

# THE ATLAS OF FOOD. PROCESSES, ACTORS AND REPRESENTATIONS TOWARD THE FOOD STRATEGY OF TORINO METROPOLITANA

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## *Abstract*

The proposed contribution presents the theoretical background, the aims and the design of an action-research project developed and partially implemented by an interdisciplinary group of researchers based in Turin (Italy), including geographers, planners, IT experts, agronomists, and designers. The core of the project is the development of a methodology of analysis of urban food systems based on the realization of the Atlas of Food: a digital participatory platform, which aims to be at the same time a container of information and a virtual space for participation about food systems. The major scale of analysis and representation of the Atlas is the metropolitan area of Turin, even if information are also collected and organized at other scales, according to specific needs, in order to highlight the multi-scalarity of the food systems.

The Atlas is divided into three main sections: a) a collection of scientific and non-scientific articles, thesis and other materials, about food and food systems; b) a web-gis representing various aspects of the food system centered on Turin; c) a user-generated interactive map, integrating a crowdmapping approach with social networking.

## **1. Introduction**

This contribution describes the theoretical background and the main phases of an action-research project developed by an interdisciplinary group of research based in Turin, including geographers, planners, IT experts, designers and agronomists. The main aim of the project is to develop an innovative methodology of analysis of urban food systems, consisting in the design and the implementation of a multimedia, interactive and participatory tool named “Atlas of Food” (Atlante del Cibo).

The purpose of the Atlas of Food is to provide a space for a participatory, bottom-up, representation of the various elements of the food system, in order to create a knowledge background that could be useful for the policy makers, as well as for any other actor of the system.

The research is developed jointly by the University of Turin, the Polytechnic of Turin and the University of Gastronomic Science of Slow Food, based in Pollenzo.

Even if it is an independent project, the Atlas of Food – as already mentioned - is thought to be a support to policy makers. Some institutions are already involved in the design and the first implementation of the project (such as the Città Metropolitana di Torino) and it is already part of the strategic policies for the urban area, notably

of the strategic plan Torino Metropoli 2025, one of whose visions for the future of the city is Turin Food City<sup>1</sup>.

The action-research project is positioned at the intersection between two main fields of research and debate.

The first is the one about urban food systems. After the discovery of the “urban side” of food (Potukuchi and Kaufman, 2000), cities become actors of the food systems at every scale, from the global to the local, not only as markets and places of political and financial decisions, but as scales of research and planning of the food systems. Urban Food Strategies (UFS) and Urban Food Planning (UFP) become then one of the typical fields or actions of urban and metropolitan local government, especially in North America and some North European countries, such as UK and The Netherlands (Sonnino and Spayde, 2014).

In Italy, though, there still is a lack of knowledge about urban food systems and food is still considered as a mainly “rural” topic (Dansero et al, 2014a). Above all, there is a lack of methodologies, setting participatory frameworks for the territorial analysis of urban food systems. Many Italian cities, though, are recently understanding the need to develop cooperation about the study and planning of food systems, not only in order to transfer knowledge and experiences, but mostly because local food systems are embedded in a global food system, whose main nodes are cities. This is witnessed by some important international cooperation projects, concerning the development and the implementation of urban food policies, aiming at fostering the cooperation among cities of different countries<sup>2</sup>. Despite this delay in relation to other countries, recently Urban Food Planning became a part of the urban political discourse in many Italian cities, starting from the pioneering experience of Pisa, where the first “local food plan” has been signed in 2010, to the very recent signing of the Milan Food Policy Pact, in 2016.

The second field of research, to which this contribution refers, is the one about participatory methods for the co-production of knowledge, notably with regard to voluntary geographical information (VGI) and participatory cartography (Goodchild, 2010, Capineri, 2011). The awareness of the role that non-formally expert informants can play in the production of a more complete, bottom-up, knowledge about most social and spatial phenomena, in fact, recently received a great impulse by the availability of easy-to-use technologies for the representation of spatial data, such as GIS software.

