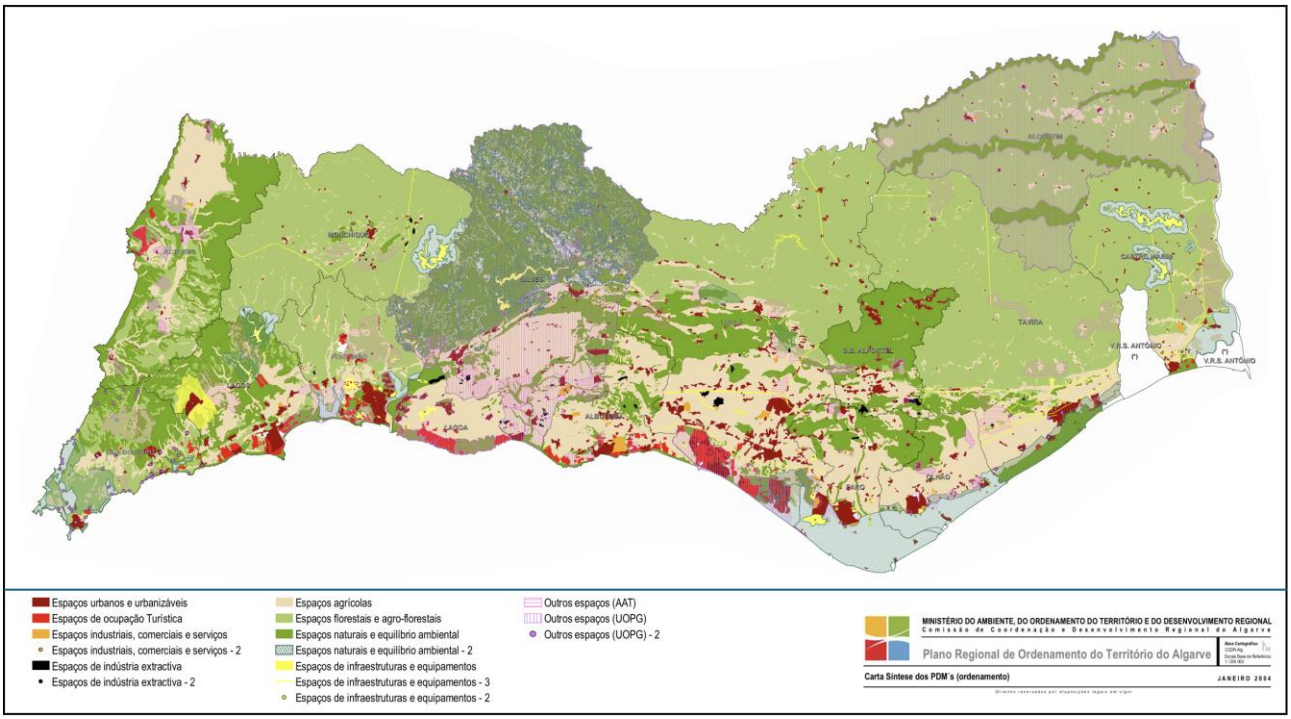
FIGURE 56: TERRITORIAL UNITS AND SUB-UNITS IN THE ALGARVE REGION



SOURCE: TRANSLATED BY THE AUTHOR BASED ON THE TERRITORIAL UNITS AND MARITIME SYSTEM OF THE PROT-ALGARVE (2007E)

The Algarve Region provides additional tools for the classification and spatial division of the region. Volume 2 of the Regional Plan (PROT-Algarve, 2004) identifies different spatial typologies for territorial organisation. Annex 7 presents these different classifications in relation to the six food 'moments' / spaces. Additionally, in a synthesis and harmonisation exercise, the PROTAL combined their proposed typologies with the classifications established in the different Municipal Spatial Plans (PDMs) of the region, resulting in the grouping of these different classes into 9 spatial groups (see Figure 56): Urban and urbanisable spaces; Tourist areas; Industrial, commercial and service spaces; Extractive industry spaces; Agricultural spaces; Forests and agro-forestry spaces; Natural spaces and environmental balance; Infrastructure and equipment areas; and other delimitations.

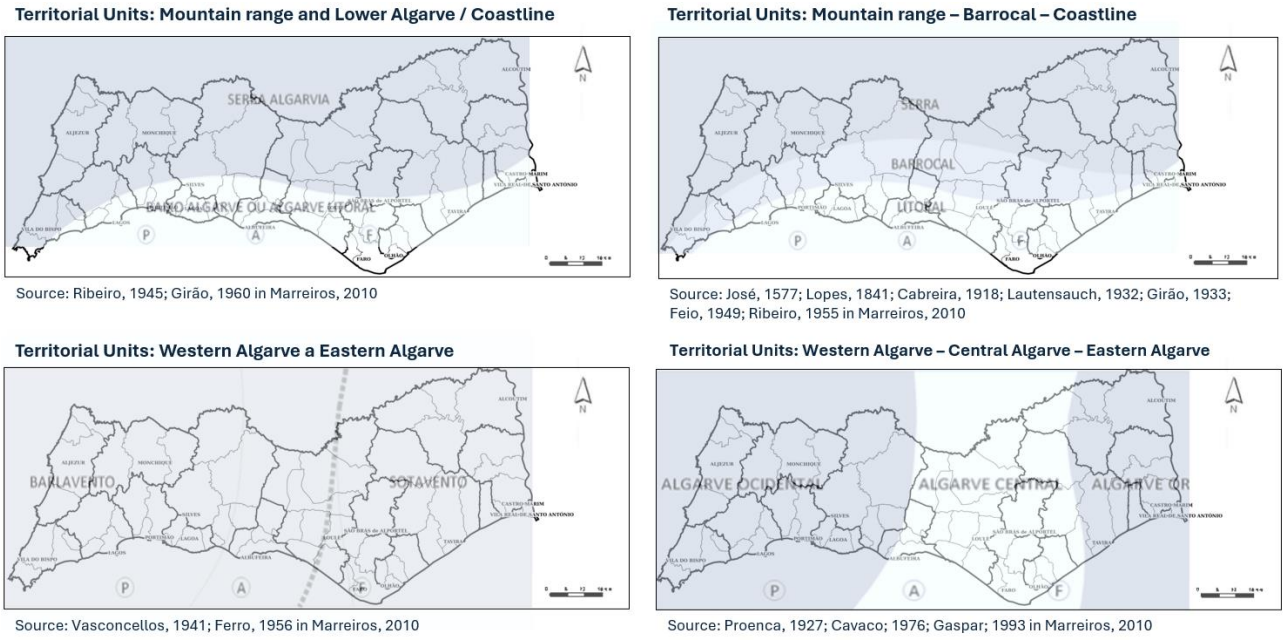
FIGURE 57: SPATIAL PLANNING AND CLASSIFICATION OF THE MAIN LAND-USE PATTERNS IN THE DIFFERENT MUNICIPAL PLANS OF THE ALGARVE REGION IN 2004



SOURCE: PROT-ALGARVE (2004) BASED ON THE CLASSIFICAITON OF MAIN LAND USE PATTERNS (Annex 7).

Another useful analysis of the different spatial organisation is provided by Aquiles Marreiros (2010) in his study of polycentrism in the Algarve. The author builds on the aforementioned models to summarize four major spatial divisions and territorial units used in the region. The author includes two models that could be described as 'bipolar', between the highland regions and the coastal line or 'lower Algarve', as proposed by Romero Magalhães (1970) and similar to the approaches used by Orlando Ribeiro (1945) for Portugal, and the division between the eastern and western Algarve ('Sotavento' and 'Barlavento' in Portuguese, correspondingly), following the approaches of Vasconcellos (1941) and Caetano Ferro (1956), and similar to the two-part division proposed by Carmina Cavaco (1976) on the western and easter Algarve. In addition, the author identifies two further tripolar models. The first of these is based on the previous geographical approach based on the division between the mountain range ('sierra'), the 'Barrocal', and the coastline area, as mentioned before by Cancela d'Abreu et al. (2004). The second model presents a division based on what could be seen as a 'socio-spatial' trajectory, Raul Proença (1927), between the Western Algarve (‘Barlavento’), the Central part of the Algarve (between the municipalities of Albufeira and Tavira), and the Eastern Algarve (or ‘Sotavento’, between the municipalities of Tavira and Vila Real de Santo Antonio) **(**see Figure 58). This final model of Proen**Ç**a, particularly the central Algarve region, serves as the foundation for this research study. It offers insights into the complex dynamics of urbanisation and rural-urban relations, illuminating the interplay between coastal and inland areas, tourism development, and the region's food production base, particularly in the Barrocal and Faro Campina regions.

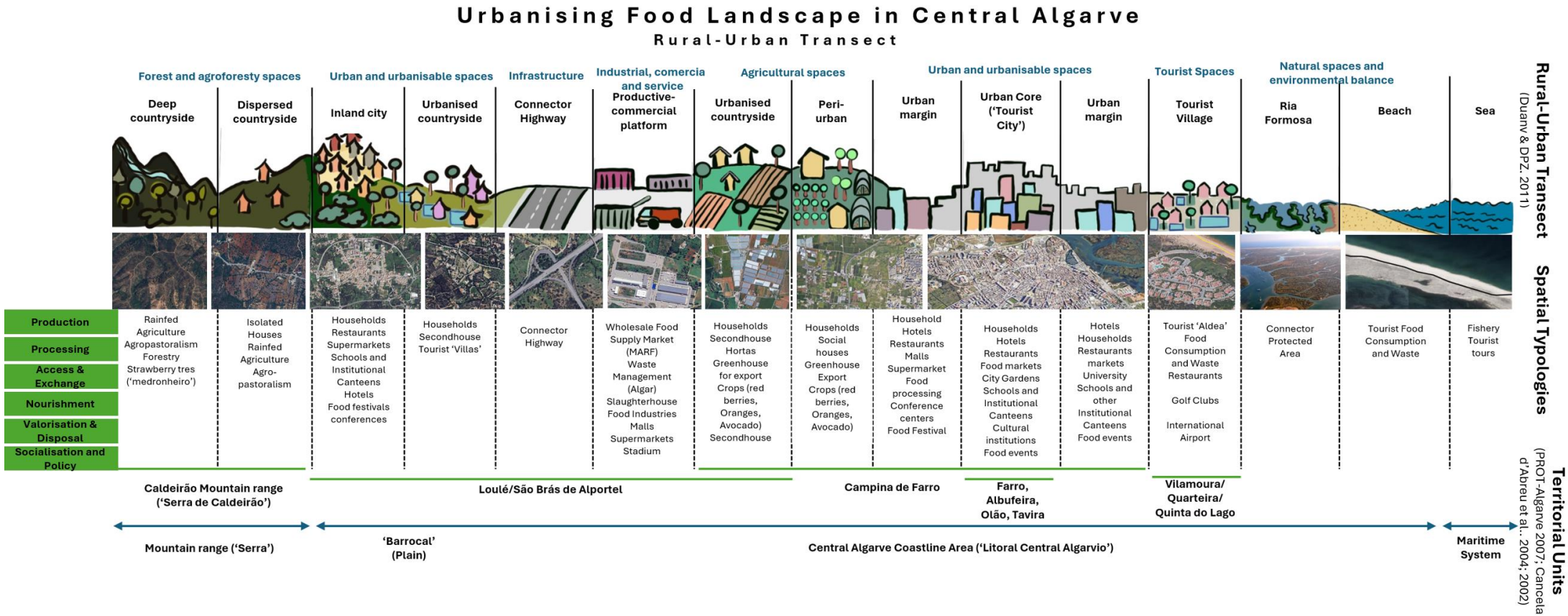
FIGURE 58: SPATIAL ORGANISATION MODELS OF THE ALGARVE REGION IDENTIFIED BY MARREIROS (2010).



SOURCE: TRANSLATED AND MODIFIED BY THE AUTHOR BASED ON MARREIROS (2010), FOLLOWING THE APPROACHES OF RIBEIRO (1995; 1992; 1987); GIRÃO (1960); CAVACO (1976); PROENCA (1927); FERRO (1956).

This research builds on the aforementioned models and territorial units of the region to propose an analysis of the urban and tourism-mediated food system transformations along the rural-urban transect model presented by Duany & DPZ (2011; see subsection 4.1.5.1), which are referred to here as an urbanising food landscape (see subsection 4.2.1 and Figure 13). The model presents a reconstruction of the territorial units and sub-units proposed by the PROT (2007e), organised along the landscape macro-regions identified by Cancela d'Abreu et al. (2004; 2002). Building on the morpho-typological components of the city-countryside pact project of the apulia regional landscape plan (Regione Puglia, 2015a; see Figure 25), this model integrates the different food spaces/moments identified in subsection 3.2 and the spatial typologies identified in the PROT-Algarve (2004) for the region (see Annex 7). It is important to note that these divisions are conceptualised as a continuum, whereby the various classifications and spaces are not perceived as discrete entities, but rather as continuously interrelated food elements that co-exist and recombine along the horizontal and vertical axes of the region (Figure 59 depicts the model of the urbanising food landscape for the Central Algarve).

FIGURE 59: RURAL-URBAN TRANSECT MODEL FOR THE ANALYSIS OF FOOD LANDSCAPE TRANSFORMATIONS IN THE CENTRAL ALGARVE.



SOURCE: ELABORATED BY THE AUTHOR BASED ON THE SPATIAL MODELS AND TERRITORIAL UNITS OF PROTAL (2007E), CANCELA D'ABREU ET AL., (2004; 2002); THE TRANSECT MODEL OF DUANY & DPZ (2011); THE GEOGRAPHICAL DIVISION OF THE CENTRAL ALGARVE OF PROENCA (1927); AND INSPIRED BY THE SPATIAL UNITS OF THE CITY-COUNTRYSIDE PACT PROJECT OF THE REGIONE PUGLIA (2015A).

NOTE: THE DIFFERENT TRANSECTS AND TYPOLOGIES OF SPACES IDENTIFIED ARE NOT ASSUMED AS DISCRETE ENTITIES, BUT IN A CONTINUOUS RELATIONSHIP, COMPRISING A COMBINATION OF SEVERAL OF THEM ALONG THE HORIZONTAL AND VERTICAL AXES OF THE FOOD LANDSCAPE.

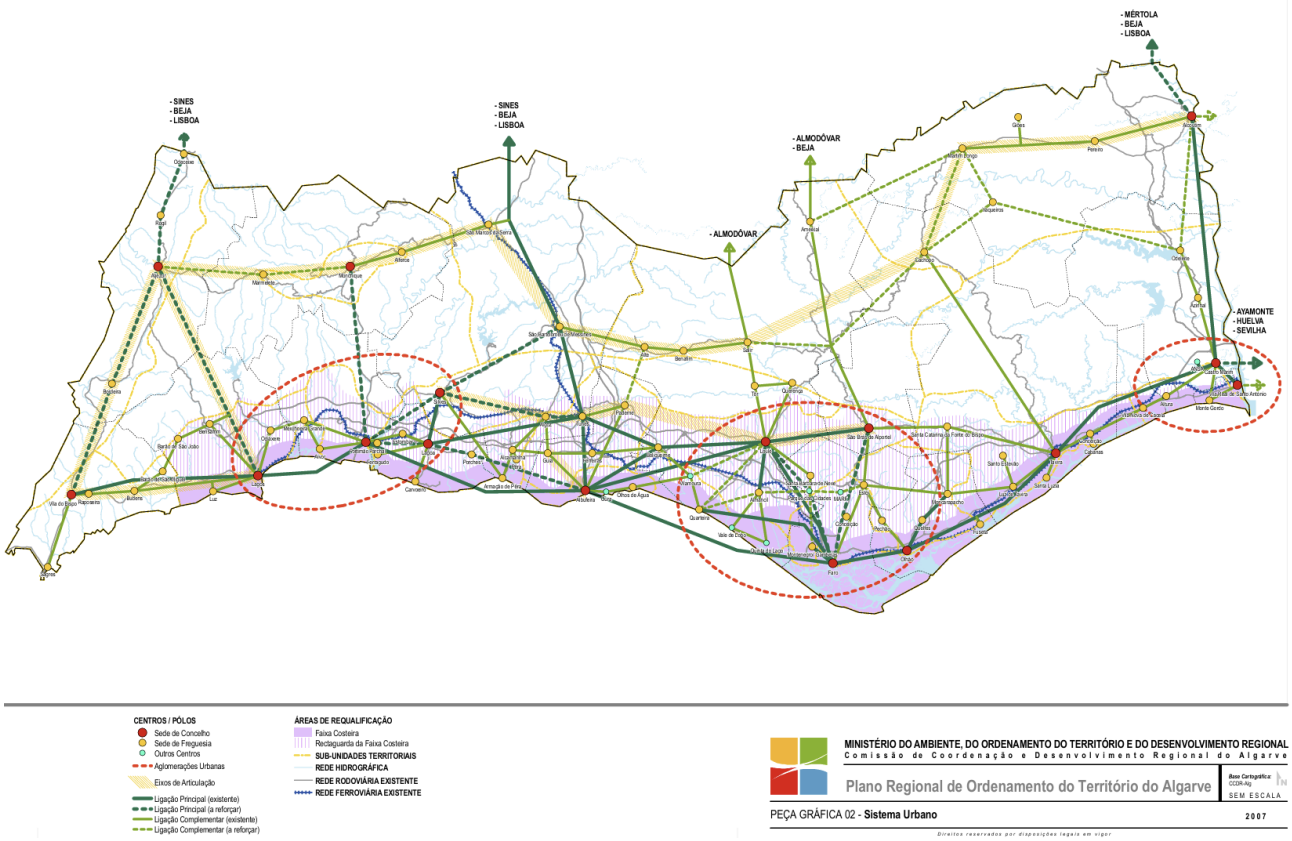
THE URBANISING FOOD LANDSCAPE IS UNDERSTOOD AS URBAN MEDIATED FOOD SYSTEM TRANSFORMATIONS ALONG THE RURAL-URBAN TRANSECT AND THE SIX MOMENTS OR FOOD SPACES (SEE SUBSECTION 4.2.1).

7.2.2. Main Spatial Design and Planning Frameworks in the case study

As previously discussed, the regional scale has played a significant role in the planning activities undertaken in the Algarve. In 1965, the region presented its pioneering regional planning scheme and preliminary study for the management of its landscape, the second in the country after Lisbon, but never approved or implemented (see subsection 7.1.4.2). This was followed by the official publication of its first Regional Spatial Plan, PROTAL (approved under Decree 76-A/88) between 1988 and 1991, as well as the second regional planning scheme, PROT-Algarve (Law 48/98), launched and approved in 2007. The rapid urban and tourist development processes experienced in the region during this period, especially along its coastline, were significant motivators for this early developments and recognition of the need for a regional approach. As demonstrated by Almeida & Costa (2013) and Antonio Correia (2015), the opening of the Algarve's international airport in July 1965 led to a significant influx of tourists, resulting in a rapid expansion of the real estate sector associated with tourism. This growth was largely unregulated by the region's nascent planning instruments, allowing for extensive private construction and tourist development initiatives. Indeed, the robust economic dynamism of the 1970s manifested in a process of urbanisation that spread along the region's traditional cities, shaping, what João Martins (2014) observes as a triangle of urban agglomeration between Faro, Loulé and Albufeira, connected by the Estrada Nacional 125.

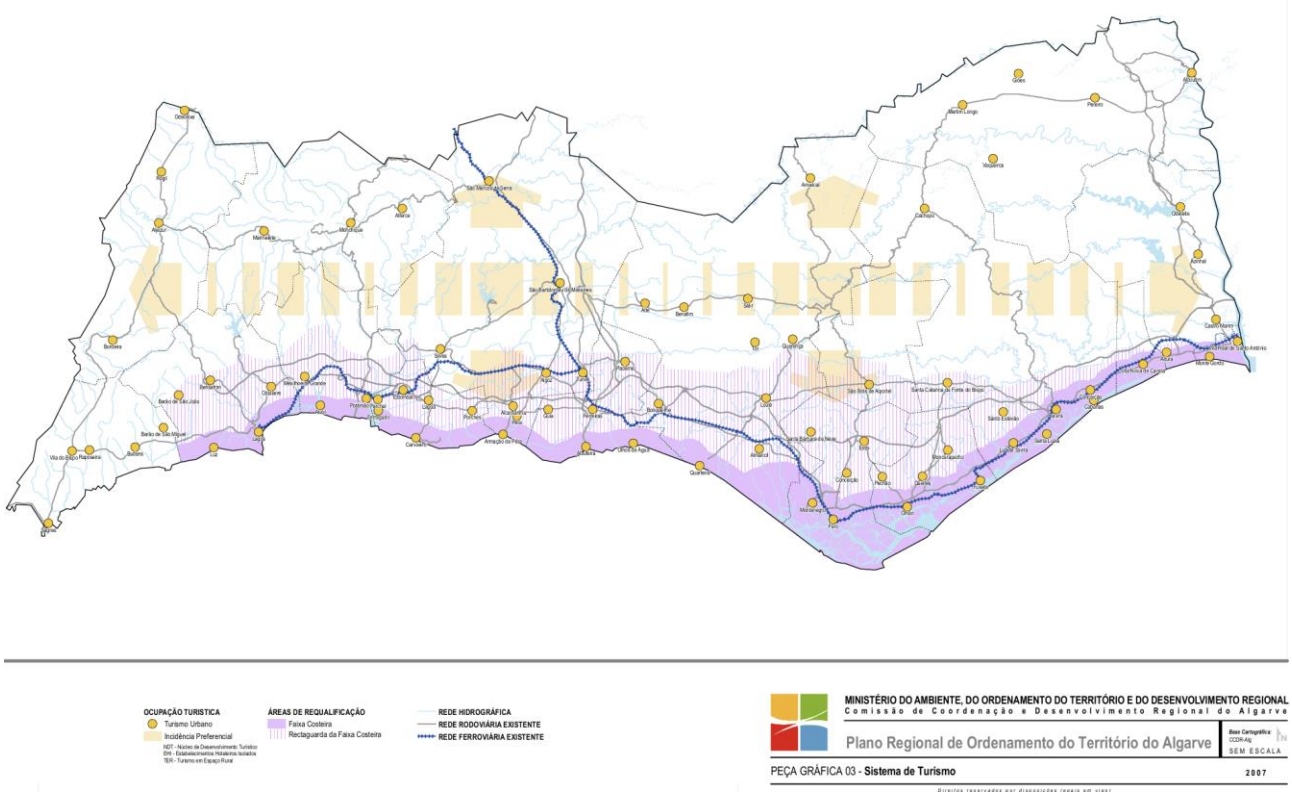
The first urban planning schemes in the region[211] emerged relatively late in comparison to the initial initiatives launched at the national level by the cities of Lisbon and Porto during the administration of Duarte Pacheco and the arrival and retraining of international and national urban planners (for further details, please refer to subsection 7.1.2). Lobo (1999) reports an initial formulation of the General Urbanisation Plan (PGU) in 1961 in Olhão, though it was not implemented, being supplanted by a more site specific planning instrument with the introduction of the Urbanisation Plans (PU) and Detailed Plans (Planos de pormenor – PPM) in 1971 (Law 560/71 and Decree 561/71). Almost two decades later, in 1981, the first PGU of Faro was published, followed by the one of Tavira in 1990, setting the first formal introduction of this instrument in the region. The introduction of the new legal regime of municipal spatial plans and mandatory nature of PDM approved in 1990 (Law 69/90) led to a significant increase in the development of municipal plans in all the country, as made particularly evident in the Algarve. This included the approval of the first PDMs in the municipalities of Faro, Olhão, São Brás de Alportel, Loulé (see Figure 67: Urban system proposed by the Regional Spatial Planning Plan (PROT-Algarve)

[211] It is noteworthy that the initial exercise of rational urban planning and development in the region was spearheaded by the central government in the 18th century, with the construction of the city of Vila Real de Santo Antonio in 1774. This was a political endeavour aimed at reaffirming Portuguese sovereignty against Spain, including the establishment by the Marques de Pombal of the 'Companhia Geral de Pescarias Reais do Reino do Algarve' in 1773 (Fidalgo et al., 2012).



