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Master Thesis

Urban Food Gardening and City Planning: towards integration

Evidence from Italy

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PREMISE

This thesis, as often happens, is the result of a continuous reformulation of ideas and research questions. The realm of Urban Agriculture (UA) is so vast and varied that it can be declined in an unexpected multitude of themes. For this reason, it is important to point out that this thesis will address only an infinitesimal part of what the topic of Urban Food Gardening means - which in turn represents only one of the possible categories of what is more generically defined as Urban Agriculture - focusing on the theme of horticulture in cities and its implications in terms of City Planning.

The decision to investigate what "Urban Food Gardening" means, from the point of view of Urban Planning and the Management of urban spaces in the context of the Italian system of urban planning and policies, also stems from the fact that still little has been explored in this regard by the academic point of view. If you attempted a search on one of the largest database of peer-reviewed literature, searching for a comprehensive overview of the world's research output¹, you would find that, by querying the database by keywords, on the broad topic "Urban Agriculture" approximately 18,000 scientific papers have been published. However, if we investigate what has been written about "Urban Agriculture" in relation to "Urban Planning", the result would drop dramatically to just over 300 publications. Moreover, most of the existing scientific research on the subject, indexed in a Science Citation Index, does not concern the Italian context.

In light of this gap, the decision to deepen the relationship between Urban Food Gardening and Urban Planning was born also following the beginning of the European Forum on Urban Agriculture (EFUA) project², funded under the European Union's Horizon 2020 Research and Innovation Programme. The project, which is running from 2020 to 2024, has among its partners the Inter-university Department of Regional and Urban Studies and Planning (DIST) of the *Politecnico di Torino*. Within the EFUA context, it is mainly engaged in identifying types and benefits of UA including the role of urban planning in supporting UA development. Therefore, this project represented a starting point for the inspiration of the topic and research objective of this thesis.

As will be detailed in Chapter 1, the research was based on the analysis of multiple case studies of Urban Food Gardening in the cities of Bologna, Milan, Rome and Turin, selected for being at the forefront in the Italian panorama when it comes to Urban Agriculture. All of them are characterized by a varied range of rooted situations, initiatives and policies on the issue, relevant also in the context of international networking projects and research.

¹ The results reported by way of example have been obtained from the keyword research query carried out on the database made available by SCOPUS.

Source: <https://www.scopus.com/> - visited on 17th March 2021.

² Source: <https://efua.eu/about-efua/efua-partners> - visited on 8th June 2021.

The structure of the work consists of 7 Chapters. With the first, of an introductory nature, a brief literature review on UA is presented, followed by an analysis of its interaction with Urban Planning and Policies; also in Chapter 1 the presentation of the research objective and the methodology adopted is included. Chapter 2, on the other hand, is dedicated to the presentation of the increasing diversification of experiences of UA that are spreading in Italy, with an in-depth analysis of the integration of agricultural policies in the Italian planning system. Finally, the Chapters 3, 4, 5 and 6 are dedicated to the in-depth study of the four cities selected for the research, and to the presentation of the respective case studies of Urban Food Gardening. The work therefore concludes with Chapter 7, discussing the main first research outcomes, obtained from the comparative and transversal reading of the selected case studies.

PREMESSA

Questa tesi, come spesso accade, è frutto di un ridimensionamento continuo di idee e interrogativi di ricerca. Il mondo dell'Agricoltura Urbana (AU) è talmente vasto e variegato da potersi declinare in una moltitudine inaspettata di temi. Per questo motivo, è bene precisare che il lavoro presentato affronterà solo una ridottissima parte di ciò che racchiude il tema dell'*Urban Food Gardening* (Orticoltura Urbana) - a sua volta solo una delle possibili categorie di quella che è definita più genericamente Agricoltura Urbana - concentrandosi sul tema dell'orticoltura in città e le sue implicazioni in termini di *City Planning*.

La decisione di voler investigare cosa significhi *Urban Food Gardening*, in relazione all'*Urban Planning* e al *Management* degli spazi urbani nel contesto del sistema italiano di pianificazione e politiche urbane, nasce anche dal fatto che poco è stato approfondito in proposito dal punto di vista accademico. Effettuando una ricerca su uno dei maggiori database di letteratura scientifica revisionata, in cerca di una panoramica completa dei risultati della ricerca accademica a livello mondiale³, emerge che, interrogando il database per parole chiave, in merito all'ampio tema "*Urban Agriculture*" (Agricoltura Urbana) sono stati pubblicati approssimativamente 18.000 articoli scientifici. Se però indaga quanto si è scritto a proposito di "*Urban Agriculture*" in relazione a "*Urban Planning*", il risultato scende drasticamente a poco più di 300 pubblicazioni. Inoltre, la maggior parte delle ricerche scientifiche indicizzate in un *Science Citation Index* non riguardano il contesto italiano.

