



Urban food strategies and sustainable agri-food systems: Results of empirical analysis in Palermo

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ABSTRACT

In developed economies, there is an increasing shift in food production from places of production to places of consumption. According to the economic logic of production costs, today many agri-food products are produced in one part of the continent and made available for consumption in other parts. This situation, although justified from an economic point of view, leads to the impoverishment of territories as many economic activities disappear from the production scenario. In this work, the agrifood policy of the city of Palermo is analyzed. In particular, we investigated the fruit and vegetable market in Palermo. The empirical verification shows that most of the fruit and vegetables available for consumption in the metropolitan area of Palermo do not come from Sicilian farms. This availability-consumption pattern of fruit and vegetables, fuelled by the consumption demand expressed by many consumers who give much weight to the price of the commodity over other variables, highlights the fact that the metropolitan area's current food policy results in the impoverishment of rural areas.

1. Introduction

Today, the food systems of developed economies have become complex. They are understood as that flow of goods, processes, knowledge, and symbolic and cognitive values that regulate the circulation of food along all stages of the supply chain, from production - which also implies, therefore, entrepreneurial choices concerning production techniques, the technologies involved, the location and management of production factors - to consumption and the treatment of food waste [1]. Today, following the industrialization processes of the food supply chains that have characterized the last decades, an internal disconnection within these food systems and a greater distance between food production and consumption can be recognized in many areas, involving different levels [2]. The first level is the geographical one, due to the length and complexity of conventional supply chains [3]. A second level is the economic one, due to the number of intermediaries and actors that intervene and consequently impart a transformation - be it material or immaterial - between the moment of production and that of food consumption [4]. A third level is the cognitive one, due to the increasingly complex possibility of direct knowledge and personal perception of how food is produced, processed, and socially distributed, in terms of trust between the actors in the supply chain, both about the intermediate stages of food and to the difficulty for consumers to relate to a food system dominated by large, highly concentrated companies according to an oligopolistic model [5]. A fourth level is the political one, insofar as

consumers are hardly able to control and intervene in the food system to orient it according to their values, beliefs, and expectations [6]. The flows of food arriving on consumers' tables, thanks above all to the reduction in transport costs and the speed at which information is circulated, have followed increasingly global geographies, leading to situations in which the costs in environmental and social terms of consumption are passed on to the actors and territories of a supply chain that appears very long and difficult to trace [7]. This has led to a distancing between final consumers and initial producers (mainly farmers) and to a loosening of the connections that in the past allowed for a pact between agriculture and the city, i.e. between the countryside and consumers. Cities, regions, and countries are facing the consequences of these dynamics in food systems [8]. The increase in the consumption of highly processed products, together with the difficulty of controlling the production and processing methods adopted, and the food scenario dominated by large-scale distribution delegitimizes urban and peri-urban agriculture in favor of intensive and large-scale production methods that are poorly integrated into the local territory and community [9]. The effects of this macro-category have a strong impact on the resilience of agricultural landscapes, which, if not put in a position to provide utility and well-being to the quality of urban life, are put at serious risk by increasing housing pressure and the lack of entrepreneurial prospects, which also drive away farmers - often young ones - willing to settle near the city [10]. As a consequence of this phenomenon, spatial inequalities have increased in recent years throughout the