SOURCE: PROT-ALGARVE, 2007C

FIGURE 68: THE TOURIST SYSTEM PROPOSED BY THE REGIONAL SPATIAL PLANNING PLAN (PROT-ALGARVE)



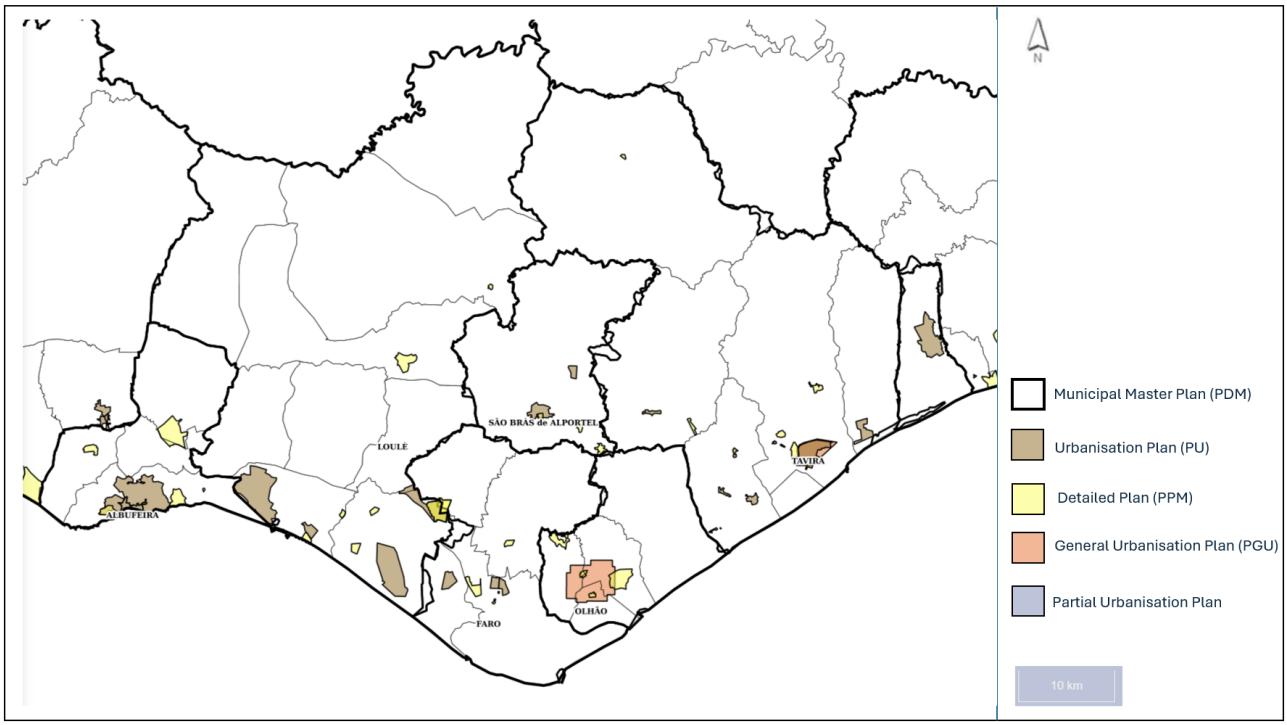
SOURCE: PROT-ALGARVE, 2007D

Figure 69) and Albufeira in 1995, followed by that of Tavira in 1997, many of which are still in force today. Annex 8 presents a summary of the principal spatial plans directly related to the Central

Algarve region, together with an overview of their current status of implementation across the region's multiple territorial scales. Figure 60 illustrated the current coverage and territorial scope of each of the plans that are currently in force in the region.

The reinforcement of the municipal scale brought about by the 1990 PDM law was accompanied by the introduction of two new key frameworks: the spatial and urban planning policy in the country (Law 48 of 1998) and the Local Entities Regime (Law no 75/2013). This conferred new responsibilities upon municipalities for local territorial management, several of which are of considerable relevance for food system planning. These include, but are not limited to, the following: spatial and urban planning, rural and urban facilities, heritage, culture and science, health, environment and basic sanitation, consumer protection, promotion of development, education (and management of its food services), social action, and others. Furthermore, the reinforcement of planning instruments such as the National Agricultural Reserve (RAN) and National Ecological Reserve (REN), introduced in 1982 and 1983, and updated in 2009 and 2006, respectively, was also a notable aspect of this period, being their delimitation part of the task of municipalities (see, for example, Figure 61, which illustrates the recent delimitation of the RAN by the Olhão Municipal Council in 2020). However, as identified in this review and also emphasised by other authors such as Marat-Mendes et al. (2022; 2021), the role of food (as landscape and system) is still mainly shaped by a strong agricultural character, with the interconnection with the other spatial dimensions of the food system being largely overlooked.

FIGURE 60: SPATIAL DELIMITATION OF THE DIFFERENT SPATIAL PLANS IN FORCE IN THE CENTRE OF THE ALGARVE.

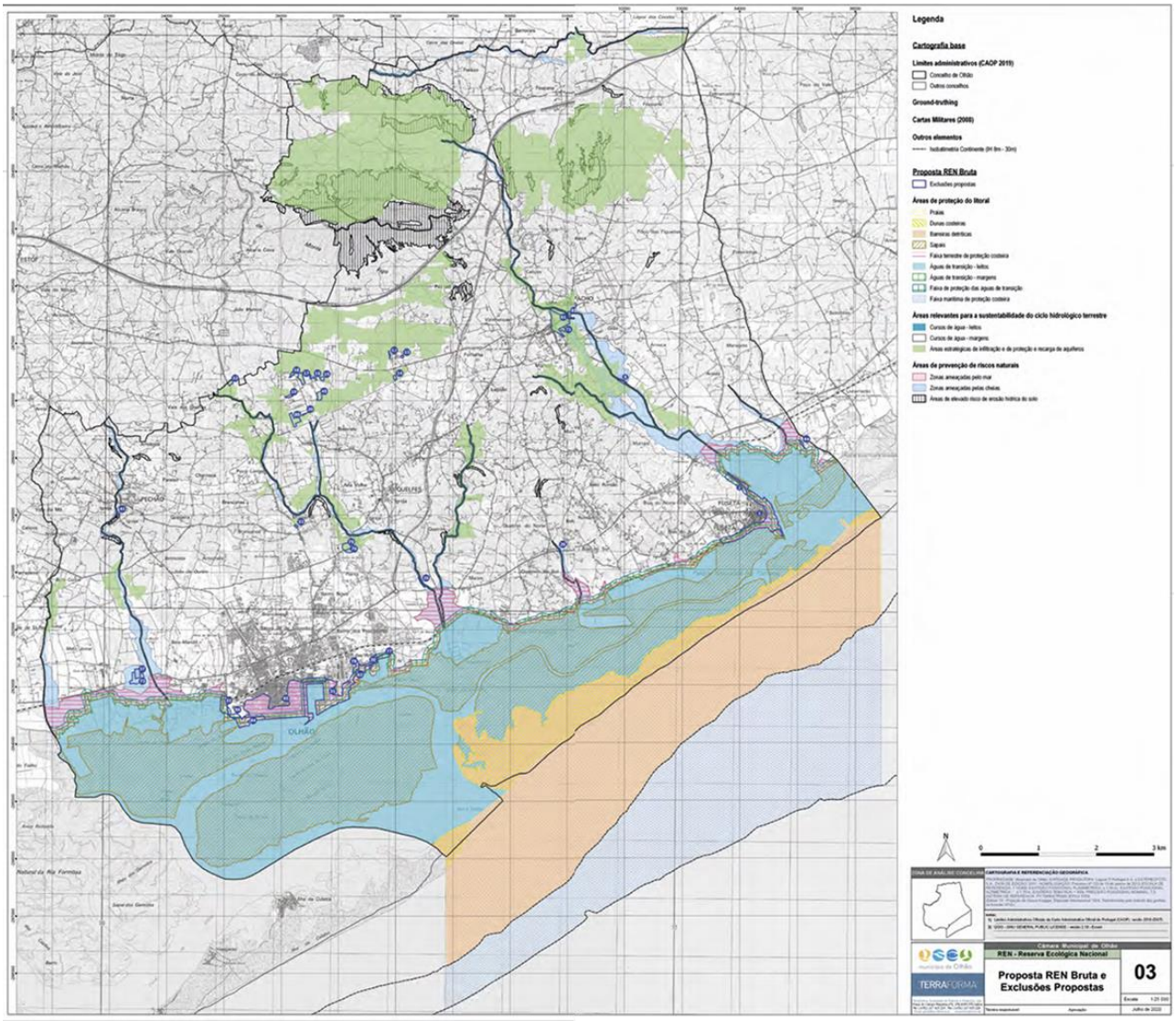


SOURCE: ELABORATED BY THE AUTHOR ACCORDING TO THE SPATIAL INFORMATION OF THE MUNICIPAL MASTER PLANS (PDM), URBANISATION PLANS (PU), DETAILED PLANS (PPM), GENERAL URBANISATION PLANS (PGU) AND PARTIAL URBANISATION PLAN IN THE SPATIAL DATA INFRASTRUCTURE OF THE ALGARVE (IDEALG, 2023).

In the second version of its Regional Development Plan for the Algarve (PROT-Algarve), various planning instruments are presented under four strategic approaches: 1) Qualification and diversification or clustering of tourism/leisure and related services, given the still low integration of the sector with other items in terms of supply and sales; 2) Strengthening and qualification of the economy, promoting knowledge-intensive activities, with models based on competitiveness; 3)

Promotion of a balanced and competitive territorial model; through a strong urban system and by increasing the development potential of disadvantaged areas; 4) Consolidation of a sustainable and durable environmental system, guaranteeing the structure and function of natural and semi-natural systems. The aforementioned objectives are addressed through seven strategic options and lines of intervention for territorial development and spatial planning, which entail: environmental sustainability, territorial rebalancing, urban structuring and its articulation with rural areas, the qualification and diversification of tourism, the safeguarding and valorisation of the cultural, historical and archaeological heritage for the exploitation of territorial resources, the structuring of the networks of collective facilities, and the structuring of the transport and logistic networks. A territorial model (Figure 66) is defined based on five relevant systems for the territorial and functional structuring of the region. These are the urban system (Figure 67), the tourism system (Figure 68) the coastal system, the environmental system and the accessibility and mobility system.

FIGURE 61: UPDATE AND SPATIAL DELIMITATION OF THE RAN PROPOSED BY THE OLHÃO MUNICIPAL COUNCIL IN 2020



Source: **CM OLHÃO, DGT, SNIT, 2020 IN CAVACO ET AL., 2021**

In terms of the food system, the PROTAL places an emphasis on the improvement of rural-urban relations through the implementation of measures that are focused on urban structuring, polycentric and functional development in conjunction with rural areas, the recovery of traditional agricultural systems through the certification of origin and the establishment of a marketing and distribution policy that is designed to support the creation of value, and the fostering of greater associativity

between producers. Other measures include the establishment of rural infrastructure and equipment, the promotion of tourism entrepreneurship in rural areas, and the development of value chains and quality systems linked to the diversification of tourism in relation to other sectors.

Furthermore, the PROTAL introduces additional planning tools, such as the Nuclei of Tourist Development (see **Error! Reference source not found.**), linked to structuring investments to promote the improvement of tourist offerings of excellence. Additionally, it establishes the Regional Structure of Environmental Protection and Valorisation (ERPVA), which integrates the networks of protected areas, the sites of community importance (SIC), and the special protection areas (ZPE) of the Natura 2000 network, with the objective of maintaining and improving their connectivity (see Figure 64). Furthermore, the National Agricultural Reserve (RAN) (see Figure 62) and the National Ecological Reserve (REN)[212] (see Figure 63) serve as protected areas for the conservation of productive agricultural land and sensitive ecosystems, employing protective measures and establishing no-build zones.

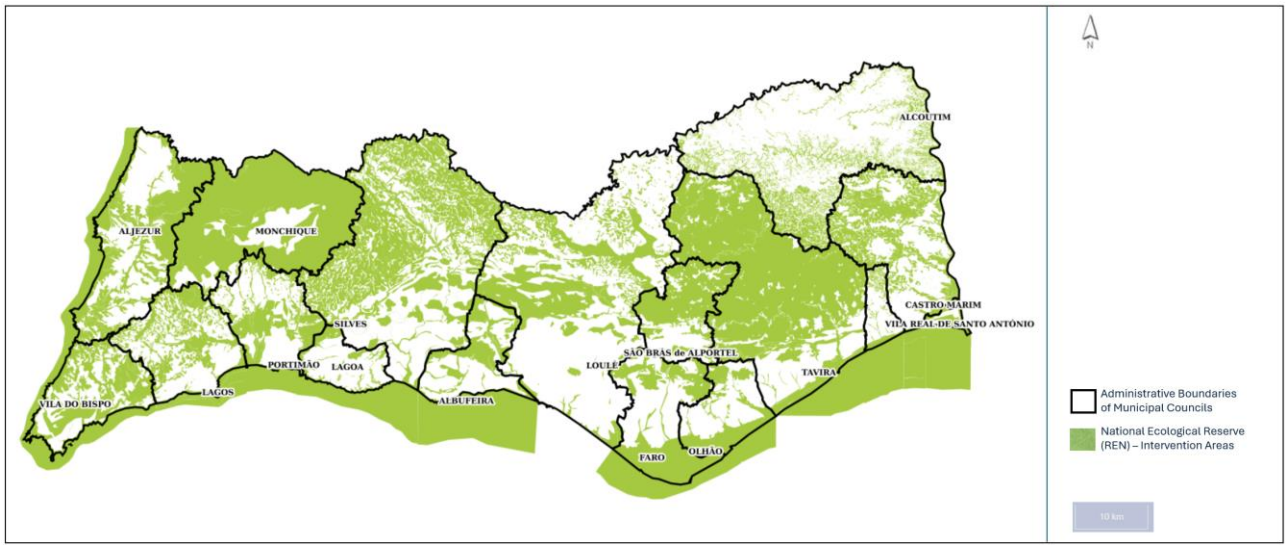
FIGURE 62: NATIONAL AGRICULTURAL RESERVE (RAN) IN ALGARVE

SOURCE: DGADR, 2024

NOTE: THE MISSING INFORMATION (SUCH AS IN THE MUNICIPAL COUNCILS OF ALBUFEIRA AND LOULÉ) CORRESPONDS TO MUNICIPALITIES THAT DO NOT HAVE RAN IN VECTOR FORMAT OR THAT ARE BEING VALIDATED BY THE DIRECTORATE-GENERAL FOR AGRICULTURE AND RURAL DEVELOPMENT (DGADR).

[212] The Algarve region has 57% of its total area designated as a National Ecological Reserve (REN), with the objective of safeguarding areas of high ecological sensitivity through the prohibition of land fragmentation, urbanisation, construction and extension works, roads, excavations and landfills, as well as the destruction of vegetation cover not associated with cultural operations of agricultural land use and from the management and exploitation of forest areas (Bitto, 20

FIGURE 63: NATIONAL ECOLOGICAL RESERVE (REN) IN ALGARVE

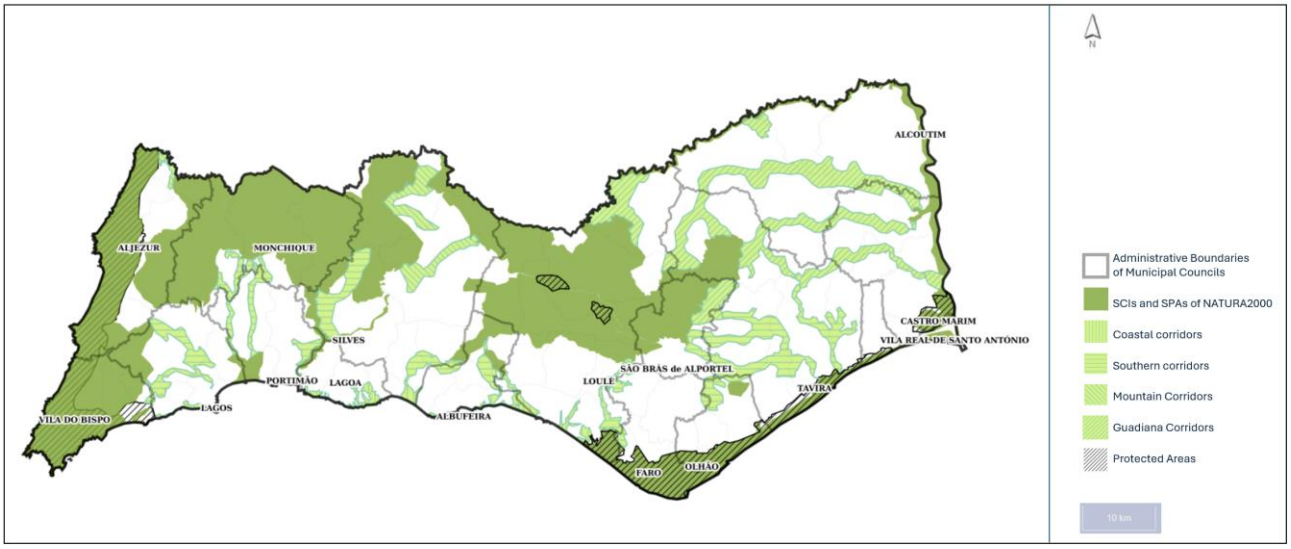


SOURCE: PROT-ALGARVE, IDEALG, 2023

As mentioned in section 7.1.4.3, another recent planning initiative relevant to the regional landscape management of the region is the Programme for the Planning and Management of the Landscape (PGRP), launched in 2020 as part of the Programme for the Transformation of the Landscape (PTP) and in alignment with the Regional Programme for the Management of the Algarve Forest (PROF ALG). The PGRP started with an initial pilot project in the Serra de Monchique and Silves, in the Western Algarve, testing a methodology structured around 4 main axes for the participatory design, management and remuneration of concrete actions adapted to the territories for the reduction of fires and the transformation of fragile forest landscapes with low population density: 1) biophysical suitability of soils; 2) water balance; 3) reduction of the magnitude and severity of the effects of fires and their associated impacts; and 4) economic, social, cultural and identity values (Biodesign, 2020).

The PGRP proposes a participatory management and planning model for the design of strategies at the landscape level. This is achieved through an assessment of the landscape and its management units, a strategic diagnosis and prospective vision, which are developed together with the participating communities. These are based on biophysical, local economic and fire resilience attributes that lead to the design of priority management measures and a governance model for their implementation. Analysis on potential (im)compatibilities of these measures with existing territorial plans, such as the PDM, is also performed (Biodesign, 2020; see also Figure 65 with an example proposal developed by the PGRP for the Monchique case study).