Most of already existing processes of UFP - aiming at more sustainable, just and resilient food systems (Sonnino, 2016) - are based on participation, not only during the development of the strategies and the actions of the plan, but also in the initial

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<sup>1</sup> The association Torino Strategica (now called Torino Internazionale) was founded in 2000, in order to promote strategic planning methods, monitor its actions, communicate the opportunities for development created by the strategic plans and encourage participation. The other two main visions of the Third Strategic Plan, Torino Metropoli 2025, are Torino University City and Torino International City.

<sup>2</sup> For example through the European project DEAR (Development education and awareness raising) Food Smart Cities for Development. It involves 12 urban areas over three continents that will coordinate their food policies and their international cooperation activities.

phases of analysis of the systems, starting from the idea of the need of a democratization of knowledge (Haklay. 2013).

The following paragraphs explore more in detail these two field of discussion and research: cities as scale for planning food systems and the role of the participatory production of knowledge in and participatory mapping in food studies and food planning, showing how the project of Atlas of Food contributes to build a more strict relationship between the two.

The third paragraph describes the project, analyzing its evolution, its main objectives and the main next expected steps of its implementation, contextualizing its design in the theoretical and political debate about food systems and food policies.

## **2. The choice of the city as the core of the Atlas of Food**

Talking about food systems means (also) talking about cities.

The city can be a useful scale for researching food systems and for planning and practicing policies and strategies aiming at changing them, for at least four reasons.

First, because an “urban food system” exists, even if its importance – both as urban and as a system – has been for a long time underestimated, or even ignored, by the scientific debate and by the planners’ and policy makers’ agendas (Pothukuchi and Kaufman, 1999).

Second, because – without diminishing in any way the importance of rural areas - we can see cities as the main drivers of food systems at any scale. We can see them at the same time like the head of the food systems, where the main political, economic and cultural decisions are taken, and like its stomach, if we consider that most of the people in the world live today in an urban area.

Thirdly, only in apparently contradiction with the previous reason, because cities are very weak facing a possible crisis of the food system at various scales (Morgan and Sonnino, 2010).

Fourth, because cities already are scales of political action, where policies and strategies directly and indirectly addressed to the food system are developed and practiced, both at the strictly urban and at the metropolitan (city-region) scale.

It is useful to remark, though, that this premise does not mean to underestimate the importance of rural areas, not only as territories of production (of food, natural resources, leisure, etc.) surrounding the cities, nor as empty spaces crossed by the flows connecting the urban network at various scales. They should be seen as living territories, loaded of values, whose wealth and sustainable management is crucial for the global resilience and sustainability, at the environmental, social and economic level. The relationships between cities and (their) countryside are in fact an essential node of food global and local policies, a “paradigm [...] bringing the concept of sustainability into new and more profound significance — that is, as an integrative policy tool that links human and environmental health” (FAO, 2011).

### *2.1 The Urban Food System*

Considering food as a matter of urban policy is a very recent achievement. Its debut on the agendas of urban policies (firstly in North America and in the UK) dates back to the early years of the new millennium. It is a very short horizon if we consider that other vital resources, such as air and water, have been the subject of public policies for much longer.

This absence of such important aspect of human life from the priorities of urban policy makers is primarily due to a misinterpretation food, often thought in terms of a rural issue (Pothukuchi and Kaufman, 1999) and as something mostly driven by the free market. Even if it shaped cities for centuries (Steel, 2008) food disappeared from the debate and the public awareness on urban development. Cities are seen as places of consumption, while the other phases of the food chain almost disappear: most of people living in urban areas have not perception of how and where the food they eat is produced and how it arrives on their tables.

The food system became the less visible of all urban systems (Pothukuchi and Kaufman, 2000). Certainly its great pervasiveness - "food is too big to see" says Steel (2008) - makes it so obvious as to make it almost disappear; but it is this same pervasiveness that gives it a great transformative potential that can affect spaces, political structures, social relations: in other words, cities.

### *2.2 Cities as drivers of the global food system*

Most of the people of the world live today in urban areas (52,7 % in 2013, according to World Bank data) and most of the demand of food comes from cities.

Cities are the places where the main decisions affecting the food system (and places where food is produced), concerning food production, consumption and supply are taken or addressed, by people working in business, finance, marketing, culture.