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West. An OECD analysis shows that between 1995 and 2014, the productivity gap between the most advanced regions grew by 60% and by 56% in the European Union alone. Those most affected by the increase in inequality are territorially concentrated in the suburbs, small towns, and vast rural areas of each country, often with concomitant situations of worsening social and environmental degradation [14]. Italy is among the countries most affected by this phenomenon of widespread impoverishment, so much so that it is no longer possible to speak of a rich North and a poor South: very often the most deprived municipalities are located a short distance from the richest Italian city, such as Milan [11]. The Inner Areas, as defined by the National Strategy Inner Areas, account for more than half of the Italian municipalities, which number about 4,000 out of a total of 7,904 [31] and are home to less than a quarter of the national population, but occupy 60% of the national surface area. This figure clearly shows how a large portion of the country is run by precisely those territories that are now witnessing a population flight towards cities, especially medium-sized ones. In addition to the environmental and management consequences of the landscape involved (hydrogeological risks, fires, uncontrolled reforestation, etc.), the theme of the demographic emptying of inland areas is accompanied by the more general one of the increase in territorial inequalities between urban poles and peripheral or outermost areas, accentuating that urban-rural dichotomy that today is one of the great challenges to be resolved, not only in Italy. The inequalities created are economic (income, employment, lack of work), social (access to essential quality services, displacement of public and private services in the cities, disinvestment in services), and recognition (of the value, role, and aspirations of the individual). A turnaround in public policy is needed, which in turn can be traced back to changes in power relations in society and common sense along two main lines. The first is represented by knowledge and innovation: to escape from the trap of underdevelopment, it is essential that the knowledge proper to a place, of its inhabitants, be confronted in a broader context than that delimited by administrative borders, in a continuous cross-reference between local and global competences. The second is the continuous osmosis between power and the political economy: decision-makers, both locally and especially centrally, must be motivated to manage change based on innovative processes [12]. Based on these reflections, what is emerging, in Italy as in other countries suffering the same inequality gap, is the need for a place-based policy approach: that is, an approach that aims to give people a place in the difficulty of development, access to essential quality services and the opportunity to innovate, i.e. the substantial freedom to decide whether to stay or go, generating the change that the powers that be have failed to generate [13]. Italy, from this point of view, is the protagonist of a paradox: on the one hand, rural areas possess a 'diversity advantage' deriving from historical processes and natural characteristics, which determines a great interest in these areas on the part of a diversified global demand and potential resilience of its inhabitants (young 'returnees' and foreigners employed in agro-savory-pastoral activities, in new educational and health services and cultural and artistic projects); on the other hand, in most rural areas, especially in the most remote ones, all the signs of the crisis are present: depopulation; aging; decrease in the number of young people working the land; decrease in the maintenance of soil, rivers, forests, and infrastructure; high risk of floods, earthquakes, and droughts; abandonment of public and private services and deterioration of their quality [14]. While in 1950 about 70% of the world's population lived in rural areas, today more than half (54%) of the world's population lives in urban settings, with a growth rate expected to reach 58% in 2025 and 66% in 2050. Data from the UN World Urbanization Prospect show us that Europe has gone from an urban population share of about 50% in 1950 to a level of 74% in 2015, with a forecast of 82% in 2050. Considering the growth rate of the world population, these percentages translate into the following absolute numbers: the population living in urban areas increased from 746 million in 1950 to 4 billion in 2015 and is expected to reach 6.3 billion in 2050. These figures highlight the emergencies that

cities have in terms of food needs and their management in terms of availability for consumption. In this paper, after analyzing the role of urban food policies, the case of the city of Palermo was studied, where the globalization process has led to a move away from the places of production-consumption. The study aims to contribute to a new vision of the organizational models of food production and consumption in developed economies.

2. The role of food in the urban agenda

Faced with the growing environmental, social, and economic concerns that characterize urbanization processes, cities have taken an increasingly central role in recognizing how the food system has important repercussions on many of the challenges they face today: uncontrolled urban sprawl, which for construction or production purposes puts natural and semi-natural areas at risk, compromising their ability to provide ecosystem services that are fundamental to human life; the economic, environmental and social sustainability of food supply chains, from the production stage, through processing and distribution to the treatment of urban waste; ways of reconnecting city and country, urban and rural areas; public health, in which the role of healthy and accessible food plays an important role in the quality of life; food culture, through which the awareness of citizens towards fairer and more sustainable food choices passes [15]. The theme of food, therefore, demands to be interpreted as a transversal and multifunctional issue, which involves traditionally independent action plans and which today, in the face of the profound transformations taking place in cities, requires coherence and connection with the main policies on the urban agenda [16]. The recent report "The Economics of Ecosystems and Biodiversity" on food and agriculture [17] takes this view and states that systems thinking allows for a better understanding and prediction of the effects of policy decisions in the agri-food sector. For this reason, the planning of food systems at the urban level is increasingly at the center of international debate, involving institutions, researchers, and policy-makers around a topic that seeks to make the food system sustainable internally to the city (urban agriculture, green infrastructure, urban gardens) and externally to it (support for new farm strategies based on proximity, natural resource management, reduction of land consumption). Indeed, the multidimensionality of the relationship between food and the city today sees various actors, from different disciplines and sectors, confronting each other around the same theme [18]. Not only politicians, administrators, planners, experts, and researchers from various disciplines (economists, urban planners, geographers, nutritionists, sociologists, jurists, and agronomists), but also manifestations of civil society, associations, producer organizations, private entrepreneurial subjects, grassroots movements, are expressing increasing interest in being involved in the planning and structuring of the objectives of a sustainable food system in the context of public policies. However, on the operational level, the interest of local administrations in city food planning is recent and not lacking in criticality. Pothukuchi and Kaufman (1999) [19], in an article that has become famous in academic circles, identify four factors that explain the lack of consideration of food issues within city policies generally, city dwellers take the functioning of the food system for granted, and few perceive the problems related to the availability of food and its accessibility at reasonable prices for the poorer sections of the population; the historical development of cities has led to the definition of specific problems as predominantly urban, in opposition to the world of agriculture; the technologies that revolutionised agricultural systems, transport, refrigeration and product processing in industrialised countries ensured that, even when suburbs and suburbs were built occupying previously agricultural land, the loss of farms that had historically served and supplied the city did not lead to an apparent change in the ways in which goods were purchased and the types of goods available: food was always at hand, without apparent problems, even if it was no longer of local origin; the dichotomy between urban and agricultural

instances in public policy resulted in insufficient dialogue between the two realities, which in reality complement and condition each other.