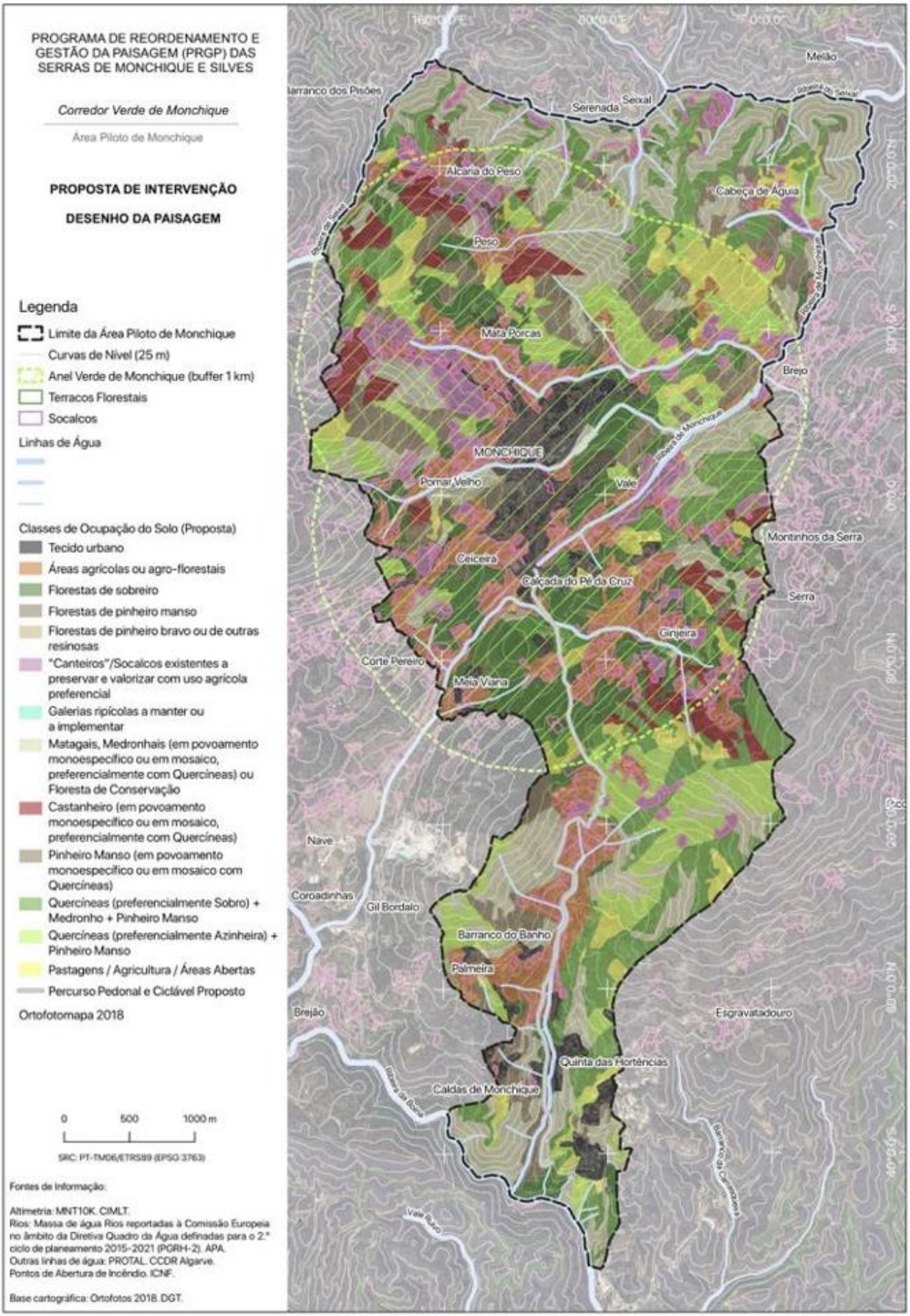
FIGURE 64: REGIONAL ENVIRONMENTAL PROTECTION AND VALORISATION STRUCTURE (EPRVA) OF THE ALGARVE REGION



SOURCE: PROT-ALGARVE, IDEALG, 2023
NOTE: SCI: SITES OF COMMUNITY IMPORTANCE; SPA: SPECIAL PROTECTION AREAS

Other territorial planning and management mechanisms applied in the region are also identified. These include the local action strategies in the inland areas of the Central Algarve, carried out within the framework of the European Instrument for Community Led Local Development (CLLD), and the experience of the LEADER programme in the region (see Box 1), led and promoted by the InLoco association already over 20 years ago (Interview 13). The development plans of the Algarve's intermunicipal association, such as the PEDRA strategy of 1999 and the 2020 plan and action plan of 2015, are also highlighted. To these efforts are added the strategies for adaptation to climate change at the intermunicipal level (PIAAC-AMAL) and the municipal strategies, such as the Climate Change Adaptation Plan - Faro and the Municipal Strategy for Adaptation to Climate Change of Loulé (EMAAC). The regional operational programmes and access to European Structural and Investment Funds are also key mechanisms of design and planning, developed and promoted by the CCDR-Algarve since its creation in 2003. Table 18 and Table 19 show the different resources earmarked for the region and the different programming approaches used.

FIGURE 65: LANDSCAPE INTERVENTION AND DESIGN PROPOSAL FOR THE CASE STUDY OF MONCHIQUE, ALGARVE, PROPOSED BY THE PROGRAMME FOR THE PLANNING AND MANAGEMENT OF THE LANDSCAPE (PGRP) IN 2020.

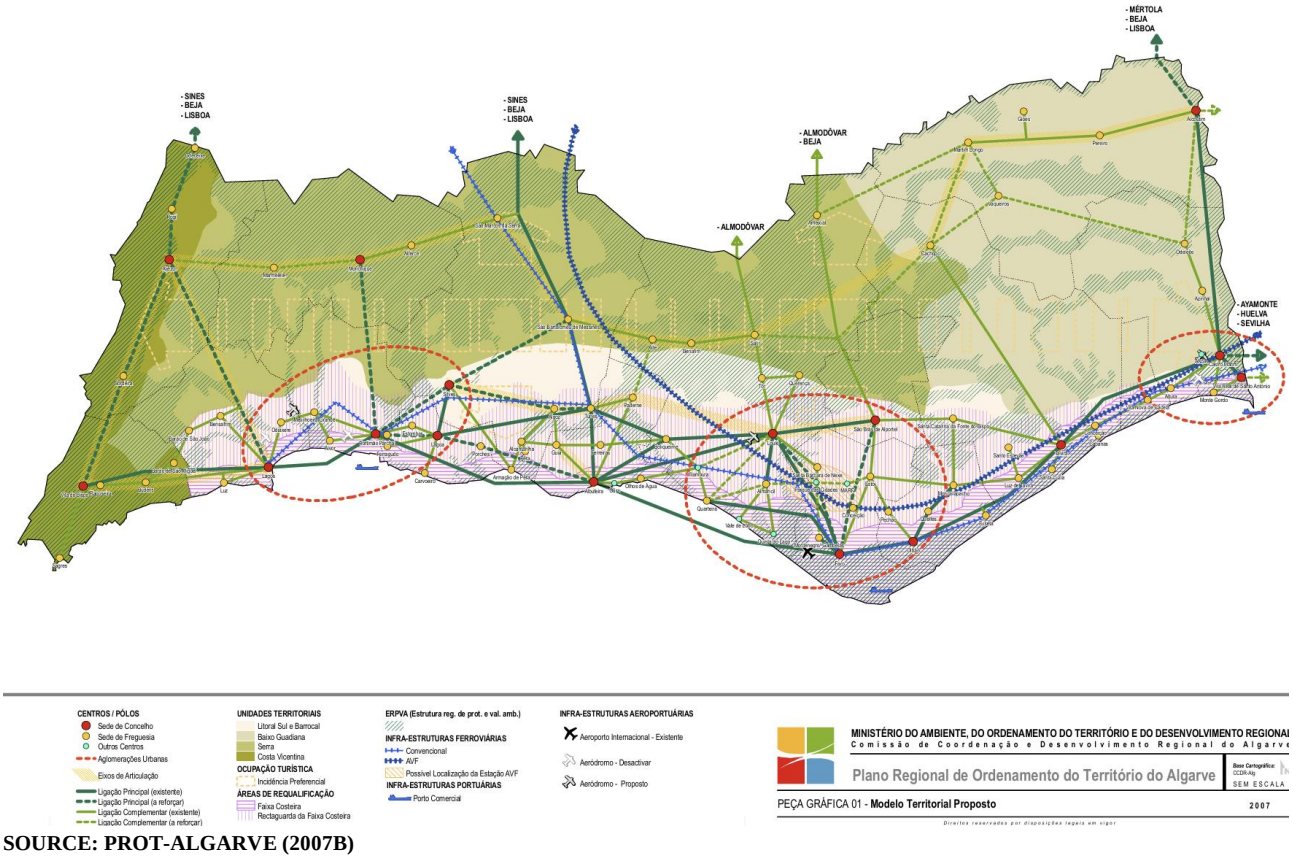


SOURCE: BIODESIGN, 2020

The various financing, management and planning mechanisms identified in this section provide examples of the different spatial planning models within which food and all its elements are integrated, either directly or indirectly, at different levels and through different approaches. A common thread running through these disparate documents is the prioritisation of productive diversification based on innovation and knowledge, as well as the promotion and enhancement of the agricultural base. This is presented as a strategy for maintaining economic activity in the hinterland of the region through cohesion and integrated territorial approaches, as well as urban-rural linkages. The aim of this thesis is to interweave the various approaches to landscape analysis in order to identify their roles in past transformations and to suggest possible future paths. It proposes an instrument of spatial and social planning which assumes the interconnections and generation of value between the different food dynamics of the territory. The PGRP developed in Monchique, and being currently implemented in the Caldeirao mountain range, provides an illustrative case of this phenomenon, working at the landscape-scale and the sustainable use of agroforestry and other sectors (such as tourism). The PGRP provides a specific, clearly defined objective and a set of dedicated planning and funding instruments that facilitate prioritisation and landscape design, for the implementation of concrete actions informed by scientific evidence as well as participatory and community leadership. Figure 70 provides a synoptic view of the various planning frameworks presented here, illustrating their interconnections, roles and scope along the rural-urban transect and food landscape.

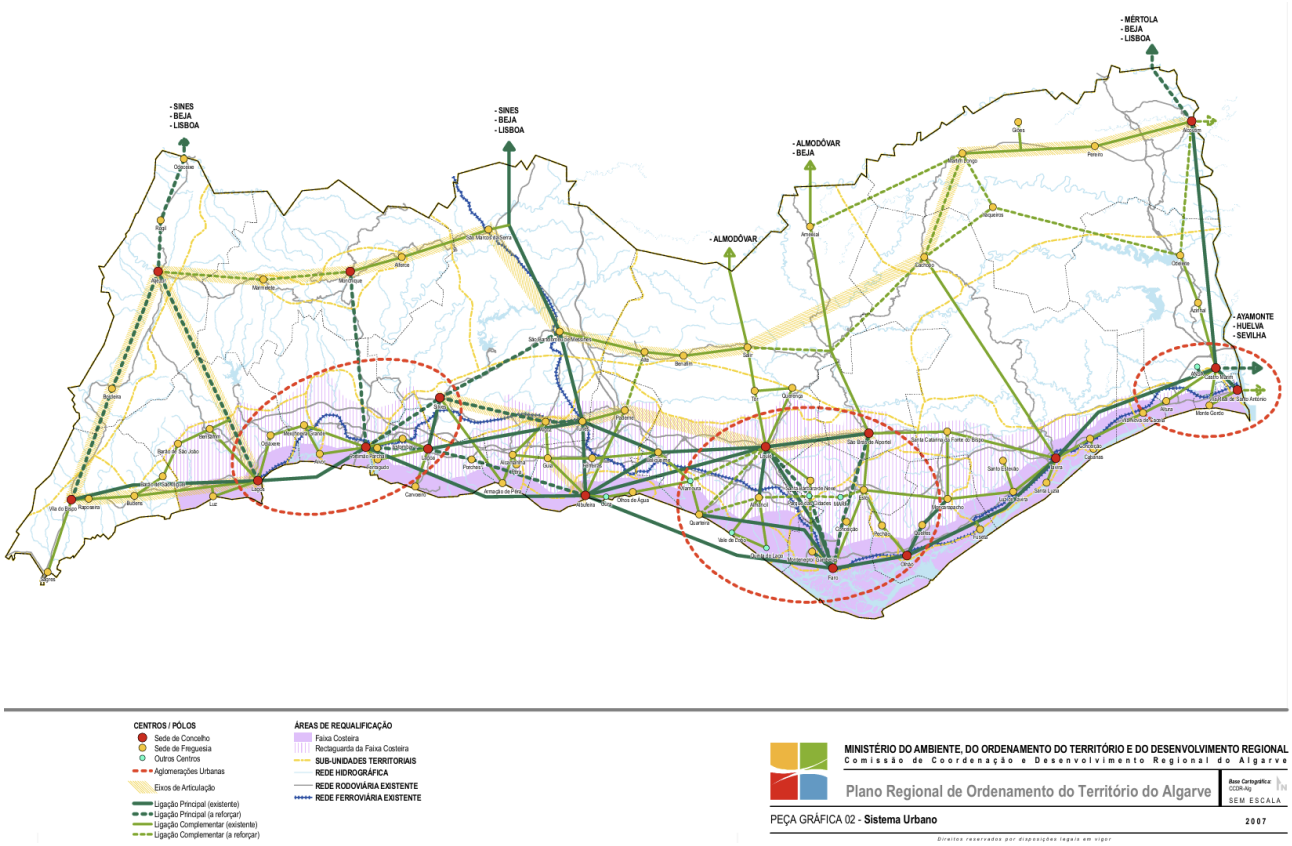
As will be discussed in the following section, the Central Algarve food system has already given rise to a considerable number of food-related initiatives, representing significant developments that are set to gain further momentum in the new European funding cycle towards 2027. The following section will thus examine the principal typologies of transformation observed in the Central Algarve and the diverse socio-spatial infrastructures that have been put in place to support these changes.

FIGURE 66: TERRITORIAL MODEL PROPOSED BY THE PROT-ALGARVE (2007)



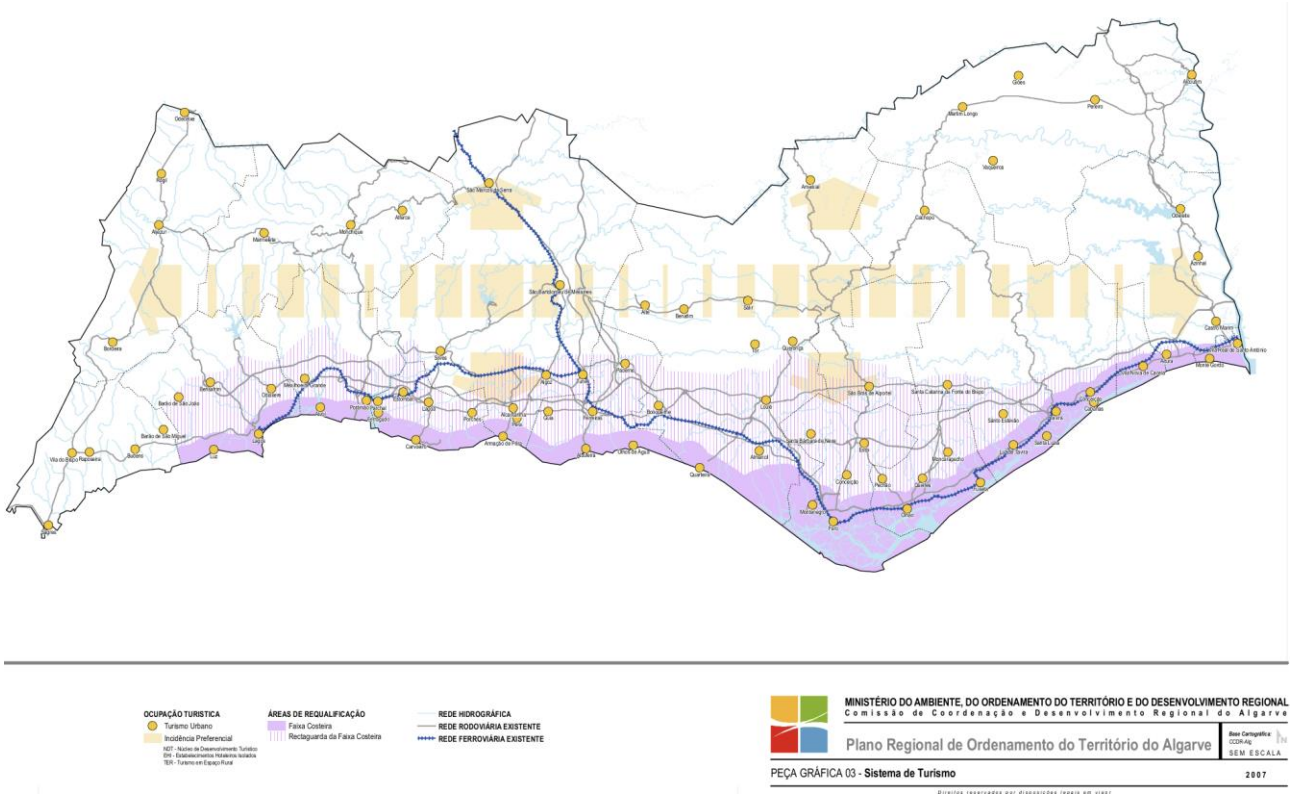
SOURCE: PROT-ALGARVE (2007B)

FIGURE 67: URBAN SYSTEM PROPOSED BY THE REGIONAL SPATIAL PLANNING PLAN (PROT-ALGARVE)



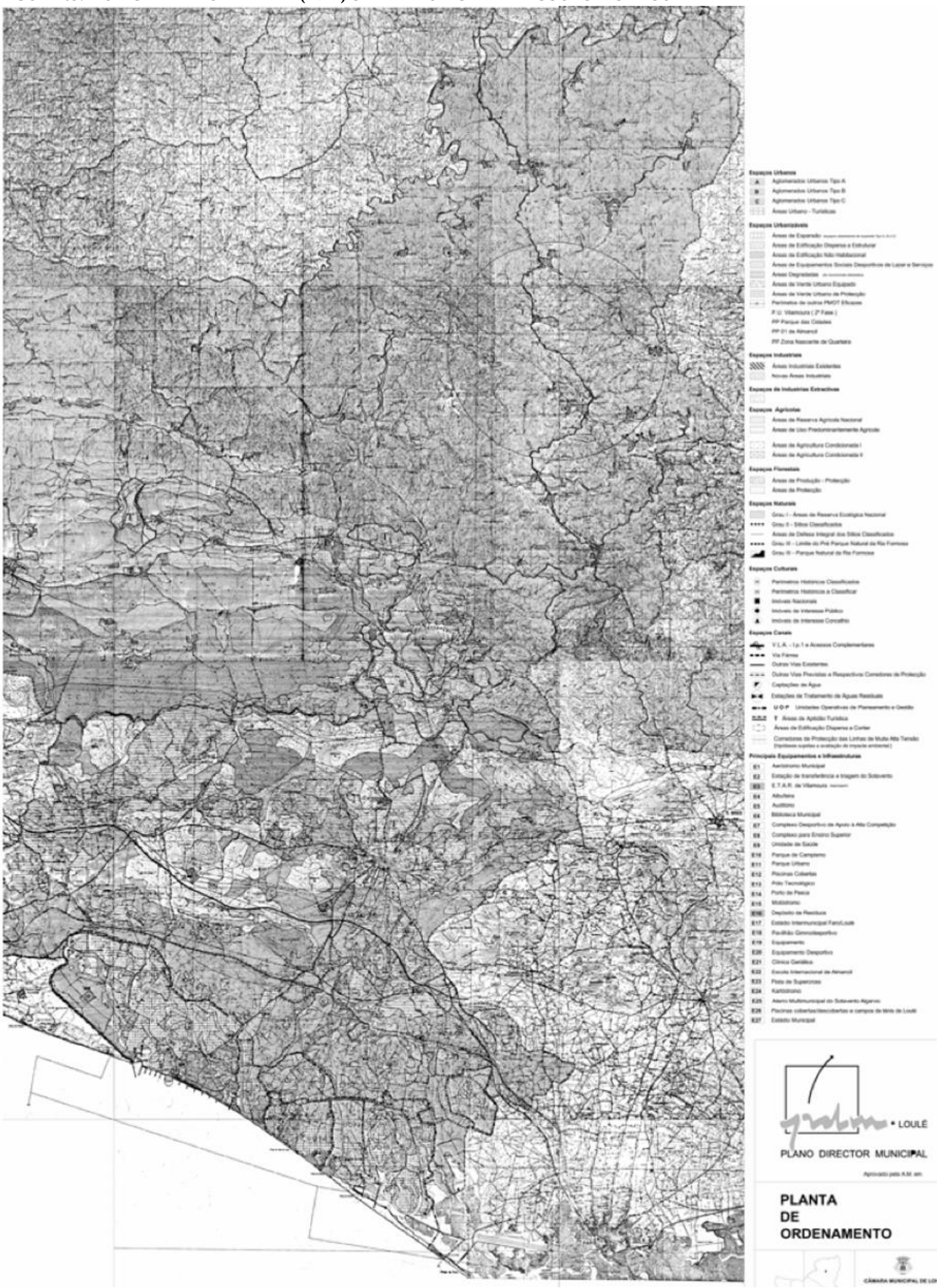
SOURCE: PROT-ALGARVE, 2007C

FIGURE 68: THE TOURIST SYSTEM PROPOSED BY THE REGIONAL SPATIAL PLANNING PLAN (PROT-ALGARVE)



SOURCE: PROT-ALGARVE, 2007D

FIGURE 69: MUNICIPAL MASTER PLAN (PDM) OF THE MUNICIPALITY COUNCIL OF LOULÉ



SOURCE: MUNICIPALITY OF LOULÉ IN BRITTO, 2013

TABLE 18: EUROPEAN PROGRAMMING CYCLES AND FUNDS IN THE ALGARVE REGION

Programming Cycle	Period	Type of Fund	Total	% of Country	Data Source
Pre-accession	1983–1993	ERDF	4,5 M€		CCDR-Algarve in Rocha-Medeiros, 2014
First ERDF	1986–1989	ERDF	68 M€		CCDR-Algarve in Rocha-Medeiros, 2014
CSF I	1989–1993	ERDF-EAFRD (EAGGF)	143 M€	3,5%	EC, 2024d
CSF II	1994–1999	ERDF-EAFRD (EAGGF)-CF	689 M€	4,5%	EC, 2024d
CSF III	2000–2006	ERDF-EAFRD (EAGGF)-CF-ESF	1.547 M€	6,6%	EC, 2024d
NSRF	2007–2013	ERDF-EAFRD (EAGGF)-CF-ESF	1.046 M€	4,1%	EC, 2024d
Partnership Agreement	2014-2020	ERDF-EAFRD (EAGGF)-CF-ESF-FEAD-EMFF-YEI	636 M€	2,7%	EC, 2024d

SOURCE: ELABORATED BY THE AUTHOR BASED ON EC, 2024D (HISTORIC EU PAYMENTS: REGIONALISED[213]); CCDR-ALGARVE IN ROCHA-MEDEIROS, 2014

Note: CSF: Community Support Framework; NSRF: National Strategic Reference Framework; ERDF: European Regional Development Fund; EAFRD: European Agricultural Fund for Rural Development; EAGGF: European Agricultural Guarantee Fund; CF: Cohesion Fund; ESF: European Social Fund; FEAD: Fund for European Aid to the Most Deprived; YEI: Youth Employment Initiative; EMFF: European Maritime and Fisheries Fund