The shape of cities, its localization, its growth and its flows are largely addressed by the need of food of its dwellers and one of the main functions of cities has always been the one of food market.

Until few years ago, however, the food system has had a very low visibility in the urban planning debate and among urban policy makers, planners and city dwellers (Pothukuchi and Kaufman, 2000).

The modernization brought to a progressive detachment of urban dwellers from food. The Fordist city based on factories and, then, the post-industrial city, based on the service industry, became – for what concerns food – mostly places of consumption, where the other phases of the food chain almost disappeared, at least in the collective consciousness. Most urban dwellers ignore where their food comes from, how it is produced and where their food waste will go and will be processed.

What happened, according to one of the most common and clear descriptions of how food chains evolved in the last few decades, is that the globalized food system, driven by agro-food industry and concentrated retail, progressively de-territorialized food production, making of food a part of international commodities networks (Morgan et al. 2006). This new food geography has its own spatial organization, its territoriality and its landscapes, but it broke the traditional relationship between local food production and local food consumption. Johannes Wiskerke (2009) identifies three processes characterizing the dominant food system: disconnecting of producers, suppliers and consumers; disembedding of food from its place of production, with its values and identities; disentwining of food related spheres of economy and life (e.g. food, care, education and leisure).

Even if the most evident negative externalities of this corporate capital driven system (such as low incomes for farmers, environmental pollution and ecological degradation, loss of biodiversity, food-related health diseases, food unsafety, etc.) are geographically distributed mostly outside urban areas, once again cities are the

drivers of the territorialization of food, since its in urban areas that the demand and the cultural and economic models driving this system are allocated.

On the other side, it is mainly in the cities that practices and cultural movements contesting the conventional globalized agro-food system emerge (Holt-Giménez, 2011), notably when they perform explicit strategies of resistance, trying to shape alternative geographies of food (Wiskerke, 2009) and alternative food networks (Goodman et.al, 2012). These leading role of cities in addressing the debate about food has two reasons. The first is that, despite of the powderization of the possibility to produce culture, due to digital technologies and global instant communication systems, cities are still the places where culture and political movements are mostly produced. The second is that cities are at the same time the strongest and the weakest node of the global food system. Urban ecosystems are in fact very far from self-sufficiency and cities largely depend from importations of food generally produced somewhere else. In addition, the just-in-time system of supply of big retailers situates big cities “nine meals from anarchy” (Simms, 2008), as in case of a stop of food flows towards the city it has been calculated that there would be no more than three days of food autonomy for city dwellers.

### *2.3 The weakness of the urban food system*

The incompleteness of urban ecosystems, especially in terms of availability of agricultural land, makes the city increasingly dependent on the modern agro-industrial system (Steel, 2008; Sonnino, 2009). If, on one hand, it has created benefits for the populations of the North of the world (in terms of affordable food supply), this global system generated serious negative externalities, mostly in the South, which threaten sustainability and socio-spatial justice on a planetary scale.

The current dominant food economy appears to be economically efficient, however it presents important downwards, such as:

- pressure on farm incomes and consequent loss of jobs, skills, expertise and knowledge in the agricultural sector;
- increase of environmental pollution increase, as waste, dependence on fossil fuels, greenhouse gas emissions, water consumption and so on;
- loss of agricultural and natural biodiversity;
- decline of organoleptic quality and product diversity;
- increased competition for land, with land grabbing and new forms of food colonialism;
- consumption of soil;
- vertiginous increase of food-related, especially in the segments of the population with the lowest income.

The dependence of cities from external elements results in a greater exposure to the great crisis affecting the global system, as discussed by the reflections on the so-called New Food Equation (Morgan and Sonnino, 2010). This term identifies a number of major changes that gradually destabilized the traditional food paradigm, revealing problems and weaknesses, such as:

- the growth of prices of agricultural products between 2007 and 2008 (which has doubled the price of wheat and tripled that of rice);
- the increasing food insecurity (related to the increase of the population and boosted by the economic crisis) and its perception as a national policy issue;

- climate change, which affects food systems in terms of availability, quality and access to resources and stability of ecosystems;
- the growing phenomenon of land grabbing and food colonialism;
- rapid urbanization.