Alla luce di questo gap, è nata la decisione di voler approfondire il rapporto tra *Urban Food Gardening* e *Urban Planning*, anche in seguito all'avvio del progetto europeo *European Forum on Urban Agriculture* (EFUA)⁴, finanziato nell'ambito del Programma di Ricerca e Innovazione *Horizon 2020* dell'Unione Europea. Il progetto, in corso dal 2020 al 2024, annovera tra i suoi partner il Dipartimento Interateneo di Scienze, Progetto e Politiche del Territorio (DIST) del Politecnico di Torino. Nel contesto del progetto EFUA, esso è principalmente coinvolto e impegnato nell'identificare tipologie e benefici dell'Agricoltura Urbana, indagando nello specifico come il ruolo della pianificazione possa sostenerne e promuoverne lo sviluppo. Pertanto, tale progetto ha rappresentato un punto di partenza per l'ispirazione dell'argomento e dell'obiettivo di ricerca della presente tesi.

Come verrà approfondito nel Capitolo 1, la ricerca è stata basata sull'analisi di molteplici casi studio di *Urban Food Gardening* sviluppatasi nelle città di Bologna, Milano, Roma e Torino, selezionate per essere particolarmente attive e all'avanguardia nel panorama italiano in merito ai temi dell'Agricoltura Urbana. Di fatto, tali città sono tutte caratterizzate da un ampio e variegato ventaglio di situazioni, iniziative e politiche incentrate sul tema, particolarmente rilevanti anche nel contesto di progetti e ricerche internazionali.

³ I risultati riportati a titolo esemplificativo sono stati ricavati dalla ricerca per parole chiave effettuata sul database reso disponibile da SCOPUS.

Fonte: <https://www.scopus.com/> - consultato in data 17 Marzo 2021.

⁴ Fonte: <https://efua.eu/about-efua/efua-partners> - consultato in data 8 Giugno 2021.

La struttura del lavoro si compone di 7 Capitoli. Nel primo, di carattere introduttivo, viene presentato uno breve stato dell'arte della letteratura in materia di AU e la sua interazione con le politiche e la pianificazione urbana e territoriale; in esso è inserita anche la presentazione dell'obiettivo di ricerca e la metodologia adottata. Il Capitolo 2 è invece dedicato alla presentazione del diversificato panorama di crescenti esperienze di AU che si stanno diffondendo in Italia, con un approfondimento sull'integrazione delle politiche di ambito agricolo nel sistema di pianificazione italiano. Infine, i capitoli 3, 4, 5 e 6 sono dedicati all'approfondimento delle quattro città selezionate e alla presentazione dei rispettivi casi studio di *Urban Food Gardening*. Il lavoro si conclude con il Capitolo 7, nel quali sono discussi i principali risultati di ricerca, derivati dalla lettura comparata e trasversale dei casi studio selezionati.

CHAPTER 1

Urban Agriculture and City Planning

Urban growth is changing the face of the earth and the condition of humanity and long-term prospects continue to predict that the world will further urbanize over the next decade, from 56.2 % today to 60.4 % by 2030 (United Nations Human Settlements Programme, 2020). It is recognised that cities nowadays use too many natural resources and produce too much waste, their ecological footprints led to impacts that stretches far beyond their physical boundaries. Therefore, «the challenge faced is whether cities can transform themselves into self-regulating, sustainable systems [...] also in their relationships to the outside world» and whether it is «possible to make cities viable in the long term, socially, economically, as well as environmentally». Urban Agriculture, along with other initiatives and activities, has an important role in contributing to the future sustainability of cities in various ways (Deelstra & Girardet, 2000, p. 43). In this regard, the attention of the international planning agenda for the development of sustainable cities is opening its attention even more to the debate on the integration of food system in urban planning. The driving role of international organizations in the promotion of policies and goals is increasing, and in fact since the 2000s there has been a proliferation of declaration and charts, as well as the growing commitment of local governments in promoting UA through the adhesion to international networks and pacts, and the growing dissemination of scientific research of the subject, also supported by international organizations such as the United Nations, the FAO or the European Commission. Thus, nowadays we are witnessing the development of a trend that affects several urban contexts: the spread of Urban Agriculture is becoming a permanent feature of many cities, and is expressed with different declinations according to the local circumstances, as an important component for sustainable city development, enriching itself with alternative food models. Urban Agriculture can respond to different shared needs and urban challenges, contributing for instance to urban green and environmental quality, urban redevelopment, well-being and health, environmental and food education, participation, rapprochement between consumer and production through a reduction of the food supply chains, providing also support for disadvantaged groups.