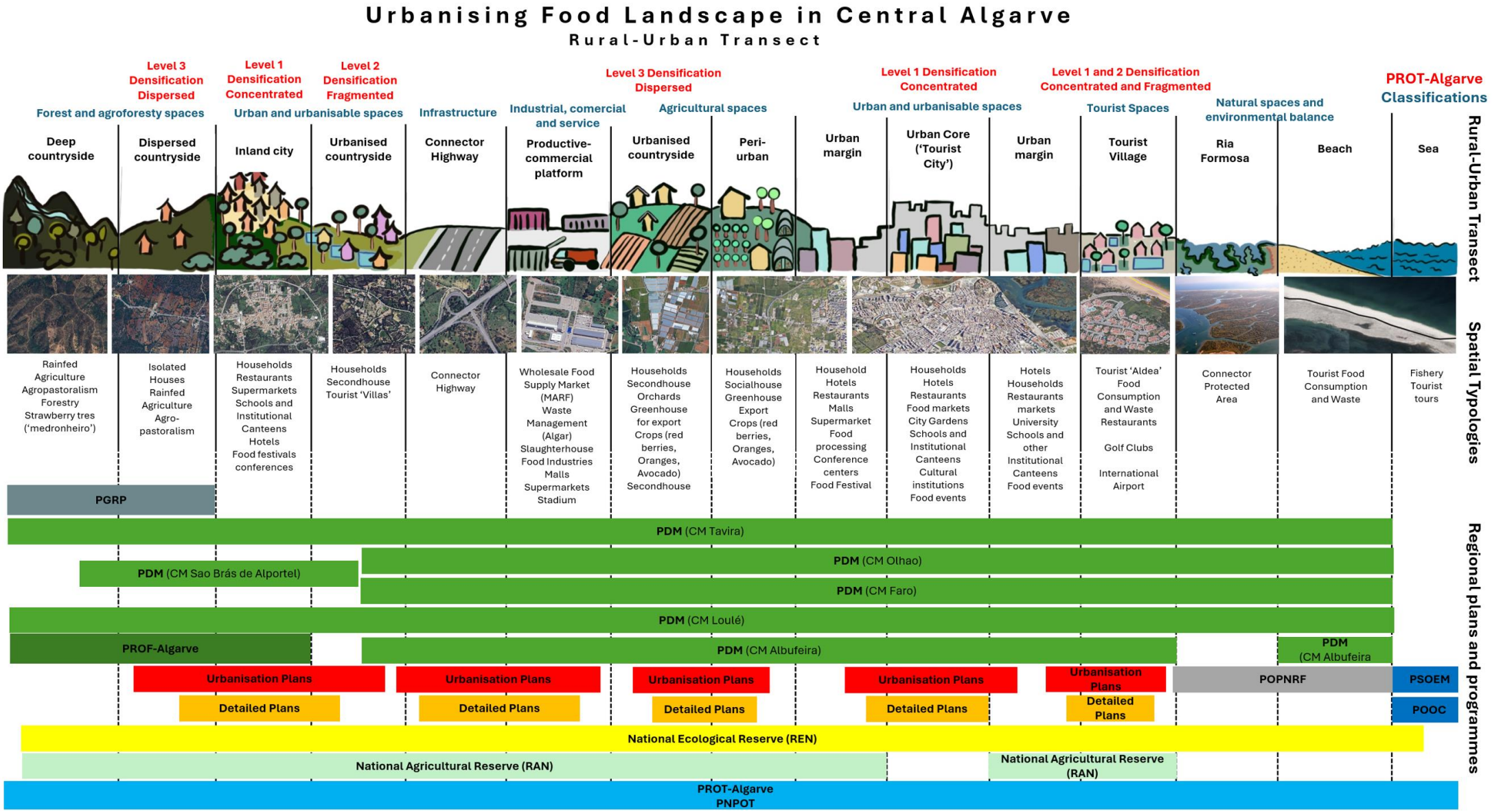
TABLE 19: REGIONAL OPERATIONAL PROGRAMMES IN THE ALGARVE REGION

Regional Programme	Period	Priority Areas	Type of Fund	Total Public Contribution / EU Funds
PROALGARVE	2000 – 2006	Support for investment of municipal and inter-municipal interest Integrated measures with a territorial basis Regional sectoral measures by central government	ERDF CF ESF	747 M€ / 479 M€
Algarve	2007 – 2013	Competitiveness, innovation and knowledge Environmental protection and development Territorial enhancement and urban development Technical assistance	ERDF	352 M€ / 175 M€
Regional OP Algarve 2020	2014 – 2020	Promoting Research and regional innovation Supporting internationalisation, competitiveness of enterprises and qualified entrepreneurship Promoting resource sustainability and efficiency Strengthening territorial competitiveness Investing in jobs Asserting social and territorial cohesion Enhancing skills Modernising and empowering the Administration Technical Assistance	ERDF ESF	636 M€ / 232 M€ (ERDF) 87 M€ (ESF)
Algarve Regional Programme	2021 – 2027	Diversification and specialisation of the economy Greener economy (including Cooperation with Alentejo on new water management solutions)	ERDF ESF+	1.486 M€ / 668 M€ (ERDF) 112 M€ (ESF+)

SOURCE: ELABORATED BY THE AUTHORS BASED ON EC, 2024E (FINANCIAL INFORMATION ON APPROVED REGIONAL DEVELOPMENT FUNDS FOR THE ALGARVE REGIONAL PROGRAMME BY PRIORITY AXIS: ERDF AND ESF(+))

[213] This dataset provides the most complete historic picture available to date on the annual EU payments made under different shared management funds mapped to or estimated by NUTS-2 regions (EC, 2024d)

FIGURE 70: URBANISING FOOD LANDSCAPE ACROSS THE RURAL-URBAN TRANSECT AND ITS INTEGRATION IN THE REGIONAL PLANS AND PROGRAMMES IN CENTRAL ALGARVE



SOURCE: ELABORATED BY THE AUTHOR, IDEALG, 2023.

7.2.3. Main Socio-Spatial transformations of the case study

This section presents the results of the characterisation of the principal food landscape transformations identified in the Central Algarve region of Portugal. This section will build on the spatial models and classifications discussed above, as well as on the spatial analysis and interviews conducted with 37 actors from the food, tourism and planning sectors in the region. These analyses led to the identification of the different spatial expressions and typologies of transformation mediated by urban and tourism processes along the rural-urban transect over the last 30 years. For this purpose, the analysis has been divided into six distinct food moments or spaces, from the initial stages of production and transformation, through to the subsequent stages of access and exchange, nourishment, valorisation and disposal, socialisation and policy. This will form the basis of the empirical evidence of the identified transformations, which in turn will inform the main conclusions of this research. Figure 77 and Figure 78 summarise the main transformation typologies identified in the six food spaces.

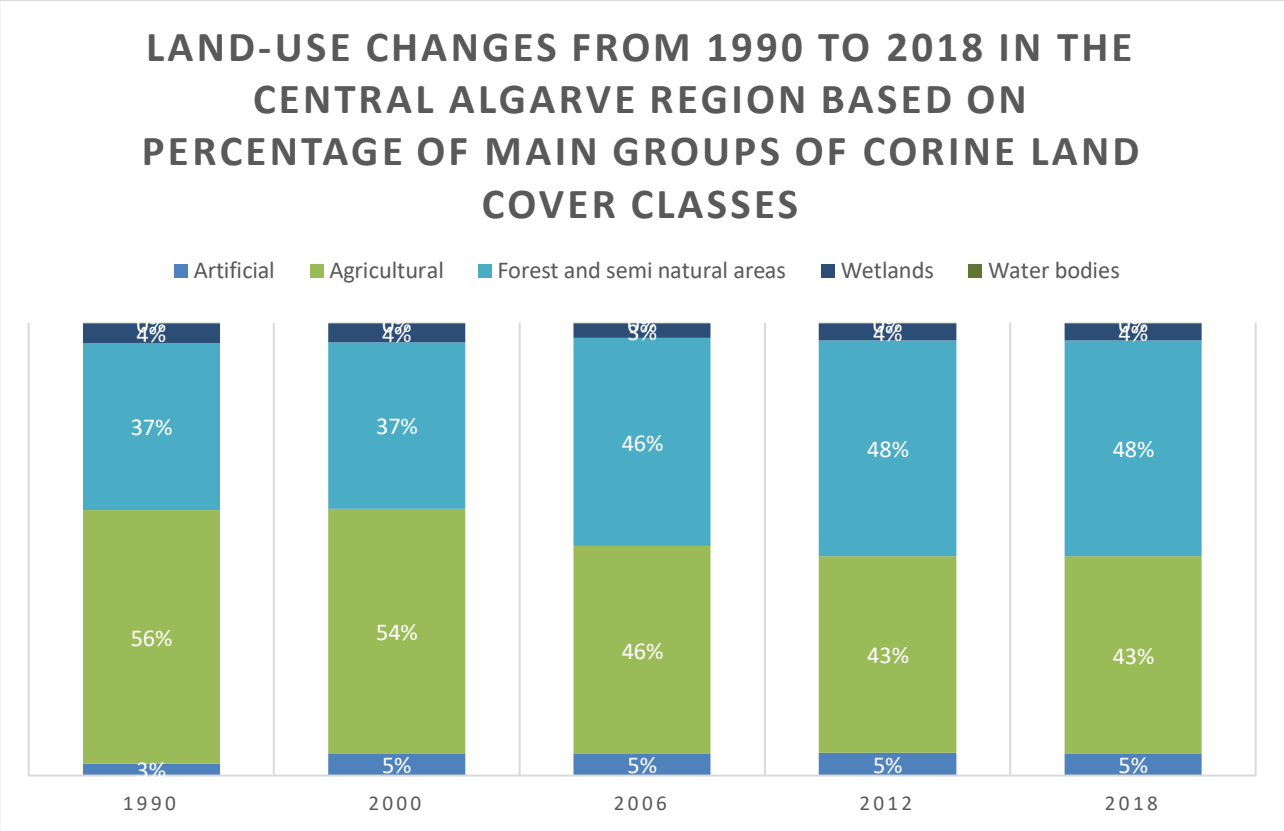
7.2.3.1. Main food transformations in the Central Algarve : Production, processing, access & exchange

The first space analysed in this section is the food production space, understood as spaces dedicated to agricultural, fish or forestry production whose activity results in the generation of food products for human consumption.

As demonstrated in the preceding section, the agricultural sector in the Algarve has also undergone significant transformations over the past seven decades. These changes are evidenced by a notable decline in the number of operational agricultural farms and the active labour force, particularly between the 1960s and the 2000s. As Brito (2009) points out, between 1952 and 2005 there was a sharp reduction in the number of agricultural holdings, from 38,014 to 14,721, particularly at the expense of small-scale production and in the interior of the region (PROT-Algarve, 2007). This was accompanied by an increasing role of tourism, its hotel capacity and weight in the region's economy. The demographic growth of the region (see Table 20) has resulted in a notable urban concentration along the coastline, accompanied by the abandonment of agricultural populations, particularly in the highlands. This has led to a significant transformation in the region's productive structure and economy, with the share of commerce and services reaching approximately 70% by the end of the century, while agriculture accounted for only 11% of the region's workforce (PROT-Algarve, 2007). Indeed, between 1960 and 2010, these changes resulted in a reduction of approximately 84% in the number of workers employed in agriculture and fishing, and an increase of 360% in administrative and similar staff, and up to 153% in services and trade (INE, 2021; Martins, 2011). This has led to a consolidation of the weight of the tertiary sector in the region, especially with the growth of hotel and catering. By 1994, as documented by PROT-Algarve (2007), the tourism sector already constituted 40% of the region's gross value added (GVA) and up to 42.5% of its employment. By the early 2010s, this figure would continue to rise, with tourism accounting for around 60% of total employment and up to 66% of regional GDP (Brito, 2013). In response to these trends, a new process of specialisation and entrepreneurialisation of Algarve agriculture commenced in the 1990s. This was driven by the availability of new European resources and investment in regional infrastructure (see Table 18 and Table 19), particularly in areas with the greatest productive potential along the coast and the Barrocal, such as the Campina de Faro. Consequently, new production models were devised with the objective of diversifying the market and specialising in a context of exponential tourism growth and mounting pressure on land and labour.

In order to provide a succinct overview of the principal land use changes in the central Algarve, the following is a summary analysis of the change in the weight of the different classes of the CORINE Land Cover database, grouped into their principal classes, namely artificial areas, agriculture, forest and semi-natural areas, wetlands and water bodies. This concise analysis demonstrates a gradual decline in the significance of agricultural land, which has become increasingly concentrated and specialised in a more competitive markets, especially along the barrocal and coastline. There has also been a slight increase, particularly between 1990 and 2000, in the proportion of artificial areas, which corresponds to the extensive infrastructural developments that took place during this period. Finally, there has been a notable increase in the relative importance of forest and semi-natural areas, which may reflect their progressive abandonment and subsequent renaturalisation processes, representing growing challenges for forest fire management (see subsection 7.2.1 on the PGPR initiative)

FIGURE 71: LAND-USE CHANGES FROM 1990 TO 2018 IN THE CENTRAL ALGARVE REGION BASED ON PERCENTAGE OF MAIN GROUPS OF CORINE LAND COVER CLASSES

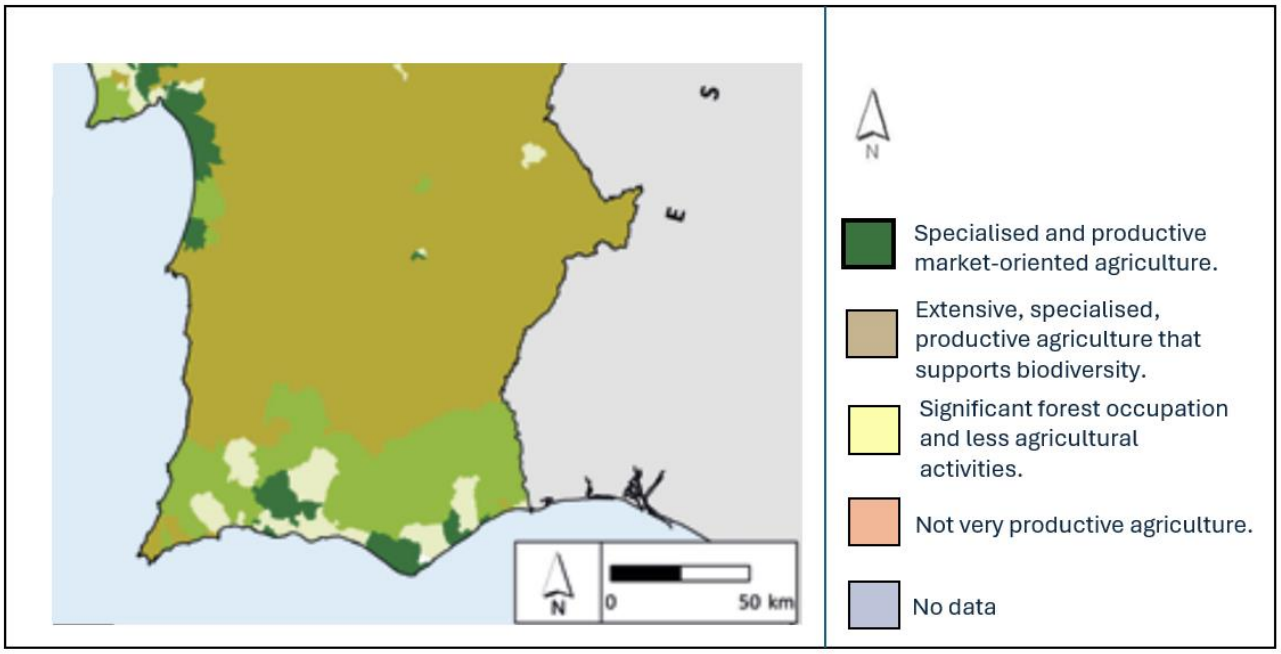


SOURCE: ELABORATED BY THE AUTHOR BASED ON CORINE LAND COVER DATASETS FROM 1990 TO 2018

As illustrated in Figure 73, three principal processes can be discerned in the transformation of the agricultural landscape of the central Algarve, especially along its 'coastal and barrocal' territorial units. The first transformation typology identified is the expansion of the productive area from the direct peri-urban areas to the Algarve Barrocal below the A22 highway. This phenomenon can be traced back to the construction of the second mobility ring around Faro, which commenced in 2002. This initiative resulted in the gradual dismantling and relocation of numerous productive units in a progressively concentrated manner, indicating a certain degree of centralisation and entrepreneurial management of the farm. The second typology of transformation is characterised by the consolidation and technification of production units in proximity to coastal cities. This has involved the introduction of new greenhouse systems and the development of specialised products for export, including avocado, berries (strawberries, raspberries, blueberries) and other exotic fruits (e.g., dragon fruit and

mango). This is also evidenced by a greater concentration of production with the introduction of mechanised and irrigated areas, both at the level of greenhouses and at the level of orchards and fruit trees, as shown in Figure 77, with open-field plantations such as citrus fruits, avocados, almonds and mangoes growing especially after the 2000s. These observations are in accordance with the findings of the PROT-Algarve (2007), which demonstrate a general decline in the dynamism of the agricultural sector, with the exception of citrus fruit production, which exhibited a 40% increase in productivity by 1995. This indicates its early specialisation in the Algarve food market, becoming the primary agricultural product with approximately 76% of the regional productivity. As noted in the analysis of territorial profiles for agriculture presented by Cavaco et al. in 2021, these changes are framed also in the spatialisation of a specialised and productive market-oriented agriculture, which has predominated in the Faro urban and peri-urban area (see Figure 72).

FIGURE 72: SUMMARY OF TERRITORIAL PROFILES FOR AGRICULTURE IN PORTUGAL



SOURCE:TRANSLATED BY THE AUTHORU BASED ON PNPOT IN CAVACO ET AL., 2021

The interview with a local farmer is therefore useful to situate these processes in the reality of their producers and social dynamics:

> "*In recent years, there has been a shift from family and subsistence farming to a more global and professional agriculture. That is, fewer farmers and farms, but more professional. (...) In the Algarve, competition is even greater due to the pressure of tourism on agriculture and the use of urban areas*" (Interview 26, translated by the author).

As the interviewee points out, this is also linked to increasing European regulations, bureaucracy and traceability, as well as integration into a more competitive market, as he points out:

> *"The requirements in agriculture are increasing, both in terms of product quality, health, environment, etc. requring more professionalisation. (...) We are no longer an independent country, but a united Europe, forcing each to adapt its production to each region, according to its comparative advantage. In the Algarve, we produce fruit with minimal resources and we have to be good at what we do. (…) At the same time, most of what we consume comes from abroad, from other professionalised areas"* (Interview 26, translated by the author).

As illustrated in Figure 77, a further typology is discernible in the transformation of the food landscape of the central Algarve. This is evidenced by the rapid decline in the production and fishing of sardines, linked to the decline of industrial sector of canned food that was of great importance to the region at the beginning of the century. Conversely, there is a growing role for aquaculture production systems, especially on the production of molluscs, which would represent 94% of the total production of the Portuguese mainland by 1995. These transformation capitalised on the region's comparative advantages in terms of climate and geographical positioning, giving rise to the third typology of transformation, which is related to greater integration and planning of activities in the development of the food value chain, from the introduction of new technologies to processing and distribution in large international urban markets. This can be seen in the increased integration of the value chain at farm level, which highlights the increasingly specialised and corporate management of farms in such systems.

It is of particular interest to note the findings of Brito (2013) in his analysis of tourism development and urbanisation in the region. These observations highlight the continued concern and objective of achieving greater integration between tourism development and its potential co-benefits for the enhancement and revitalisation of the agricultural sector. This objective has remained a consistent feature of regional development plans, as evidenced by those from 1986 to 1999 and 2007, as well as the Algarve's land-use plan, PROT-Algarve (2007). However, as Brito notes, despite initial efforts by development promoters to incorporate agricultural production for the provision of goods in tourist areas such as Vale do Lobo and Vilamoura, challenges remained in the organisational and infrastructural systems to ensure a competitive and reliable supply throughout the year. Consequently, a stronger connection was forged with the supply centres of Lisbon and, subsequently, also of Faro. This leads us to our second and third areas of analysis, namely the processing, access and exchange of food.

These trends are also evidenced by Interviewee 26:

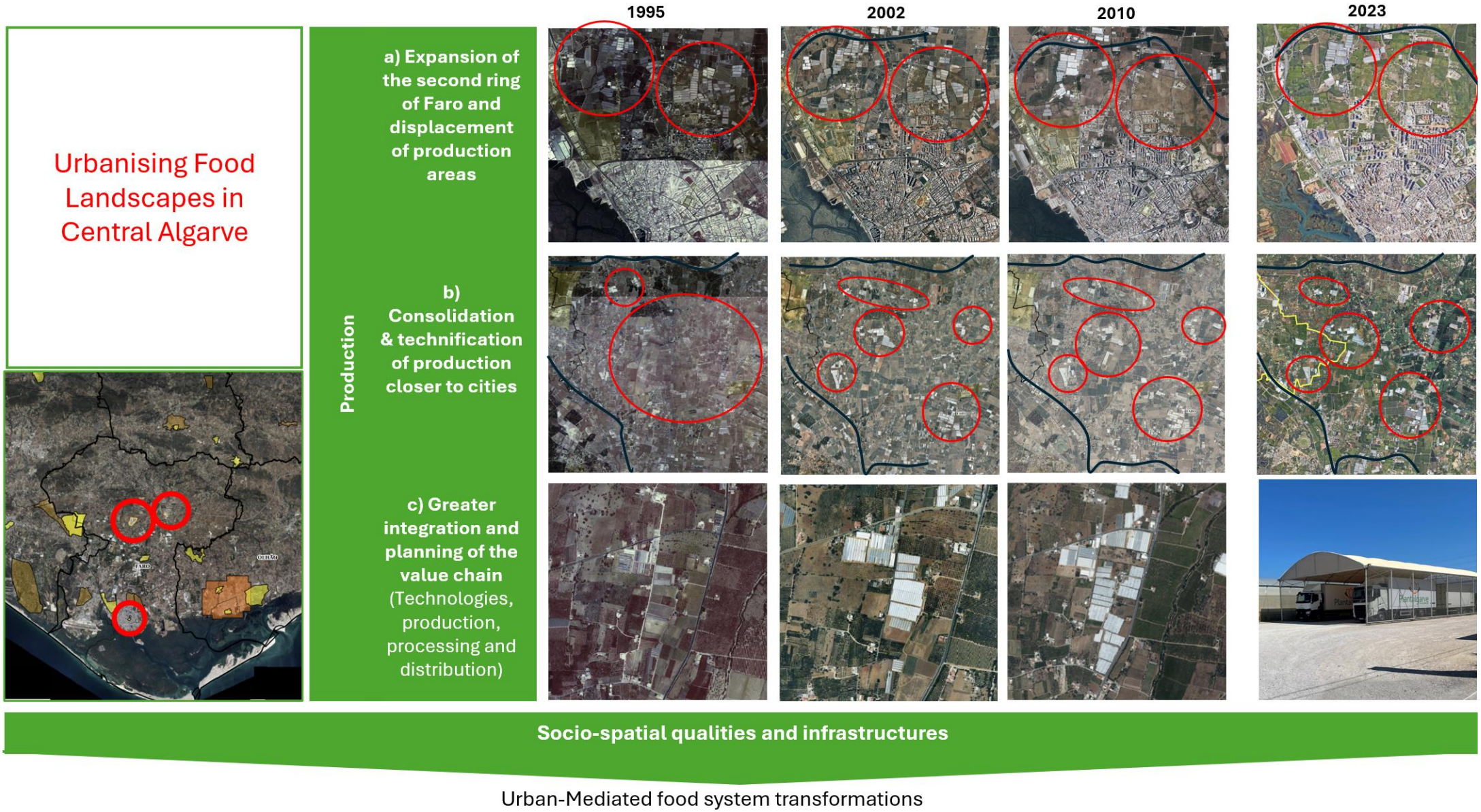
> *'The hotel groups also had agricultural production, and they gave it up"*
>
> (Interview 26, translated by the author).