#### *2.4 Cities as a scale of research and action*

Moving to the third point, it is evident that the city (sometimes meant as city-region) is a scale to which food policies are developed and applied. Everywhere there are sector urban food policies, addressed to food production (urban and periurban agriculture), to food processing and retailing (industrial local policies, retail regulations, markets, etc.), to food consumption (public procurement, restaurants regulations, and so on), to post-consumption (food waste).

Several cities, though, especially in North America and in the UK, moved beyond these fragmented policies, developing urban food plans or integrated urban food strategies, trying to coordinate and integrate sector policies (Morgan, 2009). The scale of these policies is usually the city-region, which is often both a scale of government, ruled by supra-municipal metropolitan authorities (like the Italian newborn *città metropolitana*), and a scale of governance, as witnessed by the scale of most urban sector and integrated policies, rarely contained within the boundaries of one municipality (Salet et al, 2003).

In conclusion, the choice of the urban scale as the core of the Atlas of Food is due to the role of cities in structuring and addressing the food system at every scale and to the operational chances it presents, given the existence of political institutions acting at the metropolitan scale in most of big cities of the world. As already mentioned, the scale of each representation varies according to the aims and the subject, according to the idea that scales should not be seen as fixed spatial attributes, but as the product of processes, relations, actions (Swyngedouw, 1997).

### **3. Maps, participation and food policies**

#### *3.1 Maps and participation*

Maps are powerful, controversial and useful tools of territorial analysis.

They are able to represent a selection of localized facts, objects and data, at a given scale, highlighting the relationships and the connections between the objects in space. The synthetic view they propose, let the observer move beyond phenomena, suggesting questions, solutions, and directions. The role of maps in representing and connecting spatially referred data makes them a privileged tool of action-research (Pain, 2004) whose aim is not to produce a representation of the world which claims to be objective, but to collect, represent and interpret information and data, offering theoretical and operational tools to actors, stakeholders and policy makers (Magnaghi, 2001).

In recent years, the principle of participation gained an increasingly important role in the field of cartographic representation, through the emergence and diffusion of methodologies such as participatory mapping and crowdmapping, which are able to integrate traditional top-down cartographic representations with bottom-up descriptions.

Participatory mapping, which was originally based on traditional hard-copy maps, radically changed its nature with the diffusion of GIS and with the birth of the web

2.0 and, successively, with the integration of the two. In 2007, Michael Goodchild introduced the term Volunteered Geographic Information (VGI), categorizing those geographic information systems through which information is gathered by voluntary users who are then considered as human sensors. Since then the term VGI has become representative of a phenomenon that is spreading more and more in the world of geoICT, especially on the web, responding fully to the web 2.0 paradigm where interactivity plays a key role in development choices of the digital platform. The will and the ability to enter geographic information from users involves different challenges and raises new research questions that require an increasingly interdisciplinary approach (Capineri, 2016).

First, the spread of crowd mapping systems led to the emergence of a new figure, the *neo-geographer* (Haklay, 2013), which has not to be an “expert” in order to produce maps and spatial information. The concept of crowdmapping (Aitamurto, 2012) transfers to the field of mapping the idea of crowdsourced information, acquired by large and diverse groups of people, not necessarily previously formed (Heipke, 2010).

Participatory mapping progressively gained a central role in the participatory design and planning processes – often driven by experts – within the framework of the so-called Public Participation GIS (or PPGIS) (Brown, 2013). It is plays a crucial role also in many bottom-up practices, movements and projects, becoming an instrument of what is called counter-cartography, as opposed to maps produced through the filter of expert knowledge and actors characterized by greater power (Parker, 2006 Schofield, 2014).