3. The impact of food systems on the citizenry of urban areas

Although several administrations, organizations, and associations are involved in the food systems of each city, there is a feeling that the approach is decidedly fragmented, with each unit dedicated to separate and non-dialogue paths [20]. On the citizens' side, the last twenty years have witnessed a growing awareness of the problems of food systems: more and more families are looking for a more direct connection between the food they buy and the territory in which they live, higher quality food, traceability and guaranteed provenance of products, the experiential dimension of food, direct relations with producers and a new sociality linked to the places and moments of purchase [21]. Thus, not only can food become a thread connecting all the main competencies of cities related to the urban environment, economic development, education, solidarity, culture and entertainment, health, politics, and governance, but it can also give substance to synergetic osmosis between cities and adjacent territories. Coordination between food systems and agricultural policies must be strengthened, involving urban, peri-urban, and rural areas, to facilitate the processes of food production, storage, transport, distribution, and marketing, reduce food losses, and prevent or reuse food waste appropriately and economically. It is also stated that the coordination of food policies with those on energy, water, health, transport, and waste is necessary and that actions are taken to maintain genetic and seed diversity and reduce the use of hazardous chemicals [22]. Given the large scale of urbanization worldwide and the transformation of rural space, the European Union supports the idea that sustainable urbanization should promote integrated spatial development and balanced urban-rural connections as part of a common system for the benefit of urban and rural populations. This view is also shared by the Committee on World Food Security [32,33]: "urbanization and transformations involving agriculture, food systems, and rural spaces present challenges but also offer opportunities for inclusive growth, poverty eradication, economic, environmental and social sustainability, food security and healthy eating". Specifically, it is defined as that complex network of actors, processes, and relationships that have to do with the production, processing, marketing, and consumption of food that exists in a given geographical region that includes a more or less concentrated urban center and its surrounding peri-urban and rural hinterland. In particular, the shortening of food supply chains and the orientation towards local production is an approach that is increasingly followed by many urban food policies, not least because of their ability to contribute to job creation and regenerate the local economy through the innovations they incorporate. By short supply chains, we mean a set of characteristics of a given food system as, an alternative to the traditional supply chains dominated by large retailers. While traditional supply chains follow the imperatives of productivity, standardization, and industrial organization, short supply chains tend to emphasize other aspects such as quality, provenance, and the 'naturalness' of agri-food production by the absence of intermediaries between producers and consumers and the local dimension of production, processing, and marketing [23]. To summarise, the common characteristics of short supply chains can be traced back to low or no intermediation; these supply chains are forms of distribution of agri-food products with one or even no intermediary between production and consumption; geographical proximity: short supply chains are characterized by a reduced physical and/or organizational distance between production and consumption that allows a direct relationship between the two ends of the agri-food chain; trust and strengthening of social capital: in short supply chains, information on production methods, origin, characteristics related to the quality and traceability of products is disseminated more easily and without intermediaries, creating trust between consumers and producers and strengthening social networks [24].