TABLE 20: POPULATION GROWTH IN THE ALGARVE REGION COMPARED TO NATIONAL AND MAINLAND TRENDS.

	2001		2019		Difference 2001-2019
	Population	% of country	Population	% of country	
Portugal	10.362.722	100%	10.286.263	100%	-76.459
Mainland	9.874.675	95.3%	9.789.343	95.2%	-85.332
Lisbon Region	3.500.625	33.8%	3.682.860	35.8%	+182.235
Algarve	397.040	3.8%	438.635	4.3%	+41.595

SOURCE: INE, 2021

FIGURE 73: ADDITIONAL TYPOLOGIES OF SOCIO-SPATIAL TRANSFORMATION IN THE FOOD LANDSCAPE OF THE CENTRAL ALGARVE: PRODUCTION



SOURCE : ELABORATED BY THE AUTHOR, BASED ON OWN PICTURES, IDEALG, 2023 AND GOOGLE, INC.

The second and third areas, processing and access and exchange, which will be analysed together. These two areas mark one of the most significant changes in the food landscape of the Central Algarve, which has resulted in the development of major infrastructures in the region and change of its productive base. On the one hand, there is the decline of the fish canning industry, which had reached its peak at the beginning of the 19th century, with a large number of factories dedicated to this production. At the end of the 19th century and the beginning of the 20th century, this production was reduced to a few factories that had decided to diversify their production and business model. Indeed, the Algarve's industrial food structure experienced a period of expansion at the beginning of the 19th century, boosted by the development of its industry and production of fish on the coast and cork in the mountains, with an export vocation. However, the increasing urbanisation, the change in the social structure, the economic growth and the inflation of the post-war period created the conditions for its decline and gradual closure, with significant emigration phenomena. The interview with the co-founder of a small cannery in the Portimão area confirms these trends:

> *"With the level of wages in other countries, especially in North Africa, Mauritania, Morocco, Algeria, Tunisia... Portuguese canned food has lost its competitiveness (...) we have to adapt our offer, and what can we do? We have to produce quality preserves" (...) We have come, despite our very small size, to say to the region: OK, this is possible and we have created a model that is sustainable'*." (Interview 21).

Conversely, as previously reported, the growth of specialised export-oriented production has resulted in the development and stronger integration of its value chain, including the construction of processing and distribution centres, as exemplified by the avocado and red fruit industries, which channel their products to international markets. Finally, as illustrated in Figure 77, a further noteworthy transformation in the food landscape can be attributed to the increasing integration of the region into regional and international supply systems, which has resulted in the outsourcing of certain processes. This is exemplified by the closure of the regional slaughterhouse in the early 2000s, whose role was subsequently assumed by the new regional supply market, as the MARF, in 2003, and other private activities. This leads us to the analysis of the second food space: access and exchange.

The expansion of tourism and urban populations during the 1960s and 1980s created a pressing need to improve communication networks between Spain to the east and Lisbon to the north. After Portugal joined the European Community in 1986, a new phase of infrastructure development began, supported by Structural and Cohesion Funds. This led to the completion of the A2 and A22 motorways in 2002, facilitating greater regional market integration. These infrastructure improvements were designed to address the growing demand for modern, efficient systems that could meet evolving tourism and urban food consumption needs and hygiene standards, which became more established with the launch of the General Food Law in the 2004 (see subsection 7.1.2.1). This also coincided with the adoption of Council of Ministers Resolution 16/91 of 15 May, initiating the development of national supply markets.

The third moment analysed (Figure 77) presents in this way one key structuring typologies of the new supply model and transformation of the Algarve's food landscape, seen also as an essential part of the country's growth and modernisation process. Five key processes were identified. The initial development was the establishment of the Estoi open market in 1988, which subsequently gave rise to the construction of the new wholesale supply market for the Faro region, the MARF, on the outskirts of the city in 2003. This resulted in the partial obsolescence of the former Estoi open-air

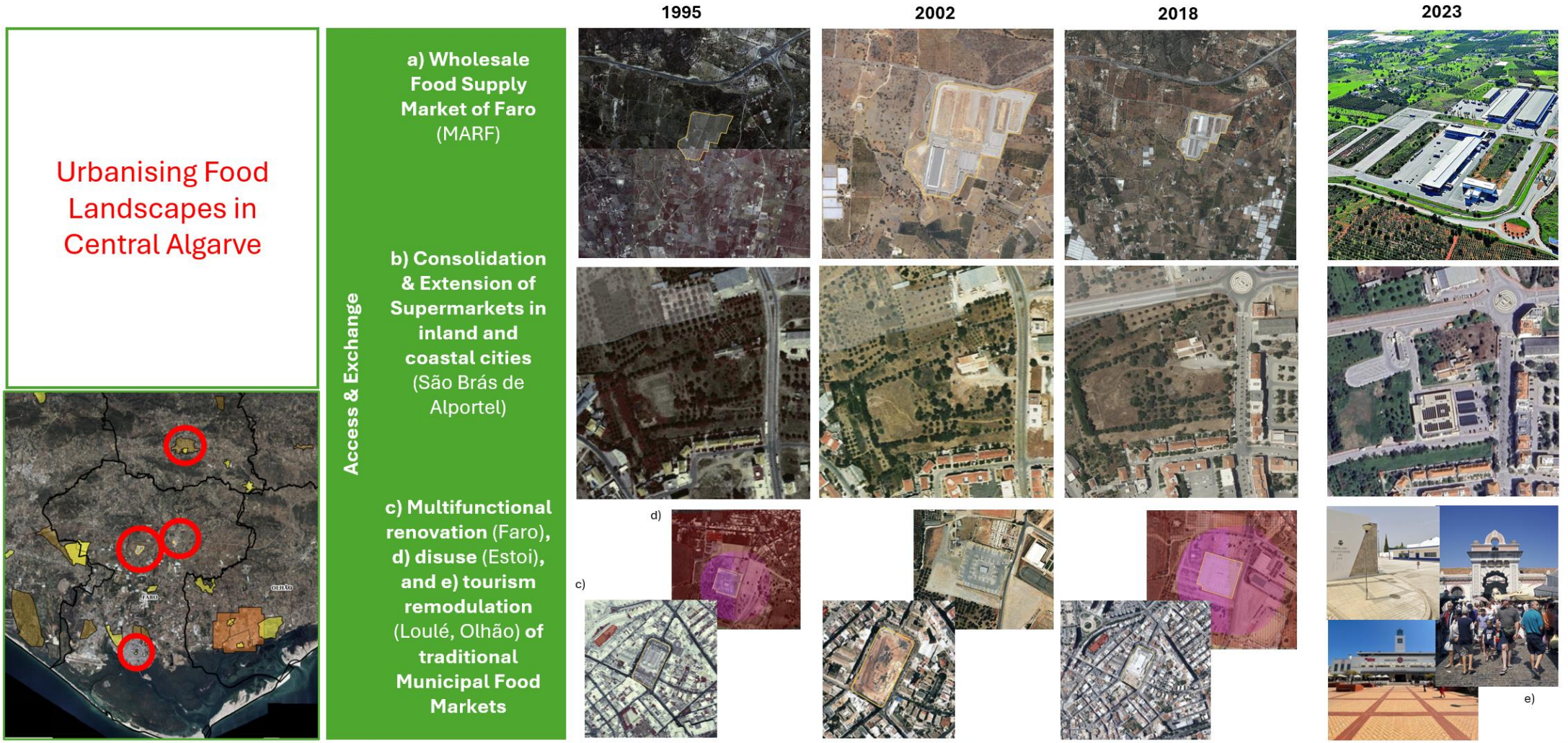
market structures, as illustrated in diagrams D and A in Figure 77. Simultaneously, urban centers saw the renovation of municipal markets, such as those in Faro (2006), Tavira (1999), Loulé, and Olhão, to serve multiple functions. This process was complemented by the expansion of retailing, starting with the first supermarket in Faro in 1963 and solidifying in the 2000s. Over the past 15 years, a final trend emergel, namely the remodulation of traditional markets for the promotion and development of regional tourism and public services, accompanied by an increase in their experiential value and services beyond food supply.

FIGURE 74: DISTRIBUTION OF THE DIFFERENT TRANSFORMATION TYPOLOGIES FOR PRODUCTION, PROCESSING AND ACCESS & EXCHANGE.

SOURCE: ELABORATED BY THE AUTHORS BASED ON ANALYSIS OF MAIN TRANSFORMATION TYPOLOGIES, IDEALG, 2023
NOTE:
GROUP A: EXTENSION AND CONSOLIDATION OF SPECIALISED AND PRODUCTIVE MARKET-ORIENTED AGRICULTURE.
GORUP B: DEVELOPMENT AND CONSOLIDATION OF COMMERCIAL, LOGISTICS AND INDUSTRIAL FOOD INFRASTRUCTURE PLATFORMS.
GROUP C: DEVELOPMENT OF INDUSTRIAL AND WASTE MANAGEMENT POLES CLOSE TO SÃO BRÁS DE ALPORTEL
GROUP D: ORCHARDS AND POLYCULTURE WITH DISPERSED LOW DENSITY HOUSING
GROUP E: URBAN REGENERATION AND CONSOLIDATION OF URBAN CORES
GROUP F: CONSOLIDATION OF TOURIST SETTLEMENTS

Figure 77 provides a summary of the various typologies of transformation identified for the initial three spaces in the case study. It reflects the principal transformation dynamics associated with agricultural, fisheries and aquaculture production, food processing and industry in the region, as well as its food access and exchange infrastructure. This is set against a background of extensive tourism development, which has served as both a moderator and driver in several of these processes. Firstly, Group A emphasises the expansion and consolidation of specialised and market-oriented agriculture, which has been pivotal in enhancing agricultural productivity and reinforcing its integration into regional markets. In turn, Group B underscores the advancement of logistics and industrial platforms, which have been instrumental in facilitating food distribution and processing, thereby establishing a contemporary and efficient infrastructure surrounding the food chain. Group C focuses on the development of industrial and waste management poles, with particular emphasis on the significance of these infrastructures in economic and environmental terms.

FIGURE 75: TYPOLOGIES OF SOCIO-SPATIAL TRANSFORMATION IN THE FOOD LANDSCAPE OF THE CENTRAL ALGARVE: ACCESS & EXCHANGE



SOURCE : ELABORATED BY THE AUTHOR, BASED ON OWN PICTURES, IDEALG, 2023 AND GOOGLE, INC.

In contrast, Group D emphasises the importance of traditional land use practices, such as orchards and polyculture, which are often accompanied by low-density dispersed housing. These represent a more traditional model of land occupation, yet they are equally relevant in terms of agricultural diversity and the conservation of the rural landscape. In terms of urban centres, Group E addresses the regeneration and consolidation of urban centres, emphasising initiatives to revitalise consolidated urban areas through the rehabilitation of infrastructure and the reinforcement of municipal markets. Ultimately, Group F concentrates on the consolidation of tourist settlements, which have significantly altered the landscape, particularly in coastal areas, driven by the growth of tourism and the demand for food, recreational and residential infrastructure. When considered collectively, these typologies of transformation illustrate a complex and dynamic process, in which agricultural, industrial, urban and tourist development are intertwined, thereby configuring a multifunctional territory.

7.2.3.2. Main food transformations in the Central Algarve : Nourishment, Valorisation and disposal, Socialisation and Policy

The final three spaces under analysis converge on three interconnected processes. The first of these is food and nutrition, which can be considered a basic human need and a determinant in the habitational and structural configuration of settlements. It aligns itself with urban and residential developments, as well as tourism and leisure. To this end, Table 21 summarises the different moments of tourism spatial development in the Algarve and individualises the different processes of tourism urbanisation, urban tourism explosion or tourism urbanisation (creative destruction) identified in Subsection 5.2. These spaces of consumption are influenced by tourist and residential development. Valorisation and disposal, which is a key element in urban management, is becoming increasingly sophisticated in the management of materials, their treatment and their energetic and organic use. Finally, the spaces of socialisation and policy, which are spaces of collaboration, dialogue and coexistence, can be observed in festivals, social organisation and governance structures in the Algarve landscape.

In the first section, three major typologies of transformation over the last 30 years are identified. The first of these is linked to urban regeneration through the former food spaces. The nourishment moment provide also an example of the interactive and sensorial regeneration of urban space, with the birth and consolidation (as well as restructuring and closure) of new gastronomic concepts. These have become characteristic of both eno-gastronomic tourism and the festive and 'Mediterranean' experience of the place. A second transformation is the expansion of new shopping and catering centres, which have been developed as part of large infrastructural projects both inside and outside the city. These developments have been enabled by infrastructural and mobility improvements that facilitate transport and rapid interconnection between centralised modules between the different cities of the region. One example of this is the ‘Mar Shopping Algarve’, which has been constructed with a rapid connection to Loule, São Brás de Alportel and Faro, in close proximity to the new area of the urbanisation plan for the new Algarve stadium. Furthermore, the development of new fine dining food spaces, driven by high-end tourism, has led to an increase in the number of Michelin-starred restaurants, which contribute to the value of the territory (Martins, 2019). This is accompanied by the emergence of new 'themed' gastronomic offerings, including ethnic and tourist-oriented options such as English pubs and restaurants serving Japanese cuisine or fast food. These have proliferated, particularly in urban areas and shopping centres, representing a hybridisation of abstract elements

that exist outside the productive reality of the region. However, they demonstrate interconnectivity through platforms of food supply and urban cultural and material exchange. In the transformation of the nourishment space we also find the nutritional transitions experienced in the country (worse presented the lowest levels in childhood in the region), the prevalence of food security, particularly important in the region, as well as the importance that has taken the promotion of healthy diets such as the Mediterranean diet[214], promoted directly from the region, with the development of the Centre of Competence of the Mediterranean Diet (PNPAS, 2019). Finally, the process of tourist urbanisation and expansion of new developments for tourist residents, second homes or residential communities, supported by new real estate projects and private urban planning, has been identified. These three elements are aligned both to the central urban dynamics and to a multipolar and interconnected system that has allowed the extension of new urban areas within the Barrocal and coastal line of the Central Algarve.

On the valorisation and disposal moment, a main transformation trajectory stands out, stemming from the modernisation of waste management systems and their energetic, ecological and economic valorisation. As shown in Figure 79, this process was also driven by the development of infrastructures in the late 1990s, with the creation of the private group ALGAR for the treatment of urban waste in the region, which established a system for the selection, sorting, treatment and recycling of urban waste from the entire Algarve. This includes the sorting of organic materials, the development of infrastructure for their separation and the use of biogas and organic soil. At the same time, water and waste water treatment centres have been structured with new infrastructures.

The last moment of the food landscape constitutes a key link in the last 5 spaces, forging the system of relationships, connections, collaboration and collective action, in what Latour (1996) would call ‘social assemblages’, where new innovations and practices can be generated, both at the social (‘human’) level and in the non-human relationship with our environment. The emphasis here is on the social infrastructures of transformation and governance system between territorial actors, on the implementation of actions for the co-creation of new pathways, including projects, networks, governance schemes, among others. This can go from an institutional level, through the formal planning processes of consultation, as well as through the private initiative, between private actors, and non-governmental actors.

Particularly relevant for the case of Algarve is the experience forged by the local non-governmental social base, which has given continuity and support to the different processes of capacity building, planning, co-design and action in the development of food initiatives. One key actor in this process has been the early works of the InLoco association located in São Bras de Alportel since 1992. As highlighted by the director, interviewed in this research, the association has a history of more than 35 years of work in the hinterland of the central Algarve, with the mission to promote local development with a view to improving the quality of life in its many dimensions. The association InLoco was founded in 1988 as an entity of collective person of public utility. InLoco's approach focuses on the qualification and valorisation of people and local organisations, with integrated interventions in a perspective towards sustainability, promoting an active and supportive citizenship, and encouraging entrepreneurship and local initiative through the animation, promotion, articulation and valorisation

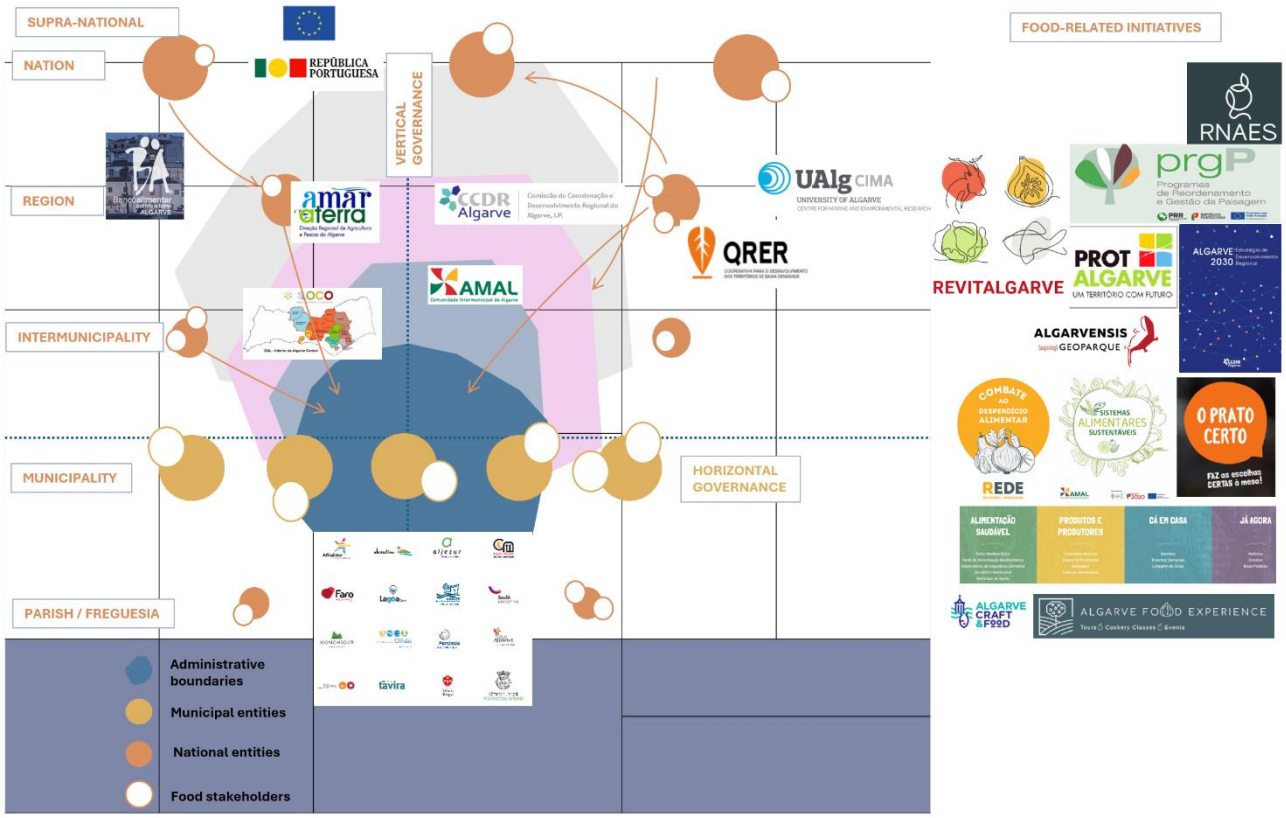
[214] On 4 December 2013, Portugal's Mediterranean Diet, with its representative community in Tavira, Algarve, was declared a UNESCO Intangible Cultural Heritage of Humanity.

of local resources, the training of its local base and the structuring of its organisational capacity, including research and participative action-research processes.

Among its initiatives directly related to food are early activities such as the development of the Taste and Art Festival between 1997 and 1998, the participation in the AGRO programme on socio-economic dynamics of rural areas in 2004 and 2005, the development of local projects in the framework of the LEADER I, LEADER II and LEADER+ programmes as well as the PRODER programme (2008-2015), the PROVERE Algarve Sustentavel initiative (2008-2012), the PROVE project – aimed at the promotion and sell of new forms of short circuits of agricultural products (2010 and 2013), the community-based local development programmes (2015-2022), and the Infoagro initiative, in the central Algarve (2017-2019) within the framework of the PDR 2020 programme, among many others. More recently, we identify the PratoCerto project, focusing of sustainable food diets, the Local Food Systems (SAL) project, the development of the Food Security Observatory in the Algarve (2017-2018), the promotion of the Mediterranean Diet, the Territorial MED and the 100% Local initiative, focusing on models of sustainable consumption and production.

The dynamism of the Algarve's food governance also counts on new initiatives by the AMAL municipal community, with the “sustainable food systems” initiative, for the development of institutional food procurement in schools based on short food circuits, as well as the recent launch of the REVITALGARVE (until 2026) for the organisation of Algarve’s food system based on the animation of the Algarve Local Producers Network (RPLA) and local consumption of products originating in the RPLA.