On the one hand, participatory mapping seems to present an undeniable potential, in terms of democratization of information, especially regarding the inclusion of weaker actors and the empowerment of those involved in the processes (Parker, 2006). On the other hand, though, there are critical voices on participatory mapping, which go far beyond the doubts on the accuracy, quality and cleanliness of the collected data (Flanagin and Metzger, 2008). The main doubt raised in the context of so-called critical GIS (Sheppard, 2005), relates to the actual increasing involvement of the weakest part of population in the participatory processes using GIS tool. The digital divide, ICT illiteracy and asymmetrical power relations, risk hiding the point of views of those who have more difficult access to digital technologies, or who are not familiar with the rational approach of this kind of tools (Elwood, 2002).

It is essential, therefore, to observe the relationships between digital participatory mapping and democratization processes with a sufficiently critical analytical view (Haklay, 2013).

### 3.2 *Maps in food studies*

In the research about urban food systems, maps are largely present, with various degrees of bottom-up participation, notably when research supports public policies about food.

Maps of various kind are abundantly produced about every part of the food system: production, distribution, retail, consumption and waste. Here we point out four common fields of food studies where maps are specifically used as a tool of analysis and interpretation of facts.

One of the most common cartographic representation is the map of the foodshed of a city or a region, related to the debate about local food systems, food miles, bioregionalism and food security. It is a clear example of the strict relationships between research, representation and action and of the double soul of maps, which are at the same time descriptive (where does the food we eat come from) and prescriptive (where should the food we eat come from) (Cantile, 1998), hence, particularly interesting for this discussion. The concept of foodshed was coined by W.P. Hedden in 1929, in a pioneering book entitled “How Great Cities are Fed” and reinterpreted by Arthur Getz in 1991. The main meaning of foodshed is the area from where the food that arrives to a city comes from. Obviously in the '20s it was mostly a continuous region, surrounding the city, while nowadays it is a fragmented, networked archipelago of places stretching all over the world. Often the mapping of foodsheds is used in a political perspective, starting from the analogy with the watershed, that is the basin from where waters converging to a city come from, which should be as close as possible to the city and as preserved as possible by pollution and ecological degradation. Similarly, mapping the region(s) from where the food feeding the city comes from unveils the absurdity of some food flows and implicitly calls to the action in order to identify as a foodshed an area that is close to the city and consequently should be preserved (Kloppenburger et al.1996) as “fresh food reservoir”.

A second common aim of mapping in food studies is to correlate the spatial distribution of food supply and food demand at the local scale. Typically, these maps are produced in order to find and localize the effects of poverty and deprivation on food consumption and the so-called food deserts. Various defined according to the geographical context (mainly in UK and USA) and the field of research, a “food desert” can be defined as “areas of relative exclusion where people experience physical and economic barriers to accessing healthy food” (Reisig and Hobbiss, 2000, p. 138), or those areas of cities where cheap, nutritious food is virtually unobtainable. Car-less residents, unable to

reach out-of-town supermarkets, depend on the corner shop where prices are high, products are processed and fresh fruit and vegetables are poor or non-existent (The Independent, 11 June 1997; cited in Whitehead, 1998, p. 189).

Thirdly, maps could represent the topological (not always spatial) relationships between some elements of the territory. A typical example are actor-networks maps. This kind of maps are very useful in order to explore how processes and practices are characterized by relationships of spatial or non-spatial proximity and to identify links between the connections between actors, their networks and the territorialities they produce (Raffestin, 2012).

In the end, maps are sometimes used in food studies in an almost metaphoric, non georeferenced sense, capitalizing on the power of mapping as a conceptual tool for organizing facts. It is the case, for example, of maps of values, driving consumers' choices about food (Baker et al, 2004), or of conceptual maps of categories mobilized into the food debate, such as the notion of “local” (Feagan, 2007). Even if these maps are not strictly spatial, they are related to space, because they explore how values can produce what Harvey defines as “relational space”

Moving from research to policies, maps are commonly used as a support to food policies and food planning, both in the phase of context analysis and in the phase of planning and action, sustaining the idea that mapping and representing is an essential component of territorial projects (Dematteis, 1995). Maps are part of most urban and



regional food plans and food charts, with the idea that the process of mapping a local food system itself, notably if it is a participatory process, could help to increase knowledge about the flows of food, to strengthen and multiply the links between the actors and the components of the food web, to build awareness among people (Messer, 2012).