4. The role of short supply chains in urban areas

Today, short supply chains are regarded as one of the main tools for rebalancing relations between town and country and as a fundamental element of integrated governance of food systems. However, the scientific debate seems well aware of the need to avoid, in policies and rhetoric relating to food systems, a-critical uses of concepts such as zero km, "local", region, "city-region", foodscape or foodshed, or more generally alternative food geographies. Relying solely on short supply chains to restore the balance between town and country is not a viable solution, at least in the short term. Three factors influence the spread of small-scale marketing practices: not all agricultural products can be supplied by local production [25]. This statement is, of course, dependent on the context we are referring to and the territorial scale we use to define "local" and "short supply chain". In fact, in some contexts with a strong production specialization, it might be difficult to source local agri-food products, while we remain dependent on imports of products from tropical countries or other origins, based on changing tastes, preferences, and food fashions. Furthermore, the same supply chain could be defined as "short" and another one as not, depending on the reference legislation. For example, in France, the Ministry of Food, Agriculture, and Fisheries defines short supply chains as those marketing circuits of agricultural products with at most one intermediary between producer and consumer. On the other hand, Lazio Regional Law No. 14 of 7 November 2016 (Provisions to enhance and support the consumption of quality agricultural and food products from short supply chains) considers products from short supply chains as those intended for human consumption 'for whose transport from the place of production to the intended place of consumption less than 25 kg of carbon dioxide equivalent per tonne is produced. Secondly, short supply chains require infrastructure, both tangible and intangible, and thus investment. If direct sales are considered, it is important to develop, where possible and economically justifiable, an entrepreneurial project aimed at the reorganization of the factors of production (first and foremost, company labor) and the implementation of structures suitable for this type of activity. If we consider other forms of short supply chains such as farmers' markets or box schemes, in the first case it is essential to provide the necessary space and regulation for the holding of markets, while in the second case the construction of digital platforms and the acquisition of specific skills linking supply and demand cannot be ignored. Thirdly, the evolution of demand must be considered. The development of a short supply chain depends on many determinants, but certainly, the type of products demanded by consumers plays a primary role. If on the one hand it can be observed that a transition in consumption and production models is taking place involving a system of relations between the other actors of a more complex social, economic, and institutional network, it must also be recognized that the phenomenon of the 'nutritional transition' is contributing to the abandonment of the traditional Mediterranean diet in favor of a diet of ultra-processed products, most of them industrially processed, with high energy values and high quantities of animal proteins, fats, and low-fiber foods. The future of short supply chains depends, therefore, also and above all on the evolution of demand towards a certain type of food bearing nutritional, social, and symbolic values, and it is not possible today to take for granted if and at what speed this transition will take place, especially in a context of strong demand for specificity and exasperated diversification of food preferences [26]. The promotion of short supply chains is, therefore, only one of the strategies of a food policy. Another of the actions that are typically activated in the context of food strategies is Green Public Procurement in public institutions such as schools and hospitals. Specifically, these are actions that involve the selection of raw materials or food processing processes based on criteria that are supposed to ensure a healthier and more sustainable supply chain. All these food policy actions, which are only examples, are based on a reconsideration of the territorial and agricultural system. According to this vision and approach, it is not possible to think of food planning without

simultaneous agricultural and territorial planning. The agricultural vitality of a territory, the creation of economic circuits based on the production and consumption of local food aimed at generating sustainable markets, supporting micro-entrepreneurship, safeguarding, and enhancing the distinctive features of agricultural landscapes. Moreover, these are fundamental factors for short supply chains, Green Public Procurement, and other actions to have an agricultural supply pool sufficiently capable of responding to these policy demands, which otherwise would not have the agricultural and economic fabric on which to sustain itself. Faced with the need to find a systemic relationship between food and agricultural policies, what approaches have emerged in recent years? How to reconnect the issue of food, understood in its semantic complexity, and land and agricultural planning to promote the transition to sustainable food systems? The assumption underlying this approach is that if policies are developed on a city-region scale, the recognition of the specificities of the agro-ecosystem makes it possible to simultaneously address urban issues (food safety and health), and agricultural issues (opportunities for local farmers) and environmental issues (risk management). There is no way to promote better access to markets for small producers or to increase the quality of food supply to the city in the absence of urban-rural connections interpreted according to a resilient and sustainable food system objective. City markets continue to be, at least in all small and medium-sized cities, the commercial outlets for most small and medium-sized farmers, who benefit from the possibility of selling their products directly to consumers. The city-region food system is defined as that complex network of actors, processes, and relationships that have to do with the production, processing, marketing, and consumption of food that exists in a given geographical region that includes a more or less concentrated urban center and its surrounding peri-urban and rural hinterland. The city-region concept refers not only to large urban agglomerations and the productive rural areas surrounding them but also to territorial contexts in which small urban centers act as reference markets for small producers in the surrounding countryside. The flexibility of this approach makes it possible to recognize the importance of the great diversity that exists in the relationship between territorial contexts, types of food systems, and relations between urban and rural populations.