FIGURE 76: HORIZONTAL AND VERTICAL RELATION BETWEEN ACTIVE ACTORS OF THE FOOD GOVERNANCE SYSTEM IN THE CENTRAL ALGARVE AREA.



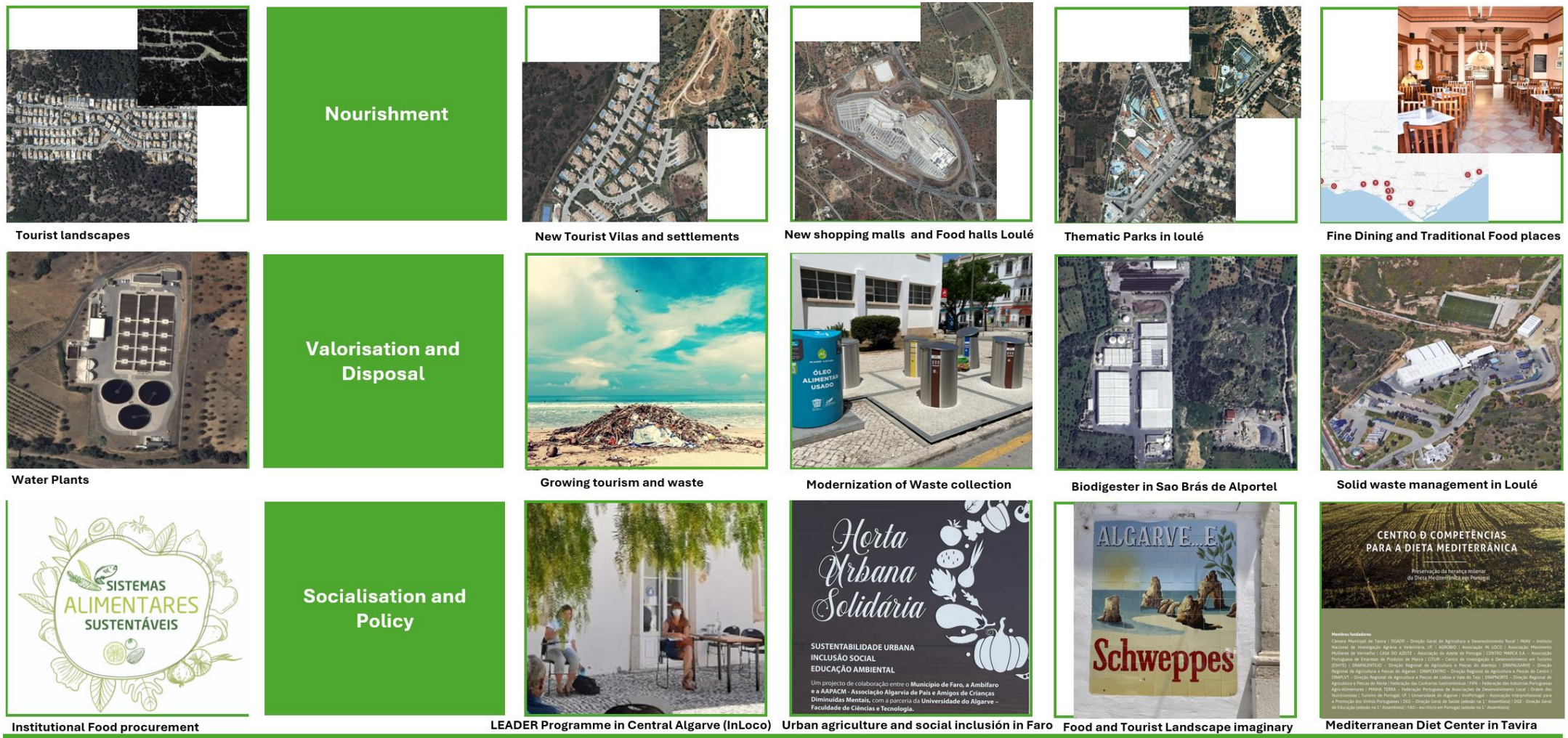
SOURCE: ELABORATED BY THE AUTHOR BASED ON INTERVIEWS

Error! Reference source not found. shows the structure of the governance organisation that has emerged from this experience over the last 35 years, including the role of the municipalities, the Algarve Municipal Community, the CCDR and other entities in a horizontal and vertical relationship of food governance. The number of activities carried out in the region would not allow to describe everything in this diagram, but some relevant initiatives that have brought together several of the actors active in this system are presented. It is interesting to note the recent "Algarve Craft" initiative launched by the Algarve Tourism Board, which also seeks to create new dynamics of interrelations between the food and tourism systems in the region.

FIGURE 77: TYPOLOGIES OF SOCIO-SPATIAL TRANSFORMATION IN THE FOOD LANDSCAPE OF THE CENTRAL ALGARVE: PRODUCTION, PROCESSING, ACCESS & EXCHANGE

SOURCE : ELABORATED BY THE AUTHOR, BASED ON OWN PICTURES, IDEALG, 2023 AND GOOGLE, INC.

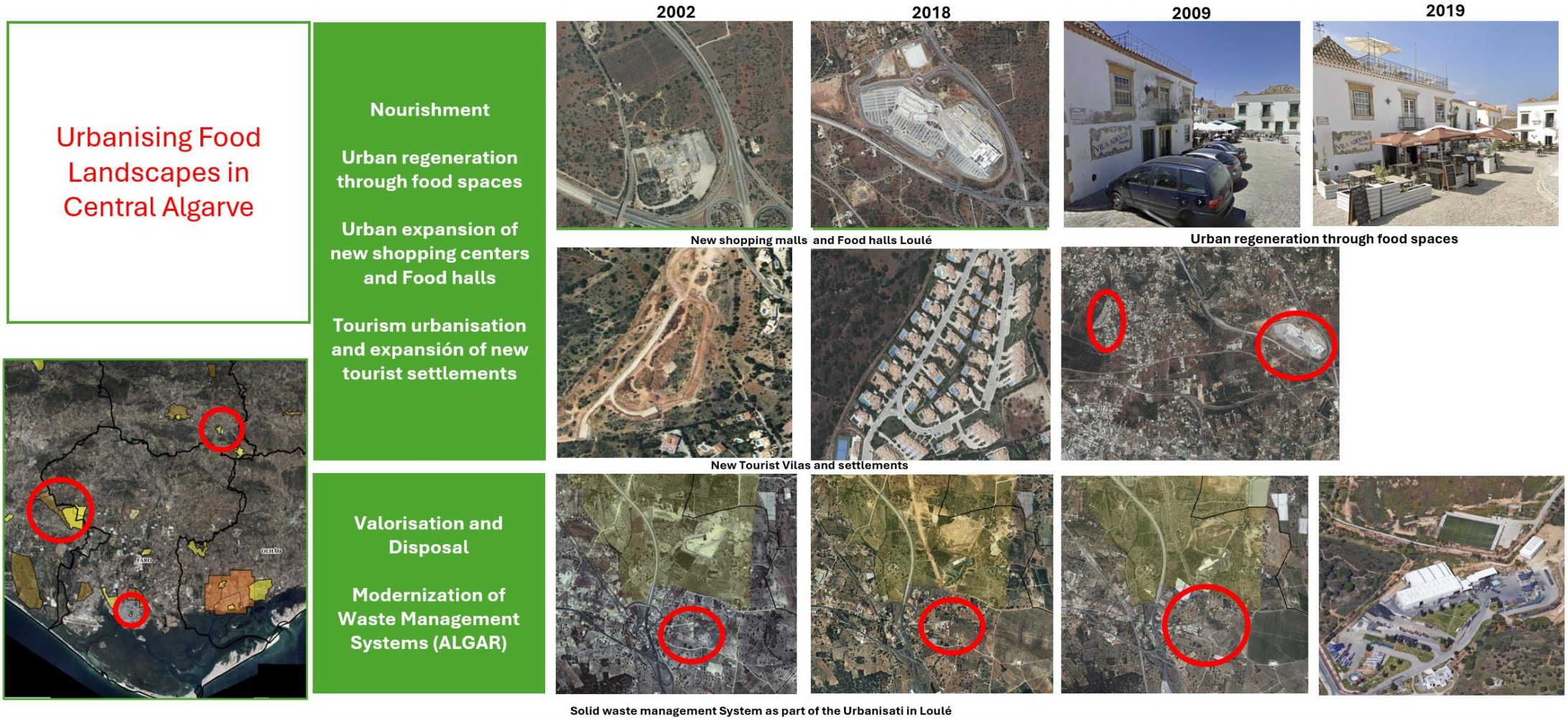
FIGURE 78: TYPOLOGIES OF SOCIO-SPATIAL TRANSFORMATION IN THE FOOD LANDSCAPE OF THE CENTRAL ALGARVE: NOURISHMENT, VALORISATION AND DISPOSAL, AND SOCIALISATION AND POLICY



Urban-mediated food system transformations

SOURCE : ELABORATED BY THE AUTHOR BASED ON OWN PICTURES, IDEALG, 2023 AND GOOGLE, INC.

FIGURE 79: TYPOLOGIES OF SOCIO-SPATIAL TRANSFORMATION IN THE FOOD LANDSCAPE OF THE CENTRAL ALGARVE: NOURISHMENT AND VALORISATION AND DISPOSAL



SOURCE : ELABORATED BY THE AUTHORS, BASED ON OWN PICTURES, IDEALG, 2023 AND GOOGLE, INC.

TABLE 21: TOURISM-MEDIATED URBAN TRANSFORMATIONS IN CENTRAL ALGARVE FROM LATE 1950S TO 2020

Year/ Period		Type of tourism-mediated transformation	Example	Urban form
Late 1950s-1970s	Early development of mass tourism: Urban and sub-urban coastal expansion	Development of small and medium size hotels in or close to urban centres	Faro, Hotel EVA	Urban tourism 'implosion'
		Emergence of unplanned Tourism Territories: a "continuous tourism village"	Balaia do Vale do Lobo	Urban tourism 'explosion'
		Emergence of highly planned "Tourism Territories"	Vilamoura	Urban tourism 'explosion'
		Consolidation of an Algarvian "Tourism Architecture" of hotels, apartments and villages	Garbe, Algarve, Alvor, Balaia, Pedras D'El Rei (Tavira), Vilamoura	Urban tourism 'explosion'
1960s-1970s	Rapid growth and scale of mass tourism	Development of 'big' hotels along the coast	Praia da Rocha, Hotel Algarve; Monte Gordo	Urban tourism 'explosion'
		Extension of villages ("aldeamentos") along the coasts, and "Mediterranean" plasticity	Pedras D'El Rei (Tavira)	Urban tourism 'explosion'
		Algarve Villas ("Moradias algarvias")	Valle do Lobo (Loulé)	Urban tourism 'explosion'
Late 1960s – 1970s	Emergence of Alternative solutions	Hotels integrated in landscape projects, Organic-Modern	Hotel do Alvor Hotel da Balaia (By Goncalo Ribeiro Telles)	(Alternative) Tourism Urbanization
		Development of micro-units, as inns, guesthouses and hostels ("pousadas" and "estalagems") in mountain areas	Monchique, "Abrigo de Montanha" São Bras de Alportel, "Rocha da Galheira"	(Alternative) Tourism Urbanization
1980-1990	Consolidation of Tourism Developments	Development of modern infrastructures and facilities at a regional and territorial scale	University of Algarve (new campus), New Faro Air Terminal (1987), Highways and bridges, food supply market in Estoi (1988) and major cultural facilities (Theatres, libraries, Stadium)	Urbanization of tourism ('creative destruction')
		Consolidation of "tourism cities": macro-hotels, aparthotels and villages	Quinta do Lago, Hotel and Golf Club (Loulé), hotel da Marina, Vilamoura	Urbanization of tourism ('creative destruction')
1990-2000	Requalification of tourist areas	Requalification of urban areas, public spaces, and growing investments in regional heritage, ecological, landscape and rural components	Municipal Market in Tavira (1999), Faro (2006), and Loulé Rural Hotels Waterfronts (Lagos, Fuseta, Quarteira, Albufeira)	Urbanization of tourism ('creative destruction')
2000 - 2020	Consolidation and extension	Growing diversification and multifunctionality of tourism spaces Urban regeneration and tourism extension	Multimodality of municipal food markets Regeneration of city centres Growing accessibility and polycentricity (through horizontal mobility - A22) Extension of new tourist settlements and services – villas and single family houses	Urbanization of tourism ('creative destruction')

SOURCE: ELABORATED BY THE AUTHOR BASED ON FERNANDES & JANEIRO, 2005

PART 3. URBANISING FOOD LANDSCAPES: CONCLUSIONS

8. Conclusions

8.1.Main conclusions and future research

This research aimed to investigate the relationship between food systems and urbanization processes in Mediterranean coastal areas, focusing on their socio-spatial transformations through a landscape approach and an urban-rural transect model. The case study centred on the Algarve region in southern Portugal, examining how food both shapes and is shaped by urbanization processes, and how these dynamics are embedded within the spatial and environmental conditions that have allowed them to evolve. The thesis critically addressed the socio-spatial transformations arising from historical and contemporary urbanization processes in food spaces, employing a spatial sociology framework to analyse the role of planning and various actors in creating the conditions for these transformations. It also explored the broader implications of the urban food question in public policy, particularly in light of evolving urban-rural dynamics.

From a critical perspective, the thesis interrogated different conceptualizations of urbanity and their connection to tourism development, emphasizing the potential role of food landscapes in promoting more sustainable tourism practices. The research contextualized these discussions within the broader national planning and regional development frameworks, particularly focusing on food-related policies in the Central Algarve region of Portugal. Chapter 7 presented the main spatial typologies of the food landscape as reflected in territorial planning schemes in the Algarve and analysed the major transformations across six key food spaces, offering insights into the socio-spatial dynamics of food and urban development in the region. The thesis underlines the importance of an integrated transformation of food systems, linking territorial planning, tourism development and territorial cohesion in the context of the central Algarve. Based on the analysis carried out, it is proposed to move towards an integrated inter-municipal food policy that considers the multiple challenges and opportunities of the agri-food system. The recommendations point to a greater multifunctionality of agricultural systems, recognising their relationship with nutrition, the environment and the territory, and emphasising inclusion and within agri-food systems, by considering both structural factors and specific contexts.

The thesis identifies several typologies of transformation that have emerged over the past three decades. These include: 1) the extension and consolidation of specialised and productive market-oriented agriculture, as well as the development and consolidation of commercial, logistic and industrial food infrastructure platforms; 2) the creation of industrial and waste management hubs in close proximity; 3) he development of orchards and polycultures in conjunction with dispersed low-density housing; 4) the processes of urban regeneration and consolidation of urban centres. Furthermore, the consolidation of tourist settlements is a notable phenomenon.

Potential pathways of transformation highlight the significance of:

- It is recommended that innovation networks be established between producers of the different production models in the region. Furthermore, alternative networks of small-scale producers should be strengthened, and these networks should also be organised through marketing opportunities. This will generate concrete benefits for the producers' participation.

- The promotion of local products should not only be encouraged on the basis of their territorial value, but also in view of their cultural significance (for example, the Mediterranean diet), their environmental impact and their innovative links.
- Innovative financing mechanisms should be integrated into planning processes for the implementation of concrete activities with high potential, based on evidence and participatory processes of community leadership. One example of this is the PGRP model in the Monchique and Caldeirão mountain range.

It is crucial to promote greater comprehensiveness in territorial approaches and the Europeanisation of spatial instruments, allowing territorial strategies to converge with multiple funding instruments. This implies territorialising European support from a food system and socio-spatial vision, where the concept of *food landscape* becomes a central tool for sustainable development. This vision should not only focus on the agricultural food sphere, but should integrate tother potential elements of the food sector, to build linkages with tourism, industrial, forestry and maritime objectives, in a holistic framework that addresses climate change adaptation and territorial resilience.

The development of integrated strategies requires a strong governance trajectory, building capacities from the bottom up, through participatory approaches such as the LEADER approach. This process must involve local actors, such as farmers, schools, restaurants and institutional supply systems, in order to consolidate food chains that generate direct benefits for producers and promote the valorisation of the territory. The promotion of healthy eating, productive innovation and the valorisation of local resources, such as water, soil and indigenous breeds, are essential to face risks associated with climate change, such as fires and erratic rainfall.

Furthermore, agricultural competitiveness must be linked to differentiated products with territorial roots, which are integrated into marketing chains linked to tourism and add value to the territory. This requires spatial planning that gives food a strategic place, encouraging the creation of local food industries, organised in networks and connected to the tourism sector. Awareness-raising and training are equally essential, promoting low environmental impact products as ‘ambassadors’ of regional sustainability.

Finally, the fundamental role of networked innovation is highlighted, leveraged by the university as a space for knowledge development and experimentation opportunities. Although examples of sustainable practices already exist, it is still necessary to move towards joint communication that strengthens the visibility of the territory and its food, not only as a key element of tourism, but also as an engine for comprehensive sustainable development.

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Annexes

ANNEX 1: KEY WORKS AND APPROACHES ON FOOD LANDSCAPES CONSIDERED IN THIS RESEARCH.

#	Thematic Group	Foodscape Thematic	Key references reviewed
1	Theoretical and Conceptual Frameworks	Foodscape scoping analysis	Vonthron et al., 2020
2		Landscape approaches in foodscapes	Kühne, 2023
3		Foodscapes as neo pragmatic redescription	Kühne, 2022
4		Foodscape – light fare or substantial concept	Sedelmeier, 2023

5		Foodscapes	MacKendrick, 2014
6		Foodscapes (Essentials)	Sedelmeier et al., 2022
7	**Quantitative Methodological Approaches**	Foodscape classification and field validation of secondary data sources	Lake et al., 2010
8		Quantifying foodscapes – validity of commercially available business data	Lebel et al., 2017
9		New York foodscape: analysis of food retail environments	Filomena et al., 2013
10	**Food Culture & Society**	Cultural foodscapes of an Island Nation	Buttgieg et al., 2018
11		Ethnic foodscapes	Park, 2017
12		The Ethnic Restaurateur	Ray, 2016
13		Ethical foodscape	Morgan, 2010
14		Foodscape a deleuzian ethics of consumption	Dolphijn, 2004
15		Foodscape and the geography of poverty	Miewald & McCann, 2014
16		Poverty Foodscapes	Sedelmeier, 2023
17		Unjust foodscapes	Blake, 2018
18		Shifting foodscapes from homelessness into Housing	Hainstock & Masuda, 2019
19		Foodscape on indigenous well-being	Panelli & Tipa, 2009
20		Online/Digital Foodscapes	Schneider & Eli, 2021
21		Youth Urban Foodscapes	Palm, 2023
22		Feminist Foodscapes	Hovorka, 2013; 2023
23		Beyond foodscapes: geographies of indigenous well-being	Panelli & Tipa, 2009
24		Livestock in Evolving Foodscapes and Thoughtscapes	Leroy et al., 2020
		Situating foodways and foodscapes	Cevasco et al., 2023
25		Foodscapes in a migratory context	Vieira da Rocha, 2017
26	**Food Geographies & Systemic approaches**	Relational foodscapes	Goodman, 2015
27		Kitchenscapes, Tablescapes, Platescapes, and Foodscapes	Sobal & Wansink, 2007
28		Systemic study of urban foodscape	Cummins & Macintyre, 2002
29		Foodscapes: Toward Food System Transition	Bossitrano et al., 2021
30	**Food & Place**	Bangkok's Foodscape	Yasmeen, 1996
31		Irish foodscape	Sage, 2010
32		Changes in the Dutch foodscapes	Pinho et al., 2020
33		Local foodscapes: place and power	Sonnino, 2013
34		Translocal foodscapes	Ayora Diaz, 2022
35		Placing Food: Toronto's Edible Landscape	Lister, 2007
36		Projet foodscapes dans le Grand Montpellier	Bricas et al., 2021
37		Food and cultural landscapes: three Mountain case studies	Fontefrancesco et al., 2023
38		Foodscape: cibo in città	Giannitrapani, 2021
39		Urban foodscapes	Sedelmeier, 2018
40	**Food Policies & Strategies**	Reframing Foodscapes and urban food policy	Moragues-Faus & Morgan, 2015
41		The urban foodscape and the new food equation	Morgan & Sonnino, 2010
42		Spatial Strategies towards Urban Foodscapes	Bosshaart, 2015
43		Municipal foodscape: urban food policy and the new municipalism	Morley & Morgan, 2021
44		Sustainable Foodscapes	Creigh, 2009
45	**Food Planning & Design**	Biophilic foodscape	Yang, 2022
46		Foodscape and food urbanism in Europe - Urban-Rural Interface	Parham, 2019
47		Foodscape revolution	Arthur, 2017
48		Designing hybrid foodscapes in the realm of consumption	Fodor, 2022

49		Landscape and Urban Food Planning	Pettenati, 2017
50		Flourishing Foodscapes: Design for City-Region Food Systems	Wiskerke et al., 2018
51		Integrated system of ecological network as a climate change impact strategy	Favargiotti & Pianegonda, 2021
52		Historic foodscapes	Salvador, 2019
53	**Food & Tourism**	Blending foodscape and urban touristscape	Amore & Roy, 2020
54		Culinary tourism and foodscape	Long, 2010
55		Destination foodscape: traveler's food experience	Björk & Kauppinen-Räisänen, 2019
56		Destination foodscape: food tourism in Asia	Park, Kim & Yeoman, 2019
57		Destination foodscape: holistic conceptual framework	Bernardo, Agapito & Guerreiro, 2021
58		Food tourism experience and changing destination foodscape	Park & Widyanta, 2022
59		Destination foodscape and planned behaviour	Su et al., 2020
60	**Food Experiences**	Festive foodscapes: iconizing food and shaping of identity and place	Adema, 2006
61		Spectacular foodscape	Johnston & Goodman, 2015
62		Gastronomic experiences	Richards, 2015
63		Gourmet foodscapes	Johnston & Bauman, 2010
64	**Food & Health**	Foodscape and children's bodies	Brembeck & Johansson, 2010
65		Foodscape and influence on food intake	Sobal & Wansink, 2007
66		Foodscape studies and their application in the study of healthy eating	Mikkelsen, 2011
67		Foodscape and Customer's Future Behavioural Intentions	Sulaiman & Haron, 2013
68		Urban foodscape: price and availability in Greater Glasgow	Cummins & Macintyre, 2002
69		Post humanist and ecological determinants	Elton, 2019
70	**Children & Education**	School foodscape	Surman & Hamilton, 2019
71		Kindergarten foodscape	Mikkelsen, 2020
72		Ludic foodscapes	Bradford & Sherry, 2017

SOURCE: ELABORATED BY THE AUTHOR BASED ON LITERATURE REVIEW.