### 3.3 *From maps to the Atlas*

If maps are a useful, complex and largely used tool for studying, researching and planning food systems, an atlas – which is the core of the project of research-action described here – is something more. Atlases are considered one of the most common “geographical books” and in the academic, educational and cultural market there are several examples of “atlases”, focused on diverse issues (one of the most interesting and popular example is the series of Atlases published by the French newspaper “Le Monde”). Nevertheless, there is still a lack of theoretical and operational debate about what is an atlas, why it can be considered different by an illustrated book with many maps and why it could be useful to produce an atlas of the food system, as a research and planning tool.

The debate about cartographic communication, in fact, underestimates the differences in terms of functions, meaning and power of a systematic collection of maps, compared to a single map (Bonazzi, 1994).

From an epistemology point of view, passing from a series of maps to an atlas means to substitute the representation of various issues and themes with the attempt of a systematic analysis and representation of reality. On one hand, the atlas should be a case for a plurality of perspectives on facts, put together by a shared framework, on the other hand, it should be open to alternative paths of a customized, non-linear, multiscalar fruition by the reader/user (Dansero and Segre, 2000). An Atlas, can then be defined as a systematic collection of cartographic and non-cartographic representations, on various topics, selected and ordered according to a cognitive framework which gives sense to the collection, leaving the user free to change the order of information, choose personal itineraries among the representations, interpreting the information with new perspective, details and scales (ibid.).

The idea of an Atlas of the food system as a support for research and policy is not totally new, especially in the USA and UK debate. A work based at University of California, for example, makes a cartographic review of the global food system, highlighting international flows and disparities about food and agriculture (Millston and Lang, 2008).

A second recent very interesting example of atlas, which emphasizes participation, following the new participative trends of cartography and geography described above, is “Food: an atlas”, a crowd-sourced collection of maps coordinated and published by a group of researchers-activists called “guerrilla cartography”, which “fuses traditional cartography, poster art, infographics, and journalistic text blocking to render the map as a narrative device” (Jensen and Roy, 2013). Definitely a more policy-oriented case of atlas about food is the Food Environment Atlas of the United States Department of Agriculture Economic Research Service (USDA ERS) - which collects and maps statistics on three broad categories of food environment factors: food choices, health and well-being and community characteristics, aiming at stimulating research on the determinants of food choices and diet quality

assembling statistics on food environment and at providing a spatial overview of a community's ability to access healthy food and its success in doing so<sup>3</sup>.

#### **4. The Atlas of food: a methodology of territorial analysis of urban food systems supporting policies and producing knowledge**

The project presented in this contribution moves from the debate and the background reviewed in the previous paragraphs, providing a new perspective in the use of mapping in food systems analysis and planning, notably in the Italian and non Anglo-Saxon context. The main phases of the project are:

(a) the development of the methodology of the atlas in a context where it was so far almost absent;

(b) the integration of various approaches to the representation of the food system, with the use of several different methodologies of representation (not only traditional maps, but also infographics, videos, photos, etc.);

(c) the link between mapping and planning/developing strategies, seen as two inseparable parts of the same process of construction of awareness and strategies about the need of a sustainable, resilient, just food system;

(d) the will to consider the atlas as an open toolbox, from where all the components of the food system can draw knowledge and to which the knowledge produced by the actors should flow.

The project of the Atlas of Food (in Italian, *Atlante del Cibo*) comes from a multidisciplinary academic context (University of Turin, Politecnico of Turin and University of Gastronomic Sciences), but soon has become a crucial step and component of the process of design and development of the urban food strategies of the city of Turin (at the metropolitan scale), which is going towards the creation of a food commission aiming at making of the city an international model for the quality and the accessibility of food and of the urban food system a strategic asset of the future post-industrial city (Dansero et al, 2014b).

In Northwestern Italy, between Milan and the French borders, with a population of 900.000 (about 1.5 million, considering the urban metropolitan area), Turin is the fourth biggest Italian city for population.

Turin belongs to a territorial system where food is considered as a mature economic, social and cultural asset, which contributes to a regional development increasingly based on high-quality food production (wine, chocolate, nuts, cheese, etc.) and food and wine tourism, which are gradually taking the place of heavy industries in the economic system and in the discursive representations of the area (Dansero et al, 2014).