1.1 Brief literature review on Urban Agriculture

1.1.1 Definition and typologies of Urban Agriculture

The term Urban Agriculture is an umbrella concept encompassing a wide range of activities and objectives, it is characterized by definitional challenges and continues to be debated. The difficulty of defining this phenomenon can also be attributed to the fact that the term itself might appear contradictory. «The apparent contradiction embedded in Urban Agriculture may have its roots in a modern binary interpretation, which holds that areas are either rural or urban», however «their relationship has changed over time, and today is blurred by the globalization, industrialization, and specialization of the-agricultural sector» (Vejre et al., 2016, p. 18).

The definition that has represented a landmark in the scientific debate and in the academic field, is the one presented by Mougeot in 2000, who defines Urban Agriculture as:

«an industry located within (intraurban) or on the fringe (periurban) of a town, a city or a metropolis, which grows or raises, processes and distributes a diversity of food and non-food products, (re-)using largely human and material resources, products and services found in and around that urban area, and in turn supplying human and material resources, products and services largely to that urban area» (Mougeot, 2000, p. 10).

Therefore, the lead feature of Urban Agriculture, which distinguishes it from general “rural agriculture”, is its integration into the urban economic and ecological system; it is not simply its urban location which distinguishes it from rural agriculture, but the fact that it is interacting with the urban ecosystem. Thus, Urban Agriculture is structurally embedded in the urban fabric, it is integrated into the metabolism of the city, into its social and cultural life, its economics, ecologic and physical infrastructure systems. It can take place in intra- and peri-urban location, but its key characteristics is that it is more deeply integrated in the urban system compared to other agriculture. In an urban setting, it is seen as being included «into the functioning of the urban area in terms of production, processing and consumption» (Budge, 2009, p.12). In light of that, «the notion of “urban” in Urban Agriculture defines not so much its features or its location but rather its connection to the adjacent city through markets, resources and services» (Jansma & Wertheim-Heck, 2021, p.2). The urban character of agriculture is strengthened if it is integrated spatially and functionally with urban areas, if it plays a cultural and social role in the urban life, if it is integrated in the urban metabolism, if it serves the local urban area with agricultural products, and if citizens take part in farming operations. Urban Agriculture thus depends on urban resources, competes for land with other urban functions, is influenced by urban policies, and uses and supplies urban products and services. According to what is defined by Vejre et al., it «spans all actors, communities, activities, places and economies that focus on biological production in a spatial context, which- according to local standards – is categorized as “urban”» (Vejre et al., 2016, p. 21).

One stated what are the elements that defines Urban Agriculture, it is important also to highlight that diversity in the UA phenomena appears to be the rule rather than the exception. UA is clearly diverse in its scope, scale, participants and goals, and it can be undertaken in a variety of forms. It includes a range of activities that encompasses growing vegetables, fruit, herbs, and grains and raising fish, bees, and animals; it can be permanent, temporary or informal; it can involve different farming systems, from household production, to community participation, through to commercial enterprises, engaging in the processing, marketing and distribution of its products. Numerous are the expressions in which UA manifests itself, which can be private or community gardens, rooftop farms and indoor farming, and they can pursue a broad array of objectives, ranging from food production to food access, education, recreation, social cohesion or even rainwater catchment. Thanks to its potential, Urban Agriculture is being promoted to meet the objectives of numerous policy areas, such as poverty alleviation, economic growth, improving health conditions, environmental management, social interaction and community strengthening. Thus, the multi-functionality that is brought forward by the

diversity of UA forms and objectives is claimed to be the strength of UA. It can also range from bottom-up initiatives of re-appropriation of public open spaces by citizens, up to the creation of new urban agri-businesses, with different characteristics from an economic, social, spatial, technological or even architectural point of view. This aspect lead to the fact that there is also a wide diversity of UA stakeholders in government, market and civil society which rises issues of governance processes. The phenomenon therefore affects several scale and realm of the urban contexts: from its governance, to the planning activity, the design of new types of open spaces, the integration between agricultural production and the built environment, up to forms of Building Integrated Agriculture.