ANNEX 2: EXAMPLES OF FOOD TOURISM STRATEGIES AND INITIATIVES.

Type	Sub-Type	Description	Place	Type of development
Product-based	Tea	Tea Tours: www.worldteatours.com	Global	Vertical
	Coffee	Coffee Tours: www.coffeekrave.com	Global	Vertical
	Beer	Beer Tours: www.beertourism.com	Global	Vertical
	Whiskey	Whisky trails: www.maltwhiskytrail.com; Whisky Experiences: https://www.scotchwhiskyexperience.co.uk/	Scotland	Vertical
	Cheese	Cheese Tourism: http://www.tastycheesetour.eu/ https://www.parmigianoreggiano.com/dairies-visit-tasting/	Europe	Vertical
	Olive	Olive Tourism: https://www.turismodellolio.com/chi-siamo/	Italy	Vertical
	Food Tourism Website	Food Tourist website: www.Foodtourist.com	Global	Autochth.

Food Guide and Blogs	Food Travel	Slow Food Travel: https://www.fondazioneslowfood.com/en/what-we-do/slow-food-travel/	Global	Autochth.
	Food Experiences	Taste the Adventure: www.adventuretravel.biz/research/taste-the-adventure	Global	Horizontal
Food thematization	Food chains and trends	Hard Rock (O'Dell, 2005): https://www.hardrock.com/ Planet Hollywood (O'Dell, 2005): https://www.planethollywoodintl.com/ Macdonaldization (Ritzer, 1993; Ritzer & Liska, 1997; Osman et al., 2014) Disneyland (Gottdiener, 2001; Ritzer & Liska, 1997) "Halal Tourism" (Biancone & Secinaro, 2019; Jia & Chaozhi, 2020): https://cameraitaloaraba.org/en/halal-tourism/	Global	Vertical & horizontal
	Food parks and attractions	FICO: https://www.fico.it/it	Bologna, Italy	Horizontal
		Coffee Park: https://parquedelcafe.co/	Quindio, Colombia	Vertical & Horizontal
Local food integration	Agriculture and hotel linkages	Service-oriented food value chains (Telfer & Wall, 1996; Thomas-Francois et al., 2017)	Cross-cutting	Horizontal
Industrial Tourism	Tours and Visits	Société Roquefort: https://resa.roquefort-societe.com/fr/reservations/21-visite-des-caves-decli.html	Roquefort, France	Vertical
Food Museums	Food Museums	Southern Food & Beverage Museum: https://www.southernfood.org/ MOFAD: https://www.mofad.org/	USA	Horizontal & Diagonal
	Food Museum	Musei del Cibo: https://www.museidelcibo.it/en/	Parma, Italy	Diagonal
	Food Museum	Alimentarium: https://www.alimentarium.org/en	Vevey, Switzerland	Diagonal
	Coffee Museum	Museo Lavazza: https://www.lavazza.it/it/museo-lavazza.html	Turin, Italy	Vertical
	Olive Museum	Museo dell'olivo: http://www.museodellolivo.com/	Imperia, Italy	Vertical
Events and Festivals	Local events	Carnival of Ivrea: https://www.storicocarnevaleivrea.it/it/chi-siamo/il-carnevale/battaglia-delle-arance/	Ivrea, Italy	Authochth.
	Regional events	Maine Lobster: https://mainelobsterfestival.com/	Maine, USA	Vertical & Horizontal
	Slow Food	Terra Madre Salone del Gusto: https://2022.terramadresalonedelgusto.com/ Cheese: https://cheese.slowfood.it/ Slow Fish: https://slowfish.slowfood.it/ Slow Wine Fair: https://slowinefair.slowfood.it/	Italy	Horizontal & Diagonal
	Product-based	International Alba white Truffle Fair: https://www.fieradeltartufo.org/en/	Alba, Italy	Vertical & Diagonal
Food Markets	Food Market	La Boqueria: https://www.boqueria.barcelona/	Barcelona, Spain	Horizontal
	Food Market	TimeOut: https://www.timeoutmarket.com/lisboa/	Lisbon, Portugal	Horizontal
	Food Market	Mercato Centrale: https://www.mercatocentrale.it/	Italy	Horizontal
	Food Market	Le Food Market: https://www.lefoodmarket.fr/	Paris, France	Horizontal
Food-based Souvenirs	Specialty Foods	Collaborative efforts between tourism places and local agrifood products (Liu et al., 2023) for the development of food souvenirs (Lin & Mao, 2015) PDO and PGI: https://www.pdopgi.eu/european-certification-system/ SOFI: https://www.specialtyfood.com/awards/sofi/	Locally based Global reach	Vertical & Diagonal
City-Region Promotion	City Food Tours	http://www.eatingitalyfoodtours.com/	Rome, Italy	Autochth.
	Urban Food Strategies	Culinary Culture Strategy (City of Helsinki, n.d.) Helsinki as a Food City: https://www.hel.fi/static/kanslia/elo/Tourism-and-Event-Programme-2022_2026.pdf	Helsinki, Finland	Diagonal
	Food Capital	Turin-Piedmont World Food Capital: https://www.twfc.it/il-futuro-e-il-food/	Turin – Piedmont, Italy	Diagonal
Landscape activities	Foodscape Promotion	Foodzcapes: http://www.foodzcapes.org/en/aboutus/	Portugal	Diagonal
	Regional website	Landscape:https://www.visittuscany.com/it/paesaggi/	Tuscany, Italy	Horizontal
	Regional promotion	Mangiarti – Routes of taste and tradition: https://www.mangiarti.it/it/	Province of Cuneo, Itay	Horizontal

	Regional initiatives	Territorial Planning: https://www.regione.fvg.it/rafvg/export/sites/default/RAFVG/ambiente-territorio/pianificazione-gestione-territorio/FOGLIA35/allegati/2_UTI_Noncello.pdf	Friuli-Venezia-Giulia, Italy	Horizontal
	Agricultural Landscapes Heritage	Urban Agriculture Heritage (Lohrberg et al., 2023)	Global	
		Globally Important Agricultural Heritage Systems (GIAHS): https://www.fao.org/giahs/en/ (FAO, 2022b)	Global	Diagonal
Regional Food activities & promotion	Rural Food Experiences	Development of rural gastronomy experiences in Portugal by tourism and agricultural producers (Beer et al., 2003)	Portugal	Horizontal
	Regional strategies	Food Experiences: https://www.algarvefoodexperience.com/homepage; Creative Tourism: https://algarvecraftandfood.pt/projecto	Algarve, Portugal	Horizontal
	Regional food promotion	'Eat the View' strategy (Countryside Agency, 2002)	United Kingdom	Diagonal
	Regional website	Food&Beverage: https://www.visittuscany.com/it/interessi/cibo-e-vino/ Wine trails: https://www.stradevinoditoscana.it	Tuscany, Italy	Horizontal
	Regional website	Food Tourism: https://lamialiguria.it/vivi-la-liguria/food/	Liguria, Italy	Horizontal
	Regional strategies and website	Eno Gastronomy: https://www.suedtirol.info/it/it/enogastronomia; Trails: https://www.suedtiroler-weinstrasse.it/it/strada-del-vino.html Promotion and Innovation: https://www.idm-suedtirol.com/it/	Alto Adige, Italy	Horizontal & Diagonal
	Regional website and strategy	Tourism Food Valley: https://emiliaromagnaturismo.it/it/food-valley Food Museums: https://www.museidelcibo.it/en/	Emilia-Romagna, Italy	Horizontal
	Regional website and strategy	Food Trails: https://www.turismofvg.it/en/strada-del-vino-e-dei-sapori;	Friuli-Venezia-Giulia, Italy	Horizontal
	Regional website and strategy	Ontario - Culinary Tourism Strategy: http://www.mtc.gov.on.ca/en/publications/Culinary_web.pdf Northern Ontario Food Tourism Implementation Plan: https://destinationnorthernontario.ca/wp-content/uploads/2022/02/DNO-FoodTourismImplemntationPlan-2019.pdf	Ontario, USA	Horizontal & Diagonal
National Food Tourism Promotion	National Food Tourism Promotion and website	Singapore Tourism Board: representative foods, cuisines and recipes, food advice and activities, national certifications, and restaurants (Horng & Tsai, 2010) http://www.visitsingapore.com/publish/stbportal/en/home.html World Gourmet Tourism (WGS) and the New Asian Cuising (NAC): https://worldgourmetsummit.com/wgs2022/main.php/	Singapore Asia	Diagonal
	National strategies	"Taste of Scotland" campaign launched in 1972 to promote Scottish food, drink, products, events, and attraction; "Taste our Best" scheme in 2013, to bring together tourism and food and drink industries; and the "shop local" initiative in 2017 to promote regional food products. https://www.visitscotland.org/about-us/what-we-do/50-years-scottish-tourism Scotland - The Land of Food and Drink: http://www.scotlandfoodanddrink.org/	Scotland	Horizontal & Diagonal
		Taste of Wales (Jones & Jenkins, 2002)	Wales	Horizontal
		'Eat the View' strategy (Countryside Agency, 2001)	UK	Horizontal
		Sweden - The New Culinary Nation: http://www.visitsweden.com	Sweden	Horizontal
		Taiwan Tourism Bureau: Food culture, food advice and activities, restaurant guide (Horng & Tsai, 2010) http://eng.taiwan.net.tw/lan/Cht/search/index.asp Taste of Taiwan Campaign: https://www.bangkokpost.com/business/general/1574386/taste-of-taiwan; https://eng.taiwan.net.tw/m1.aspx?sNo=0002026	Taiwan	Horizontal
	National Tourism promotion and website	Hong Kong Tourism Board: Food culture, local cuisines and recipes, restaurant guide and certification, food advice and activities (Horng & Tsai, 2010) http://www.discoverhongkong.com/eng/index.html.	Hong Kong	Horizontal
		Korea Tourism Organization: http://english.visitkorea.or.kr/enu/index.kto. Food culture, local cuisines and recipes, food habits and traditions, food advice, activities, and souvenirs (Horng & Tsai, 2010)	Korea	Horizontal
		Japan National Tourist Organization: Food culture, local cuisines and recipes, food habits and traditions, food advice and activities (Horng & Tsai, 2010) http://www.jnto.go.jp/eng/.	Japan	Horizontal
		Tourism Authority of Thailand: Food culture, local cuisines and recipes, food advice and activities, national certifications (Horng & Tsai, 2010) http://www.tourismthailand.org/	Thailand	Horizontal

		Food Culture: https://www.italia.it/en/italy/things-to-do/food-and-wine	Italy	Horizontal
		Gastronomy: https://www.peru.travel/gastronomia/it/#cucina-peruviana Food Tours: https://www.incaexpert.com/destinations/food-tours/ Food Heritage: https://www.materiniciativa.com/en/	Peru	Autochth., Horizontal & Diagonal
Networking & Association	Food Tourism Networks	Practical Manual: https://arrow.tudublin.ie/cgi/viewcontent.cgi?article=1025&context=tfschhmtrep	Ireland	Diagonal
	Food Tourism Alliances	Culinary Tourism Alliance: support the development of food tourism destinations https://www.culinarytourismalliance.com/	Canada	Diagonal
	Food Tourism Organizations	Korean Food Tourism Association: https://www.kfkt.co.kr/index.php; Food Tourism: https://www.mafra.go.kr/english/1477/subview.do	Korea (OECD, 2012)	Diagonal
		World: https://www.worldfoodtravel.org/what-is-food-tourism	Global	Diagonal

SOURCE: ELABORATED BY THE AUTHOR BASED ON LITERATURE REVIEW.

ANNEX 3: MAIN TYPES OF TOURISM AND ITS RELATION TO FOOD.

Concept	Definition	Food-related examples	Food Scale	Key references reviewed

Sustainable Tourism **Slow Travel** **Responsible Tourism** **& related food works**	"Tourism that takes full account of its current and future economic, social and environmental impacts, addressing the needs of visitors, the industry, the environment and host communities" (UNEP & UNWTO, 2005). "Tourism which meets the needs of present tourist and host regions while protecting and enhancing opportunity for the future" (WTO, 1996). "Tourism and associated infrastructures that: both now and in the future operate within natural capacities for the regeneration and future productivity of natural resources; recognize the contribution that people and communities, customs and lifestyles, make to the tourism experience; accept that these people must have and equitable share in the economic benefits of local people and communities in the host areas" (Eber, 1992). "Tourism which can sustain local economies without damaging the environment on which it depends" (Countryside Commission, 1995). "Tourism which is in a form which can maintain its viability in an area for an indefinite period of time" (...) "Tourism which is developed and maintained in an area (community, environment) in such a manner and at such a scale that it remains viable over an infinite period and does not degrade or alter the environment (human and physical) in which it exists to such a degree that it prohibits the successful development and well-being of other activities and processes" (Buttler, 1999).	Sustaining regional identity and heritage; Protecting key ecosystems and food production areas; Reducing environmental impact of food systems; Supporting local (food) economies; Promoting sustainable food production practices; Just and equitable share of economic benefits for local (food) producers; Introduction of sustainable food diets; Participation and engagement of local (food) actors	Food System	Eber, 1992 WTO, 1993 Countryside Commission, 1995 Hunter, 1997 Butler, 1999 Sharpley, 2000 Liu, 2003 UNEP & UNWTO, 2005 Saarinen, 2006 Everett & Aitchison, 2008 Sims, 2009 Gössling et al., 2011 Buckley, 2012 Bramwell, 2015 Pirlone et al., 2017 Ruhanen et al., 2018 Ajuntament de Barcelona, 2020 Dickinson & Lumsdon, 2010 Lumsdon & McGrath, 2011
Ecotourism **Nature-based Tourism** **Natural Tourism** **& related food works**	"Tourism that involves travelling to relatively undisturbed or uncontaminated natural areas with the specific object of studying, admiring and enjoying the scenery and its wild plants and animals", including "any existing cultural manifestations (both past and present) found in these areas" (Ceballos-Lascurain, 1987). "Responsible travel to natural areas which conserves the environment and improves the welfare of local people, and involves interpretation and education" (TIES, 2015). "3 main characteristics of ecotourism are defined as nature based; environmentally educated; and sustainably managed" (Blamey, 2001). "Sustainable form of natural resource-based tourism that focuses primarily on experiencing and learning about nature, and which is ethically managed to be low-impact, non-consumptive, and locally oriented (control, benefits, and scale). It typically occurs in natural areas, and should contribute to the conservation or preservation of such areas" (Fennell, 2004) "Nature-based form of alternative tourism" (Weaver & Lawton, 2007). Nature-based Tourism is "related to leisure activities happening in nature areas and its main components are the visitor and experiences of or in nature", including "environmental awareness or nature conservation motives as an inherent target" (Norouzi et al., 2023).	Conservation of (food) biodiversity and key ecosystems; (food) education programmes; Promotion and conservation of food-related natural and immaterial cultural heritage; Support the conservation of traditional (food) practices and products	Natural Areas Multiples Food Scales	Ceballos-Lascurain, 1987 Butler, 1992 Cater & Lowman, 1994 Blamey, 1997, 2001 Wood, 2002 Fennell, 2004 Cater, 2006 Weaver & Lawton, 2007 Honey, 2008 Buckley, 2009 Gosh & Gosh, 2009 Fredman & Tyrväinen, 2010 TIES, 2015 Norouzi et al., 2023

Concept	Definition	Food-related examples	Food Scale	Key references reviewed

Rural Tourism & related food works	"Tourism and leisure – or, collectively, recreational – activities that occur in countryside or rural spaces" (Sharpley, 2004). "A type of tourism activity in which the visitor's experience is related to a wide range of products generally linked to nature-based activities, agriculture, rural lifestyle / culture, angling and sightseeing." (…) "Rural Tourism activities take place in non-urban (rural) areas with the following characteristics: i) low population density, ii) landscape and land-use dominated by agriculture and forestry and iii) traditional social structure and lifestyle" (UNWTO, 2022).	Rural (food) museums; Promotion of rural (food) cultures, landscapes, and diets; visiting rural (food) producers and practices; Tasting rural cuisines and products;	Rural level Multiple Food Scales	Gannon, 1994 Lane, 1994 Sharpley & Sharpley, 1997 Bessière, 1998, 2001 Tribe et al., 2000 Wilson et al., 2001 Walmsley, 2003 Briedenhann & Wickens, 2004 Saxena et al., 2007 Daugstad, 2007 Cawley & Gildmor, 2008 Rockett & Ramsey, 2016 UNWTO, 2022
Urban Tourism **Tourism Urbanization** **& related food works**	"A type of tourism activity which takes place in an urban space with its inherent attributes characterized by non-agricultural based economy such as administration, manufacturing, trade and services and by being nodal points of transport. Urban/city destinations offer a broad and heterogeneous range of cultural, architectural, technological, social, and natural experiences and products for leisure and business" (UNWTO, 2022). Tourism Urbanization as a "dominant economic process shaping urban areas specifically for the production, sale, and consumption of good and services providing pleasure" (Mullins, 1991).	Visits to urban farms, gardens, and kitchens; Visit to food museums and institutions; Visit to restaurants, food festival, street food stands, etc. Visit to urban food producers and industries; Food experiences in resorts and touristic parks and villages; visit to food thematic parks	Urban level Multiple Food Scales	Mullins, 1991 Law, 1992 Pearce, 2001 Edwards et al., 2008 Ashworth & Page, 2011 Stock and Lucas, 2012 Hollows et al., 2014 Miller et al., 2015 Dimitrovski & Crespi Vallbona, 2018 Amore & Roy, 2020 Coëffé & Stock, 2021 Fusté-Forné et al., 2021 UNWTO, 2022
Industrial Tourism & related food works	"Visits to sites that enable residents and tourists to get acquainted with a region's operational firms", including "company visits/tours, but also visits to company museums and brand parks" (Otgaar, 2012). "Visits to, and tours of, active businesses and corporate museums founded by companies with a long history strongly rooted and/or typical in the area, as well as producers of cultural goods, and sometimes bearers of status symbols such as typical products" (Xie, 2006 in Badia et al., 2023). "Visits by tourists to operational industrial sites where the core activity of the site is non-tourism oriented" (Frew, 2008).	Guided visits to food and beverage industries (beer - Heineken in Amsterdam, whiskey distillery in Scottland, chocolate producers in Italy and Switzerland, olive oil mills, orange plants, canned fish in Portugal, or tabasco in USA), visit to small-scale food processing plants and their value chains, visit to cheese or wine producers (e.g., Parmiggiano Reggiano in Emilia-Romagna, Italy; wineries), place marketing and brand recognition	Food Processing and Production	McBoyle, 1996 Frew, 2008 Otgaar et al., 2010 Otgaar, 2012 Morales et al., 2015 Chow et al., 2017 Prat Forga & Cànoves Valiente, 2017 Araujo et al., 2023 Badia et al., 2023
Pro-poor tourism & related food works	"Tourism that generates net benefits for the poor" (Roe & Urquhart, 2001). Tourism that "increase net benefits for the poor or directs profits back into the community by employing local staff and manufacturing" (Wen et al., 2021	Promoting food job opportunities; Providing income opportunities for accommodation and restaurant services, sell food and handicrafts	Multiple Food Scales	Roe & Urquhart, 2001 Schilcher, 2007 Wen et al., 2021

SOURCE: ELABORATED BY THE AUTHOR BASED ON THE LITERATURE REVIEW.

Concept	Definition	Food-related examples	Food Scale	Key references reviewed

Cultural Tourism **Creative Tourism** **& related food works**	"A type of tourism activity in which the visitor's essential motivation is to learn, discover, experience, and consume the tangible and intangible cultural attractions/products in a tourism destination. These attractions/products relate to a set of distinctive material, intellectual, spiritual and emotional features of a society that encompasses arts and architecture, historical and cultural heritage, culinary heritage, literature, music, creative industries and the living cultures with their lifestyles, value systems, beliefs and traditions" (UNWTO, 2017) "A collection of cultural practices engaged in by a wide range of actors in the destination and by tourists themselves" (Richards, 2018). Creative Tourism "offers visitors the opportunity to develop their creative potential through active participation in courses and learning experiences which are characteristic of the holiday destination where they are undertaken" (Richards and Raymond, 2000).	Knowledge-based creative activities; Creative tourism experiences (visit Food markets, buy local food, cooking sessions, eating in the fields, harvesting, and transforming food); Protection and promotion of local food products, heritage, and culture (de Castro Neves Costa, 2023); Labels and certification of origin; Eating at people's home, food-related cultural routes: wine (Castro et al., 2017). olive oil (Arjona-Fuentes & Amador-Hidalgo, 2017), cheese (Folgado-Fernandez et al., 2017); Food & Craft in Algarve; Portoalegrecriativa.info;	Multiple Food Scales	Richards, 1996, 2007; 2018 Richards & Raymond, 2000 Binkhorst, 2007 Tresserras & Medina, 2008 Illincic, 2014 UNWTO, 2017 Castro et al., 2017 Arjona-Fuentes & Amador-Hidalgo, 2017 Folgado-Fernandez et al., 2017 de Castro Neves Costa. 2023
Ethnic tourism **Indigenous Tourism** **Community Based Tourism** **& related food works**	"Marketed to the public in terms of the 'quaint' customs of indigenous and often exotic peoples" (Smith, 1977) "The pursuit of the exotic "other", cultural differentness and authentic experiences" (Yang & Wall, 2023) "The search for authentic encounters with other ethnicities, involving complex ethnic relations and a division of labor among three groups: tourists, tourees and middlemen" (Van den Berghe, 1992) "Tourism experiences that are owned, hosted and managed by local communities" (CBI, 2023) "A process of joint decision making among autonomous, key stakeholders of an inter-organizational, community tourism domain to resolve planning problems of the domain and/or to manage issues related to the planning and development of the domain" (Jamal & Getz, 1995)	Visit to ethnic restaurants, neighbourhoods, or local (food) festivals; Consumption of ethnic (food) products; Support Indigenous Peoples Food Systems Participation in their food practices; Experiencing food and celebrations in ethnic and local communities. Village-based tourism; staying at communities' houses, eating, and cooking with local populations. Examples in Uganda: https://www.cobatiuganda.org/ Cambodia: https://www.tourismcambodia.com/activities/community-based-tourism-cbt.htm	Multiple Food Scales	Yang & Wall, 2009 Yang & Wall, 2024 Butler & Hinch, 1996 Ryan & Aicken, 2005 Butler, 2006 Jamal & Getz, 1995 Reed, 1997 Okazaki, 2008 CBI, 2023

SOURCE: ELABORATED BY THE AUTHOR BASED ON THE LITERATURE REVIEW.