The general objective of the project is to develop and implement an interdisciplinary methodology of food system analysis and assessment, at the metropolitan scale, through traditional charts and maps, participatory mapping and a strict relationship with social networks, notably an innovative social networks

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<sup>3</sup> <http://www.ers.usda.gov/data-products/food-environment-atlas.aspx>

developed at the University of Turin (project First Life<sup>4</sup>), for field action, leading to an innovative interactive Atlas of Food, divided into three main sections:

- a review of already existing studies, maps and representations about the food system which are critically reviewed and organized, in order to produce a catalogue of the different existing knowledge and representations;
- a collection of static maps, specifically produced for the atlas, representing data about the food system coming both from official archives (e.g. census) and from users and actors of the food system. The static maps will be open to updates and corrections, following the suggestions of users;
- a platform for users-generated, dynamic, interactive maps (webgis), based on crowdmapping and the integration with social networks. The aim of this section is both to give answers, about data and information which cannot be top-down produced and, mostly, to raise questions, making hidden topics, connections and information about food emerge.

The Atlas of Food of Turin, has the following aims:

- to provide an open access tool, collecting and representing data, information and ideas about the food system at the city-region scale;
- to support the public-private network which is working at the establishment of a food commission, through analysis of the food system, development of scenarios and suggestions for the food strategies, aiming at the enhancement of sustainability, equity, participation and resilience of the food system;
- to increase the awareness of the actors of the food web about food, fostering the visibility and sharing of the issues linked to the different phases of the food chain;
- to provide a platform where the stronger and weaker actors of the food chain can virtually meet, reciprocally know, share ideas, creating an opinion making critical mass able to address food policies;
- to monitor the food system regularly with a participatory approach, reporting changes, trends, opportunities and threats.

The data and information collected and produced by the Atlas are organized following a double systematization.

- The first, links the maps and representations to the different phases of the food chain: production, transformation, distribution, consumption and post-consumption (waste).
- The second links the representations collected in the Atlas to the various issues into which the multidimensionality of the food system could be divided: education, culture, health, environment, equity, economic development, and so on.

In the project of atlas, big importance is given to participation. As pointed out in the previous paragraphs, participation is considered fundamental in contemporary cartography, as it is the only way to integrate the top-down representations with other information which can be identified only with a bottom-up approach and with the involvement of people who are directly interested to the cartographically represented

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<sup>4</sup> <http://legal-informatics.di.unito.it/firstlife/>

issues. This is particularly important in an analysis of the food system which aims at support policies, because it could let emerge representations, needs and knowledge also of weak actors of the food system (e.g. consumers or farmers), trying to highlight and foster their role in the system. Participation will be guaranteed through the implementation of the social networks First Life and, in particular, through the engagement of different stakeholders in the food system. Thematic workshops will be organized with the aim not only to enrich and verify the mapping, but in order to build and strengthen social relations between the subjects of the system.

## **5. The atlas of food and the Turin food policies**

Among the first Italian cities with Pisa and Milan, even if some years late compared to the most known international experiences, Turin recently launched some projects aiming to build an urban food policy. The turning point can be identified in the growing awareness about food multidimensionality. This means to pay more attention about the simultaneous and deep relationships between food and many urban policies (environment, transport, health, culture, etc) and to move from sectoral policies to a more systemic and integrated urban food strategy. This awareness is gained in different urban environments, such as the public administration, universities and research communities, civil society. Also for this reason, and failing of an official coordination and a strong legitimacy, the process is still fragmented in at least three main different projects:

- (i) “Torino City of Food”,
- (ii) “Nutrire Torino Metropolitana” and
- (iii) “Food Smart Cities for Development” project.

The first process, “Torino City of Food”, is one of the three advisory panels established by the Third Strategic Plan "Torino Metropoli 2025" realized by the Torino Strategic Association and it is the result of six months of participated process among some of the main representative actors (as producers, distributors, consumer associations, academics, artisans and representatives of civil society and NGOs) of the Turin Food System. The main purpose of this process was to develop a vision of the future and establish an agenda of projects and actions to promote and enhance a quality food system for Turin. In this sense, it is necessary to combine the idea of food as an urban economic driver with its dimensions related to public health, inclusion and spatial justice, solidarity, culture.