In light of that diversity and diversification of the phenomenon, in order to pursue the research work presented in this thesis, it has been necessary to adopt a common and reliable reference framework for the definition of the various types of UA in which the several existing practices find their declination, referring to the European context. In order to deepen the Italian panorama relating to Urban Agriculture and explore its interaction with the urban planning systems and the management of urban spaces, the research work has been based on the selection and comparative reading of case studies. The latter has been appropriately selected among the typology of Urban Food Gardening practices, a wide category of UA activities which has been interpreted as the phenomenon of horticulture conducted exclusively in urban and peri-urban areas, which differs from Urban Farming because the latter is characterized by being a business model. The distinction between this two broad categories has been provided by Lohrberg at al. (2016) as the outcome of the international research conducted in the COST-ACTION Urban Agriculture Europe⁵. In light of this, the knowledge framework adopted as a reference to define and classify the various cases of Urban Gardens analysed in this thesis is the one just quoted, which will be presented in the following paragraph.

From 2012 to 2016, the European Commission funded the COST-ACTION Urban Agriculture Europe, within the COST “European Cooperation in Science and Technology”⁶ funding organisation for research and innovation networks. It represented a comprehensive and trans-disciplinary attempt to explore Urban Agriculture in Europe from the point of view of social science, economy, agricultural ecology and spatial planning, based on case studies that allowed a comparative view of European practices. Thanks to this initiative, it was possible to adopt a common definition on the different typologies of Urban Agriculture.

Based on the definition of UA previously discussed, the COST-ACTION identified fifteen types of Urban Agriculture (Figure 1), which can be grouped into three main categories (Lohrberg at al., 2016; Lohrberg, 2019, p. 134). The first one is the one recognized as Urban Food Gardening, which is the main focus of this study. It encompasses agricultural activities with generally low economic dependence on material outputs, where the production of food is used

⁵ The COST-ACTION Urban Agriculture Europe represented a research project to explore Urban Agriculture in Europe based on case studies from Dublin, Geneva, Milan, Sofia, Warsaw, and the Ruhr metropolis, which allowed a comparative view of European practices.

Source: www.urban-agriculture-europe.org - visited on 23th March 2021.

⁶ Source: <https://www.cost.eu/> - visited on 6th June 2021.

mainly for achieving other, mostly social, goals. This type of UA is addressed mainly in intra-urban areas, where small plots can be used individually, and thus based on individual production as in case of Allotments or Family Gardens, or collectively through Community Gardens initiatives or other forms, such as Therapeutic or Educational Gardens. In both cases, episodes of Squatter Gardens can be found, which are characterized by lack of formalization and thus illegal nature of these activities. In detail, Allotment Gardens are usually areas subdivided into small plots, rented under tenancy agreement that arise from municipal initiatives on public land; therefore, their regulation is formalized. This type of Urban Gardens is shifting its function from self-provision to leisure, and increasingly they include common spaces, educational initiatives and other complementary activities. The openness to social alternatives lead also to rent plots not to individuals or families, but to associations or groups that manage the allotment collectively. They represent a good option for underused vacant urban areas, and can contribute to the regeneration of peripheral contexts of the city also specifically targeting social problems. As far as it concerns Family Gardens, the difference with the Allotment Gardens is that no institution or organization is acting as intermediary other than the household. This type of gardens are usually private and no subject to a concrete policy agenda, usually used for non-commercial purposes, such as self-production of food. Regarding the typologies of gardens managed in a shared manner, the Community Gardens usually are practices of Urban Food Gardening that emerge as bottom-up initiatives, and then are maintained and led collectively. Therefore, it is the community itself that establishes the rules and organization of the gardens, making these places areas where to establish a sense of community through sharing horticultural activity, social networking and building meeting places. Usually, even if they born as bottom-up experiences, an agreement with authorities or owners is then negotiated, even if they are not always legalized. Therapeutic or Education Gardens are found when the Urban Garden is intended for addressing physical and mental health or as a teaching tool addressing production, processing and consumption of foods and their environmental impact, with the purpose of raising public awareness and spreading environmentally and climate-friendly gardening practices.