5. The birth and evolution of urban food planning: what connections with agriculture?

Imagining a food policy means above all constructing an instrument that can act at the same time on the efficient management of resources, the safeguarding of biodiversity, as well as on the protection of the landscape, governing employment, and social dynamics. In this situation, aware of the central role of agriculture in favoring or preventing the transition toward more sustainable food systems, agroecosystems and agricultural production are no longer interpreted as exclusively rural activities as opposed to urban ones, but rather as integrated phenomena, capable of playing a key role in the resilience of territories [27]. The strand of Urban Food Planning arose under the impetus of some administrations that, given the new challenges on sustainability and food security linked to the changed food paradigms, began to realize that the food system should be addressed in the same way as other public policies, and according to a systemic vision. Urban-food policies and urban-food strategies have a geographical origin, with a British and North American matrix. These policies, in fact, initially developed in the United States and Canada as a response to the negative externalities (particularly related to public health and food access problems) generated by the dominant food system and exacerbated by the aforementioned new food equation, which have repercussions at the local level and whose consequences tend to be exacerbated in urban nodes [28]. In more general terms, these are policies of a voluntary nature, which share many traits of strategic planning, such as the presence of shared visions; integrated objectives; mixed partnerships; and above all, broad civil

society involvement and participation. The scientific debate recognizes as the main denominator of the different experiences the systemic approach to the theme of food [29], which translates into policies aimed at integrating and connecting actors, resources, and instruments in terms of: multiple dimensions of food (environment, production activities, logistics and transport, education and training, economic and employment development, health and socio-welfare aspects, culture, and tourism); different stages of the agro-food supply chain; geographical scales and relative levels of territorial government; urban and rural territories; public, private and civil society sectors.

6. Urban food strategies

Some authors recognize Urban Food Strategies (UFS) as new processes in city food systems. Specifically, UFS deal with how food is produced, purchased, consumed, and disposed of by people living in urban areas [35,36]. Concretely, UFSs capitalize on already existing experiences and networks and propose complex strategies that aggregate and provide a coherent framework for different interventions (urban agriculture, alternative forms of distribution, food education, combating waste, etc.) generally aimed at guaranteeing accessibility to healthy, nutritious, quality food that is socially just, ecologically compatible and culturally appropriate for all - and in particular for the most vulnerable [34]. To achieve these more general objectives, it is possible to identify recurring and interrelated strategies, including the relocation of production and consumption and the reconnection of urban and rural areas, the 'trimerization' of food systems, and education and training interventions aimed at changing habits and lifestyles [37]. A phase of institutionalization of the process through its adoption by the public body, but also by other local actors that are sufficiently structured and organized to be recognized and legitimized for action; an analytical phase, generally conducted by institutions, universities or other research centers, aimed at assessing the food system and mapping its actors; a participatory process, according to different schemes and methods, involving actors and stakeholders of the system in the definition of objectives and priorities of future food policies; the construction and subsequent adoption of an initial declaration of intent, formalized in a Charter, Agenda or Food Manifesto; the establishment of a new food governance structure, generally referred to as the Food Policies Council, but also Food Board, Food Partnership and other forms; the adoption of a strategic document that, depending on the degree of detail and operativeness, may present the development vision, general objectives, specific objectives, individual actions, responsible parties, responsibilities and spending commitments, and monitoring indicators. The conditions for the birth and development of urban food policies as we know and practice them today are the result of the intersection of different pathways, some more informal and bottom-up, others more institutional in nature, both locally and internationally [38]. Moreover, the construction of the complex meanings of these policies is strongly influenced by the continuous contamination of the world of scientific-academic research. In general, however, it is at least possible to identify the macro issues within which they have occurred: for example, North American cities, pioneers in the field of urban food planning, have a long tradition of policies related to public health, in particular to the fight against obesity and diseases related to eating habits. The urban realities of South America, Africa, and Asia, on the other hand, decline food policies more explicitly in terms of food security and the promotion of local economic development, especially through urban and family farming initiatives, often with the support of international cooperation [39]. In Europe, the landscape of urban food planning is heterogeneous and highly fragmented. Some countries, such as the United Kingdom, have been active for longer with systemic policies borrowed from the North American tradition. In others, such as Italy and France, the theme has developed mainly from experiences promoted by civil society (particularly with the reconstruction of producer-consumer relations through Alternative Food Networks) which, only recently, seem to be

evolving towards more systemic approaches with the involvement of institutions. At the end of 2021, even the European Union, through the Committee of the Regions, expressed the need for a ‘sustainable EU food policy’ aimed at achieving sustainability and growth objectives in European cities and regions. In Italy, the need, but also the opportunity, for integrated planning of local food systems - which not only exist but can count on a wealth of resources, both material and immaterial, of great value - is not yet a truly widespread perception, especially at an institutional level. This is demonstrated by the fact that despite a rather lively scientific debate and above all an important heritage of practices aimed at increasing the sustainability of food systems - urban gardens, solidarity economy practices such as GAS, charitable canteens, and innovative procurement experiences - are a long way from being realized.