The roundtable has identified several projects to be implemented in order to achieve this ambitious vision. The two most important are:

- the establishment of a new body, called “food commission”, able to integrate the typical aspects of food policy councils with those of enterprise aggregators and incubators;
- the implementation of food Atlas of Turin, with the goal to analyse and represent the metropolitan food system.

The second, “Nutrire Torino Metropolitana” (Feeding Metropolitan Turin) is a participative process designed and organized by the Metropolitan City of Turin and the University of Turin with the aim to create a Strategic Food Agenda, as a first step towards a Metropolitan Food Strategy. The first stage of the process consisted of

three workshops involving more than two hundred stakeholders of the Turin food system, according to an inclusive and participated approach.

In particular, in the third meeting, which closed the first stage of the process, there was the return of previous workshops and a first discussion towards the construction of the Metropolitan Food Agenda, which led to the definition of eight concrete work themes: (i) education and training ; (ii) information and knowledge; (iii) distribution and logistics platforms; (iv) public procurement; (v) simplification; (vi) awards and quality incentives; (vii) land use planning; (viii) new forms of governance.

The heritage of this process is a big capital of knowledge, relationships and perspectives. The next step will be to deepen the eight themes, maintaining participatory methods such as those of the thematic round tables and condense them in an operational document. The Metropolitan Food Agenda, in fact, should be brought to the attention of local institutions and allow to bring out other ideas, projects and innovative experiences, which may be accompanied and supported by European or regional funds or public and private sponsorships. Furthermore, the Agenda also should be an integral part of the future strategic plan of the Metropolitan City of Turin.

Finally, the Food Smart Cities for Development is an international project funded by the European Commission's development, education and awareness raising programme (DEAR). It involves, in addition to Turin, 11 other urban areas over three continents that will coordinate their food policy and their international cooperation activities. As regards the city of Turin, one of the main objectives concerns the construction of a urban food governance structure, like the Anglo-Saxon food policy councils.

In all these processes, the role of the Atlas of food (explicitly mentioned in the first two) is very important in terms of knowledge, analysis and representation of the actors, the dynamics, the relationship, the resources and tangible and intangible flows, which constitute the food system at metropolitan scale. In this sense, some research conducted within the Atlas project have been used by these processes to better understand (and more appropriately operate) in some fields, such as the school meal. More generally, the maps produced by the Atlas are helping to structure these processes, and to create a relationship of cooperation and synergy between them, with the aim of achieving a single process, strong and empowered, leading to the construction of a Turin food strategy.

## **6. Conclusions**

The project of Atlas of Food developed in Turin and presented in this contribution is now (june 2016) coming to the crucial milestone with the construction of the online platform. This phase follows almost two-years of definition of the conceptual framework sustaining the project and of political work linking the Atlas to the political processes toward the definition of urban food strategies in Turin.

The idea behind the project, in fact, is that the production of knowledge should be not only a support to food policies, but also a crucial step of food policies themselves. This is true if their aim at enhancing the equity, the resilience and the sustainability of the food system, through a participatory process, involving all the actors of the system.

The methodology presented here, although referring to the international debate about mapping, food policies and participation, has been developed and it is being implemented in a specific geographical context (Turin), where the relationships between food, people and the territory followed a peculiar path.

The hope, though, is that this methodology could be considered as a useful methodological suggestion also for other cities and regions, both in the North and in the South of the world, considering the power of representation and bottom-up participation in the definition of food policies as a universal value of democracy. A real participation is a necessary base for local food policies avoiding replying at the local scale the power unbalances characterizing the contemporary globalized food system. Contrarily, they should be able to effectively address the system towards a greater equity, sustainability and resilience, involving and giving voice to those who are more weak in facing the challenges and threats of the “new food equation” (Morgan and Sonnino, 2010), such as food price surge, food insecurity, land conflicts and environmental degradation

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