Concept	Definition	Food-related examples	Food Scale	Key references reviewed

Food Tourism **& product specific types of tourism (wine, coffee, whisky, cheese, etc.)**	"Visitation to primary and secondary food producers, food festivals, restaurants and specific locations for which food tasting and/or experiencing the attributes of specialist food production region are the primary motivating factor for travel" (Hall & Sharples, 2003). "Travel for the specific purpose of enjoying food experiences" (Getz et al., 2014) "Offers tourists new tastes, flavours, textures, cultures, heritage, local culinary cultures, customs and authentic food and beverage experiences" (World Food Travel Association, 2019). "Food tourism is the act of traveling for a taste of place in order to get a sense of place" (World Food Travel Association, n.d.)	Integration of food in destination marketing and management; Visiting food producers, food festivals, restaurants, food tastings, F&B experiences, local culinary cultures, food, and landscape heritage.	Multiple Food Experience along the System	Hall, 1997; Hall & Mitchell, 2001 Hall and Sharples, 2003; Hall et al., 2004; Hall & Gössling, 2016 Boyne et al., 2003 Boniface, 2003 Cohen & Avieli, 2004 Carlsen & Charters, 2006 Jolliffe, 2007 Everett & Aitchison, 2008 Croce & Perri, 2010 Jolliffe, 2010 Everett, 2012 Richards. 2012, 2015 Dodd, 2012 Getz et al., 2014 Yeoman & McMahon-Beatte, 2016 Okumus et al., 2018 Privitera et al., 2018 Ellis et al., 2019 World Food Travel Association, 2019; n.d.
(Eno) Gastronomic Tourism	"A type of tourism activity which is characterized by the visitor's experience linked with food and related products and activities while travelling. Along with authentic, traditional, and/or innovative culinary experiences, gastronomy tourism may also involve other related activities such as visiting the local producers, participating in food festivals, and attending cooking classes" (WTO, 2019). "Eno gastronomic tourism involves consumers visiting local producers, festivals, restaurants, wineries and/or other places in a tourist destination, where food and wine (beverages) are consumed" (Mikinac et al., 2023).	Visiting local producers, wine & food festivals (Yuan & Jang, 2008; Axelsen & Swan, 2010); Cooking classes, visits, and tastings to famous and traditional restaurants/chefs (Kim, Eves, & Scarles, 2009); Visiting food markets and stores (Crespi Vallbona, 2016; Dimitrovski & Crespi Vallbona, 2018); visits to food production areas (olive, wine, oranges, fishing, grasslands/cheese); food routes (Barrera, 1999)	Multiple Food and Wine Experience along the System	Zilensky, 1985 Barrera, 1999 Hjalager & Richards, 2002 Scarpato, 2002 López & Martin, 2006 Yuan & Jang, 2008 Kim, Eves, & Scarles, 2009 Axelsen & Swan, 2010 Flavián & Fandos, 2011 Horng and Tsai, 2012 Johnston & Bauman, 2014 Richards, 2015 Crespi-Vallbona & Perez, 2016 Folgado-Fernandez et al., 2017 WTO & Basque Culinary Center, 2019 Amarando et al., 2019 Gómez et al., 2019 Dixit, 2019 Rodríguez-López et al., 2020 Mora et al., 2021 Mikinac et al., 2023
Culinary tourism **Tasting tourism**	"Intentional, exploratory participation in the foodways of another; participation including the consumption, preparation, and presentation of a food item, cuisine, meal system, or eating style considered to belong to a culinary system not one's own" (Long, 2004). "a negotiation of exotic and familiar, with otherness depending not only on an individual's or group's experiences but also including domains such as region, class, gender, religion or ethos, age, along with ethnicity or nationality of a food" (Long, 2013).	Cooking classes; visits to famous chefs; traditional recipes; consumption, preparation, and presentation of foods; cuisine, meal or eating practices	Nourish-ment and Preparation	Long, 1996, 2010, 2013 Stewart et al., 2008 McKercher et al., 2008 Silkes, 2012 Björk & Kauppinen-Räisänen, 2014 Boniface, 2003 Horng & Tsai, 2012

SOURCE: ELABORATED BY THE AUTHOR BASED ON THE LITERATURE REVIEW.

Concept	Definition	Food-related examples	Food Scale	Key references reviewed
Destination Foodscapes	"Every type of food-related environment in which a tourist has a given experience that is 'constantly being produced and reproduced in staged and non-staged foodscapes by a varying set of actors' (Björk & Kauppinen-Räisänen, 2019). "Destination foodscape research implies diving into an intricate system of values, relations, performances, experiences and outcomes that are dynamic and, therefore, require a holistic approach that reflects its complexity" (Bernardo, Agapito & Guerreiro, 2021).	Food experiences and visits to traditional agricultural systems; food production areas and industries; knowledge exchange; workshops and participatory experiences on traditional and popular gastronomy and cuisine, techniques, instruments and practices, fishing activities, tastings, cooking classes, culinary tours, farming, harvesting,	Food Landscape	Long, 2010 Björk & Kauppinen-Räisänen, 2019, 2016 Su et al., 2020 Amore & Roy, 2020 Bernardo, Agapito & Guerreiro, 2021 Park & Widyanta, 2022
Agritourism / Agrotourism and Agroecological Tourism	"Tourism products which are directly connected with the agrarian environment, agrarian products or agrarian stays" (Sharpley & Sharpley, 1997). "The reception and hospitality activities carried out by farmers using their own farm" (L. 96/2006) "Rural enterprises which incorporate both a working farm environment and a commercial tourism component" (McGehee 2007). "Any practice developed on a working farm with the purpose of attracting visitors" (Barbieri & Mshenga, 2008). "activities of hospitality performed by agricultural entrepreneurs and their family members that must remain connected and complementary to farming activities" (Sonnino, 2004). 'Tourism activities which are undertaken in non-urban regions by individuals whose main employment is in the primary or secondary sector of the economy" (Iakovidou, 1997). ''tourist activities of small-scale, family or co-operative in origin, being developed in rural areas by people employed in agriculture'" (Kizos & Iosifides, 2007).	Farm activities; Agricultural hotel and experiences, Traditional food experiences, Local food products, Participation in local food production (cheese, wine, olive), and agricultural activities	Farm Level Multiple Food Experience	Iakovidou, 1997 Sharpley & Sharpley, 1997 Wall, 2000 Sonnino, 2004 McGehee & Kim, 2004 L. 96/2006 Kizos & Iosifides, 2007 McGehee, 2007 Barbieri & Mshenga, 2008 Philip et al., 2010 Porcaro, 2010 Schmitt, 2010 University of California, 2011 Addinsall et al., 2017 Testa et al., 2019 Domi & Belletti, 2022
Farm Tourism	"Rural tourism conducted on working farms where the working environment forms part of the product from the perspective of the consumer" (Clarke, 1999). "Tourist activity closely intertwined with farm activities and often with the viability of the household economy" (Gladstone & Morris, 2000). "Activities and services offered to commercial clients in a working farm environment for participation, observation or education" (Ollenburg, 2006).	Farm activities; Participation, observation, and education of farming systems; Agricultural practices and food transformation; Agricultural and farming museums; Harvesting, cooking, and eating, etc.	Farm level Multiple Food Experience	Clarke, 1999 Gladstone & Morris, 2000 Ollenburg, 2006
Vacations Farm	"Incorporate both a working farm environment and a commercial tourism component" (Weaver & Fennell, 1997).	Accommodation on a farm and agricultural environment; Consuming local food products and recipes;	Farm level	Weaver & Fennell, 1997

SOURCE: ELABORATED BY THE AUTHOR BASED ON THE LITERATURE REVIEW.

ANNEX 4: LIST OF INTERVIEWS HELD IN CENTRAL ALGARVE (PORTUGAL).

#	Position	Organization	Sector
		Central Algarve Area, Portugal	
1	Associate Research Professor	NOVA University Lisbon	Academia - Tourism
2	Professor	Lusofona University	Academia - Urban Planning
3	Assistant Professor	University of Algarve	Academia - Tourism Urbanization
4	Assistant Professor	University of Algarve	Academia - Tourism Management
5	Writer and Researcher	Landscape Architect	Academia - Rural Development
6	Professor	ISMAT	Academia - Architecture
7	Professor	Lusofona University	Academia - Urban Planning
8	PhD Researcher	Lusofona University	Academia - Urban Planning
9	Researcher	NOVA University Lisbon	Academia - Food Planning
10	Professor	University of Lisboa	Academia - Food Planning
11	PhD Researcher	DINÂMIA'CET-Iscte	Academia - Food Planning
12	Writer and Researcher	Researcher on Mediterranean Diet	Academia
13	President	InLoco Association	NGO - Local Development
14	Director	Costume Museum	Cultural Institution - Local Museum
15	Coordinator	Costume Museum	Cultural Institution - Local Museum
16	Coordinator	Cooperativa ACTUAR	NGO- Local Development
17	Expert	Cooperativa ACTUAR	NGO - Local Development
18	Landscape Architect	Biodesign - Architecture	Private sector - Landscape Architect
19	Landscape Photograph	Independent	Private sector - Landscape Architect
20	CEO	Esporao	Private Sector - Wine
21	Co-Founder	Conserveira do Arade	Private - Fish Industry
22	Owner	Organic Store - Producer and Seller	Private Sector - Horticulture
23	Quality and R&D	Frutas Tereso	Private Sector - Big - Fruits
24	Owner	Fish Seller - Mercado Municipal	Private Sector - Fish
25	Executive manager	Tertúlia Algarvia - Restaurant - Food Tourism	Private Sector - Food & Tourism
26	Managing Partner	Citago - Agricultural Production	Private Sector - Big Agriculture
27	Public Health Internal Medicine	Health Unit Sao Bras Alportel	Public Policies - Local
28	President	Municipality of Loulé	Public Policies - Local
29	Municipal Director	Municipality of Loulé	Public Policies - Local
30	Coordinator	Regional Health Administration of the Algarve	Public Policies - Regional
31	Technician	Inter-Municipal Community of Algarve (AMAL)	Public Policies - Regional
32	Regional Director	Algarve Regional Directorate for Agriculture and Fisheries	Public Policies - Regional
33	Executive Member of the Board of Directors	CCDR-Algarve	Public Policies - Regional
34	Coordinator of the Documentation and Information Centre	Algarve Tourism Board	Public Policies - Regional
35	Head of Division for Planning and Rural Areas	Directorate-General for Agriculture and Rural Development (DGADR)	Public Policies - National
36	Project coordinator	Directorate-General for Agriculture and Rural Development (DGADR)	Public Policies - National
37	Architect	Directorate-General for Territory	Public Policies - National

SOURCE: ELABORATED BY THE AUTHOR.

ANNEX 5: DATA SOURCES FOR EACH FOOD MOMENT BY TYPE OF DATA.

Spatial Moment	Type of Data	Sources
Production	Land-use and land-cover changes	• FAO Earth Map Tool (Google Earth Engine) • UN data sets, FAOSTAT • ESA GlobCover data set • EEA's Copernicus (CLMS) - Corine Land Cover, • Eurostat
	Agricultural Land-Use Intensity, irrigation, and infrastructures	FAOSTAT, AQUASTAT, FAO Earth Map Tool (Google Earth Engine) National and regional statistics Portugal: • Direção Geral do Território (DGT); • Direção Geral de Agricultura e Desenvolvimento Rural (DGADR); • Instituto Geográfico do Exército (IGE); • Instituto Nacional Cartografia (INC); • Instituto Nacional Estatística (INE); • Instituto de Geografia e Ordenamento do Território (IGOT) EU: • EEA's Copernicus (CLMS) - Corine Land Cover
	Environmental footprint	• CIESIN Global Human Footprint data sets by the Wildlife Conservation Society and Columbia's Earth Institute • Eurostat
Access & Exchange	Transport Infrastructures Transportation systems Food supply chains Food imports and exports Supermarkets Traditional Markets	National and regional statistical data: • Portugal: INE; Região Algarve European and national spatial data: • EU: CORINE Land Cover; EEA • Portugal: INC; Região Algarve Literature Review: • Institutional Reports • Municipal and regional registries • National, regional, and municipal policies and strategies • Academic Papers • Doctoral thesis
Processing	Food Industries Food processing machineries and enterprises	National and regional statistical data: • Portugal: INE; Região Algarve Literature Review: • Industrial and institutional reports • Municipal and regional registries • National, regional, and municipal policies and strategies • Academic Papers • Doctoral and Master thesis

Nourishment	Food Security and Nutrition Food habits and behaviours Food consumption Type of restaurants	National and regional statistical data: • Portugal: INE; Região Algarve Literature Review: • Institutional reports • Municipal and regional registries • National, regional, and municipal policies and strategies • Academic Papers • Doctoral and Master thesis
Disposal & Valorisation	Waste Management	Literature Review: • Institutional reports • Municipal and regional registries • National, regional, and municipal policies and strategies • Academic Papers • Doctoral thesis
Socialization & Politization	Food Initiatives Local Projects European Projects Food Fairs and Events Food Policies and Strategies	Literature Review: • Institutional Reports • Municipal and regional registries • National, regional, and municipal policies and strategies • Academic Papers • Doctoral thesis

SOURCE: ELABORATED BY THE AUTHOR.

ANNEX 6: INTERVIEW PROTOCOL FOR THE SEMI-STRUCTURED INTERVIEWS (SSI) USED IN THE CASE STUDY.

Interview Protocol
Urbanization of Food Spaces
University of Milan-Bicocca

Questions:

1. **The historical transformation of food systems** (production, processing, access & exchange, nourishment, socialization/politization, disposal/valorisation)
    a. Based on your experience/research/background, how do you perceive the evolving changes on the food system, concerning the impacts of tourism in the region-country
    b. What do you think have been the most relevant changes (negative and positive) in these spaces?
    c. In your view, which are and have been the main drivers (social and economic forces) supporting these changes?

2. **Historical background of the development of tourism**
    a. In your view and (academic) experience, how would you describe the process of tourism development in the region?
    b. What have been the main (positive and negative) impacts of this process?

3. **A view to future opportunities for change**
    a. How do you perceive the impacts and challenges of climate change in the regional food system, and what are the mechanisms, strategies or plans in place (or expected to take place) to deal with it?
    b. In your view, which can be the potential (realistic) synergies and opportunities to promote the development of sustainable tourism – food system in the region (economic, environmental, and social dimensions)
    c. Who are the main actors who should, could or are already willing to be triggers of this change?

SOURCE: ELABORATED BY THE AUTHOR BASED ON THE SEMI-STRUCTURED INTERVIEW METHODOLOGY.
Note: Questions were always adapted to the specific contexts of each interview.

ANNEX 7: CLASSIFICATION OF THE MAIN SPATIAL TYPOLOGIES IN THE ALGARVE REGIONAL SPATIAL PLAN AND THEIR LINK WITH THE DIFFERENT FOOD MOMENTS

Class	Sub-class & code	Food Moment	Spatial Observation
Built-up Areas	Compacted urban areas (AEC)	Nourishment / Access & exchange / processing / valorisation & disposal / Socialisation & Policy	
	Fragmented urban areas (AEF)	Nourishment / Access & exchange / processing / valorisation & disposal / Socialisation & Policy	
	Scattered built-up areas (AED) Type 1: 2-10 buildings / 25 hectares Type 2: 10-50 buildings / 25 hectares Type 3: 50-100 buildings / 25 hectares	Nourishment / processing / valorisation & disposal	
	Rural areas (AER)	Nourishment / processing / Access & exchange / valorisation & disposal / Socialisation & Policy	

Special historic areas (AEH)	-	
Empty spaces under construction (EVC)	Opportunity spaces	
Empty spaces without construction (EVS)	Opportunity spaces	
Tourist areas with single-family homes (ATM)	Nourishment / processing / valorisation & disposal	

	Tourist areas with detached villas and golf camps (ATG)	Nourishment / processing / valorisation & disposal	
	Multifamily tourist building areas (ATC)	Nourishment / valorisation & disposal	
	Hotel and Aparthotel (isolated element) (ATH)	Nourishment / processing / valorisation & disposal	
Equipment	Sport complexes (EQD)	Nourishment	

Golf (EQG)	-	
Marinas (NDE)	-	
Theme parks (EQA)	Nourishment / processing / valorisation & disposal / socialisation	
Camping sites (EQP)		

	Hospitals (EQH)	Nourishment / processing / valorisation & disposal	
	Schools	Nourishment / valorisation & disposal / socialisation & policy	
Infrastructure	Airport (IFA)	Nourishment / access & exchange / valorisation & disposal	
	Wind farms (IFE)	-	

	Harbours	-	
Extractive Industry	Extractive industry (IEX)	-	
Industry	Industry, warehousing, trade and logistics (IND)	Processing / Access & Exchange / Valorisation & disposal	
Forest Areas	New plantations (AFN)	-	

	Other forest areas (AFO)	Production	
Agricultural Areas	Orchard/Vines (AAV)	Production	
	Rainfed areas (arable crops) (AAS)	Production	
	Polyculture Areas (AAP)	Production	

	Fruit/Vegetables gardens & greenhouses (AAH)	Production	
	Alluvial lowlands (AAA)	Production	
	Polyculture with dispersed low density housing	Production/ Nourishment	
Wilderness Areas	Matos (ASM)	-	

	Woodlands and stonewalls (ASD)	-	
	Silvo-pastoralism (ASP)	Production	
Wetlands	Marshes and intertidial zones (AHI)	-	
	Salt pans and aquaculture (AHI)	Production	

Water Plans	Watercourses (AGR)	-	
	Rivers and estuaries (AGE)	-	
	Reservoirs and lakes (AGR)	-	
Beaches and Dunes	Beaches with dunes (PRD)	Nourishment / vaorisation and disposal	

	Beaches without dunes (PRS)	Nourishment / vaorisation and disposal	
	Wooded dunes		

SOURCE: ELABORATED BY THE AUTHORS BASED ON PROT-ALGARVE (2004)

ANNEX 8: MAIN PLANNING DOCUMENTS IN THE CENTRAL ALGARVE AREA

Scale	Authority - Promotor	Plan	Date / number	Status
Municipal	CM Faro	General Urbanization Plan (PGU)	1981	Concluded
		Municipal Master Plan (PDM)	1995	In Force / Under review
		Intervention and Requalification Project	1	In force
		Urbanisation Plans (PU)	4	Multiple
		Detailed Plans (PPM)	10	Multiple
		Climate Change Adaptation Plan - Faro	2019	Under implementation
	CM Olhão	General Urbanization Plan (PGU)	1961	Not implemented
		Municipal Master Plan (PDM)	1995	Under review
		Urbanisation Plans (PU)	1	In elaboration
		Detailed Plans (PPM)	7	In force / Under elaboration
	CM Tavira	General Urbanization Plan (PGU)	1990	Revoked
		Municipal Master Plan (PDM)	1997	Under review
		Urbanisation Plans (PU)	9	Multiple
		Detailed Plans (PPM)	5	In force
	CM São Bras de Alportel	Municipal Master Plan (PDM)	1995	Under review
		Urbanisation Plans (PU)	2	In force
		Detailed Plans (PPM)	4	In force
	CM Loulé	Municipal Master Plan (PDM	1995	In force / Under review
		Urbanisation Plans (PU)	4	In Force
		Detailed Plans (PPM)	9	In force / In elaboration
		Climate Change Adaptation Municipal Strategy (EMAAC-Loulé)	2016	In force
	CM Albufeira	Municipal Master Plan (PDM)	1995	Under review
		Urbanisation Plans (PU)	2	In force
		Detailed Plans (PPM)	9	In force / in elaboration
Intermunicipal	Local Action Group (LAG) InLoco	Local Action Strategy Interior do Algarve Central	2016	Update in progress
	AMAL	Strategic Development Plan for the Algarve Region (PEDRA)	1999	Concluded
		Intermunicipal Plan 2020 and Action Plan	2015	Under implementation
		Climate Change Adaptation Intermunicipal Plan (PIAAC-AMAL)	2019	

Regional	CCDR-Algarve (CCR)	First regional planning scheme	1965	Not approved
		Regional Spatial Plan PROTAL (under Decree 176-A/88)	1988 1991	Concluded RCM No. 33/88 DR. No. 11/91
		PROT – Algarve (under Law 48/98)	2007	2nd Update in progress
		Development Strategy for the Algarve	2000	Concluded
		PROALGARVE	2000	Concluded
		Regional Tourism Plan of Algarve (PRTA)	1995	Updated
		Algarve	2007	Concluded
		CRESC ALGARVE 2020	2014	Under implementation
		PRR - Plano de Recuperação e Resiliência	to 2026	
		Programa Algarve 2030	2022	Approved
National	Landscape-scale of implementation (DGT)	Landscape Transformation Programme (PTP)	2020	Approved R. 49/2020
		Landscape Reordering and Management Programme (PRGP) – Serra de Caldeirão	2021	In progress
	Sectoral Plans	Regional Programme for Forest Management in the Algarve (PROF ALG)	2019	Portaria 53/2019
	Special Plans	Plano de Ordenamento da Orla Costeira (POOC) Vilamoura-Vila Real de Santo António (VRSA)	2005	RCM 103/2005
		Management Plan for the Hydrographic Basins that make up the Ribeiras do Algarve Hydrographic Region (PGBH-RH8)	2007	Decree 347/2007
		Plano de Ordenamento do Parque Natural da Ria Fromosa (POPNRF)	2009	RCM 78/2009

SOURCE: ELABORATED BY THE AUTHOR BASED ON CCDR-ALGARVE; DGT – SNIT; LOBO