7. Materials and methods

Our objective is to analyze, the supply of local fruit and vegetable production. The decision to look at fruit and vegetable production is because, in recent times, fruit and vegetable producers have been forced to convert their farms to alternative crops such as olives and citrus fruits. This choice was dictated by the decreasing profitability of vegetable and fruit production. In particular, in the present work, we are going to investigate the wholesale supply of fruit and vegetables that is then available for food retail. For this type of study, a qualitative case study approach is very suitable [30]. The study examined some of the outlets of the fruit and vegetable market in the city of Palermo. We chose the city of Palermo because it is the capital city of the Region of Sicily with 627 379 inhabitants. It also has a fruit and vegetable market and a port. Palermo’s fruit and vegetable market are an important crossroads for agri-food products. Agri-food products from all over Sicily arrive there. The suppliers are both agricultural entrepreneurs and wholesalers from Sicily and elsewhere. In particular, thanks to the port, many agri-food products arrive by ship both from other parts of Italy (Campania, Apulia, Emilia Romagna, etc.) and from North African countries. As part of the survey, we surveyed the provenance of the fruit and vegetables that make up the supply of agri-food production that starts from the market and reaches retail outlets (excluding large retailers). Regarding the provenance of the goods, we found that only a small part comes from the Palermo metropolitan area or at any rate from Sicily. In the Palermo fruit and vegetable market, fruit and vegetables come (to a small extent) from the national territory but also abroad (Fig. 1). The disconnect between agricultural production and consumption occurs in this situation. Imports of fruit and vegetables from other parts of Italy or from abroad make vegetables and fruit available on the market that are relatively cheaper than local production.

Sustainability is an integral part of the retailer’s business strategy, which invests considerable resources in sustainability, both in terms of the supply chain and the shops and product range. The empirical study

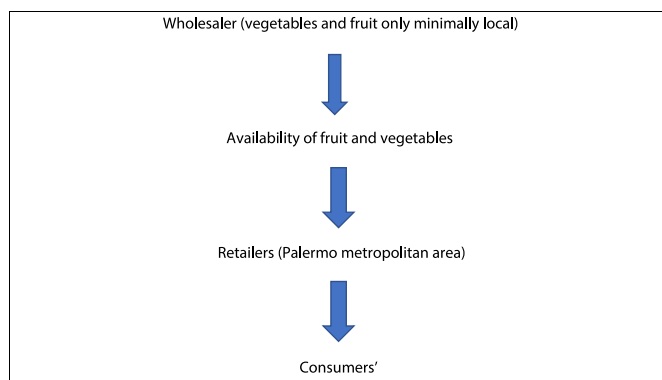


Fig. 1. Agri-food supply model in the Palermo Metropolitan area.

started in October 2019 and ended in June 2020. Information was gathered through telephone interviews. All information on the organizational structure referenced this period. In all, 32 subjects were interviewed for this study. The interviewees were guaranteed to remain anonymous, so we cannot reveal the specific person behind each quote. However, we did include information on whether the interviewees belonged to the corporate level or a national organization and whether they worked exclusively on sustainability or were more general. The interviews lasted between 30 and 90 min and were semi-structured. They were therefore structured around a set of themes, covering the respondents’ perceptions of the sustainable procurement strategy, including its purpose and role, how the respondents perceived the meaning of sustainability, and how it was used and implemented within that part of the organization. In addition, the empirical material included different types of internal documents related to the company, product, and/or archive sustainability issues. The information on the origin of fruit and vegetable production refers to the three-year average (2017–2019) of turnover. The statements and accounts that were found to represent one of these three perspectives were then further coded based on the identification of several themes including the priorities that appeared to be the most critical for each perspective. We then also helped to analyze how recurring and therefore relevant a certain theme was. For example, one aspect emphasized that the corporate level was how sustainability can be related to branding and positioning, while one of the objectives of the product range perspective was how and if sustainability brings additional value to the product; the shop perspective emphasized if and how sustainability adds to the customer experience and drives sales. We then also identified three points that were discussed when explaining how sustainability could gain greater value and a more coherent role within the retail organization.

8. Results and discussions

As mentioned in the introduction, the globalization of markets has led to an increase in the distances between the places where food is produced and consumed. Very often the food that is consumed comes from faraway places. In this context, in the context of the Palermo metropolitan area, we conducted an empirical investigation that as mentioned in the previous paragraph examined the supply of vegetables and fruits in Palermo and in particular within the Palermo fruit and vegetable market. The survey was conducted through telephone interviews. One fact we found is that for many indigenous fruit and vegetable products (from invoicing data) the sourcing is from abroad or from other Italian regions, whereas in the three-year average (2017–2019) for all respondents foreign or domestic origin prevails (Fig. 2). For all these products, one difference we have highlighted is absolute compliance with the standards set by the legislature. One finds

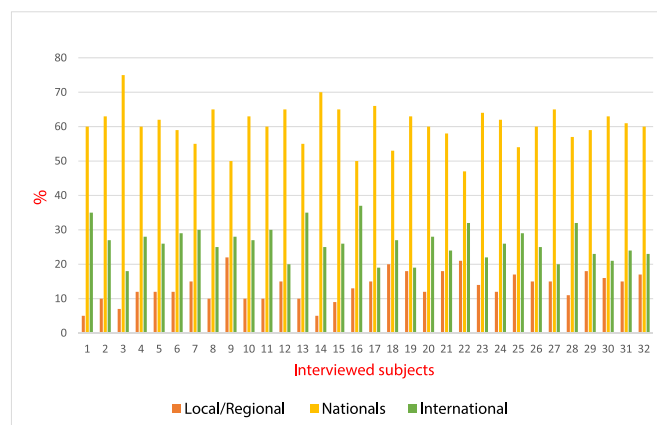


Fig. 2. Origin of fruit and vegetables. Source: our elaborations on data collected

products enclosed within the standards set by law. Compared to the local product, which is very often qualitatively better, but not up to the packaging to compete with productions from outside. Another thing we have found, for some fruits and vegetables, is that foreign production anticipates market availability compared to local production. For example, broad beans from Egypt, and watermelons from Tunisia, or Morocco. For these products, availability is 15 or even 20 days earlier than local production, depending on the climate of the countries of origin, which anticipates the production process and thus the harvest. From an economic point of view, this situation has a significant impact on the producer prices of local fruits and vegetables. An examination of the data collected showed that these products are imported at a very low price due to the economies (cost advantage) recorded by large companies and, above all, the low cost of labor compared to Italian labor. So let's start with the low cost of production compared to Sicilian fruit and vegetable production.

If the cost of production is low, the company even with a slight markup manages to make profit margins. Anticipate the season of supply availability in the market, when our products arrive because it is a market of imperfect competition where products are not perfectly substitutable for each other but where consumers, especially those who do not look at the origin of the product, become loyal. So in the market, we have two food products (for example, tomatoes) one of Tunisian origin and one of Sicilian origin if the consumer does not perceive the different quality of the product the price of local production aligns with that of foreign production. Conditions are created in which there is the availability of products ahead of the Sicilian time and this situation weakens the competitiveness of the Sicilian fruit and vegetable supply chain. regarding the sustainability part, we found that all operators are interested in economic sustainability. Evidence of this finding is also provided by domestic and foreign suppliers, which makes it possible to have fruit and vegetable products available at relatively lower prices than local production. While this represents a source of competitive advantage for the wholesaler, it is not found to be a sustainable strategy about respect for the environment and especially in the social. With these models of production-consumption, those links between the primary, secondary and tertiary sectors that constitute the engine of the development of society are diminished. The availability of products at low prices determines the fact that many companies no longer have the convenience to produce and abandon the land with all the negative consequences on the environment (soil erosion, etc.) and increased unemployment. It is necessary to set in motion pathways for the search for coherence between citizens-consumers, with particular attention being paid to the organization of a research activity involving the territory's administrations in the construction of an integrated policy on food and the definition of a targeted strategy for action. We must follow the changes in society but not forget the governance of the territory. Thus, the phase of the modernization of agriculture and the countryside was followed, in the 1990s and after the crisis of overproduction, by the rebirth of the idea of rurality and rural development that oriented farms towards quality markets, production diversification, and opening up to agricultural multifunctionality, in the tourism, environmental and social fields. More recently, practices animated by alternative food networks have multiplied with the proliferation of short supply chains and farmers' markets, direct or third-party sales shops, and solidarity purchasing group formulas. The plurality of these initiatives has contributed to shaping different food cultures in the area that reverberates in the views of a plurality of citizens, to the point of conditioning adaptations in the offer of large-scale distribution. In this ferment of activity, initiatives, even transversal ones, on the theme of food have multiplied through the involvement of the world of university research, but also of civil society and associations. The same farms, in increasing numbers, have seen new opportunities in building a more direct relationship with the urban world, opening up to innovative initiatives with the population, through participation in didactic initiatives, farm visits, opening up to social issues, and civic agriculture. Administrations cannot be

insensitive to such profound changes and must to some extent anticipate them and provide institutional support for innovative initiatives. On the other hand, the involvement of citizens in decision-making practices reveals the maturation of new ideas concerning food and the countryside, and a willingness to bring new public and private attention to the issue, to the point of the concretization of self-organization initiatives by citizen-consumers, agricultural producers, spontaneous committees and groups of associations. A reflection on the construction of urban strategies on food must be initiated. The idea, in this sense, fits into a social and technical framework that is very rich in experience and experimentation, which has suffered the disorganization of spontaneity but which, at the same time, has favored the formation of new shared visions on food, an essential step for the construction of new action. We must think of a new vision for local food policies. We need to think of a shared vision around food, a common vision, of the clarification of rules and infrastructures aimed at facilitating new collective approaches around the issue, through a coordinated and participatory mediation process. Actions to reinforce specific points of view by delimited categories of actors (municipal technicians, health workers, knowledge and research workers, economic operators, and members of civil society) are very important to create awareness and cohesion of consumption. The new urban food strategy also looks at the issue of school and hospital canteens and the decision-making processes involved in identifying food diets and purchasing choices. In this case, the existence of specific commissions between school operators, public canteen managers, and parents may allow the construction of new food models based on local products which are then translated into purchasing choices by the public administration in agreement with families. The new vision of urban food policies has the task of aligning shared visions around principles, problems, and ways of working. In particular, restarting from the idea of the city as a place of agglomeration of people working and meeting to exchange goods and services, urban food policies should envisage a concept of food security with respect to the driving forces of change; identify the sustainable diet as a working infrastructure capable of modifying the impacts of approaches to food with respect to the issues of environmental sustainability, equity and health; look at food democracy as a participatory pathway useful for rewriting written and unwritten rules regarding approaches to food; rethink and identify the actors responsible for activating pathways of food democracy, be they individual and organised consumers, producers capable of acting responsibly and civically, administrators, educators and experts; sets the objectives of the local food plan as a process of coordination and integration between multiple actors aimed at achieving multiple objectives (the affirmation of a food culture based on the idea of a sustainable diet, the understanding of the links between diet, health and the environment, the development of social innovation paths aimed at improving eating habits and reducing waste, the growth of the local capacity of the territory and businesses to produce food, support for the institutional innovation needed to follow these working hypotheses) identifies the tools of the Food Plan in the coordination of a plurality of policies already available in the communities (territorial planning, to support the protection of agricultural land; the organisation of commerce, to support the expansion of consumer choice capacity; food education, health prevention policies, environmental policies, waste management, the promotion of responsibility and innovation in the management of public purchasing, training and targeted information; support for the weak segments of the population, policies to support agro-food activities). In short, the elements of an urban food strategy, in turn, provide indications and guidelines to guide private and public subjects in their choices that are relevant to the themes identified in the food charter, specifying paths, actions, and organizational methods useful for pursuing the aim); sustainability: the level of qualitative/quantitative organization of local food supplies (availability/consumption of land, network of civic farms, number of strategy adherents, volumes of food secured, waste recycling rates, environmental/energy impact of production and distribution processes, etc.); innovation the extent and type

of innovative practices to be promoted (in the field of education, health promotion, public policies, consumption choices, production practices, etc); organization: the definition of organizational practices capable of affecting the effectiveness of policies that have an impact on food (program agreements, coordination bodies, etc). The Food Plan represents the act of coordinated planning through which to understand and map the specific problems connected on a local scale to the issue addressed, to ensure adequate levels of coordination between the various stakeholders in the integrated use of the policies and actions undertaken daily, and to design and promote the objectives and principles set out in the charter and strategy, using adequate information and communication initiatives. Finally, from the point of view of institutional innovation, there is a need to find the legal instruments for co-decision-making and the same places for meetings between different stakeholders. About the first aspect, the definition of a program agreement on food aims to translate the principles and objectives identified in the food charter and strategy into a formalized agreement aimed at coordinating the activities of the various public interlocutors in the performance of their institutional tasks. At the same time, the constitution of a local alliance on food provides private actors (of the private business and social sector) with a space in which to foster interlocution, monitor the coherence between the instruments adopted and the actions undertaken, and formally participate in the definition of the social innovation pathway connected to the Food Plan.

9. Conclusion

In our survey, we wanted to analyze what are the urban food strategies (at least for fruits and vegetables that are available for consumption) in the city of Palermo. To achieve this goal, we looked at some fruit and vegetable market operators in the metropolitan city of Palermo. The survey showed that most of the fruits and vegetables available for consumption in the metropolitan city are not sourced locally but rather nationally and for the most part also from abroad. This aspect should be highlighted as the availability of vegetables and fruits from far away countries hurt the environment and also employment and business profitability. To overcome this relationship between local production and consumption, three aspects should be acted upon: a greater connection between supply and demand especially for niche producers; greater consumer awareness of buying local products; and finally, creating those positions for enterprises to be born and become competitive.

Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Data availability

The authors are unable or have chosen not to specify which data has been used.

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