Beside the Urban Food Gardening category, the COST-ACTION identified two other UA categories. Urban Farming is the umbrella term used for encompassing international business models taking advantage of proximity to the city by offering local or regional agricultural products or services through the multi-functionality aspects of the agricultural activities. It is usually concentrated in the peri-urban areas and can be distinguished by its purposes ranging from Local Food Production, Leisure and Education, as well as Therapeutic or Social, to Cultural Heritage and Environmental or Experimental aims. Finally, the third category identified by Lohrberg (2019) is the Non-urban Oriented Farming, which characterizes all the agricultural activities with marginal interaction to the city. In this category a wide family of farms enterprises that maintain business as usual are comprises; they are conventional farming activities on areas previously rural and then converted to intra- or peri-urban, as result of urban growth. In this case, the adjacency with the city is perceived as a threat and not as an opportunity, except for improved access to transport infrastructure. Moreover, the production is mostly oriented to national or international markets.

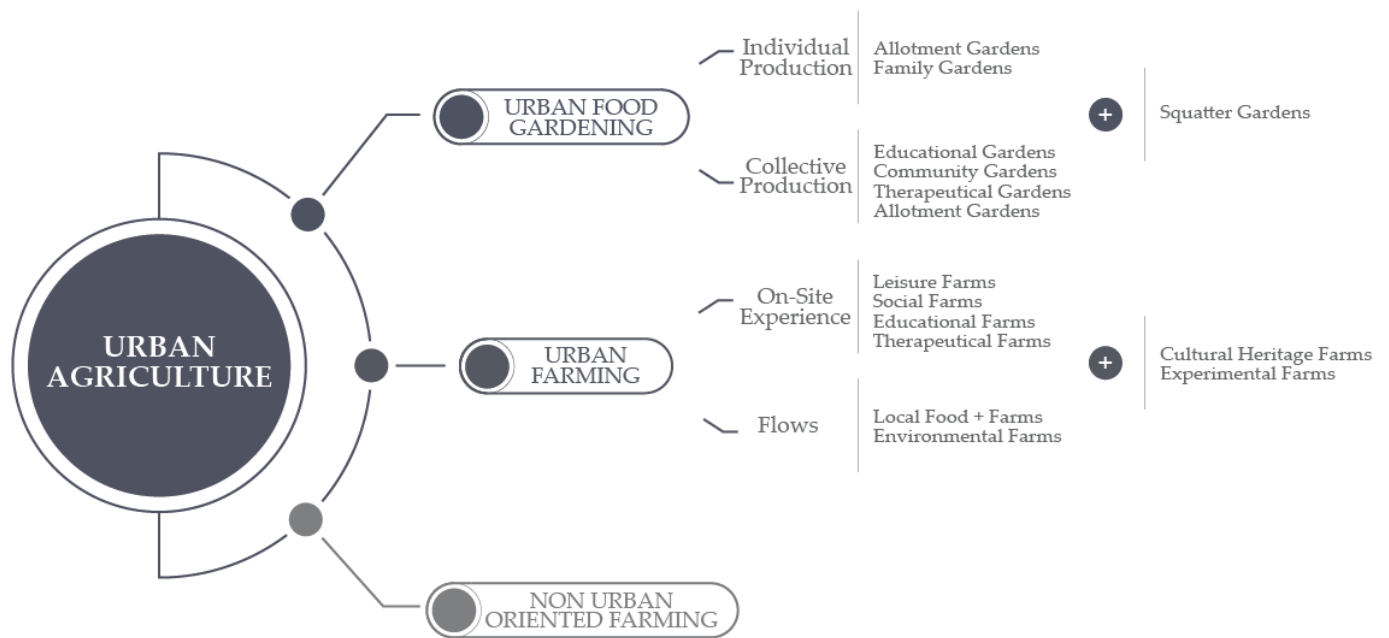


Figure 1 - Categories of UA derived by the COST-ACTION Urban Agriculture Europe. *Personal elaboration.*

1.1.2 Urban Agriculture and Urban Policies

Urban Agriculture is experiencing a strong revival out of its ability to assist with, resolving or coping with diverse development challenges. It can represent a policy in achieving planning goals related to sustainable city form and function, urban environmental management, and community development. It is being promoted to meet the objectives of numerous policy areas, such as urban development, green space development, poverty alleviation, economic growth, improved health outcomes, environmental management, social interaction and community strengthening. Moreover, Urban Agriculture represents an entry point for integrating also food system planning into the planning agenda of cities. A period of integration between the two spheres of food and urban planning opened up in the early 2000s. «The Quito Declaration for Latin American and Caribbean Cities (2000)⁷ remains a milestone among international declarations bridging food with urban; it referred directly to Urban Agriculture and encouraged local governments to be strongly committed to developing it. It clearly pointed out the need to include Urban Agriculture in territorial planning and environmental protection» (Cabannes & Marocchino, 2018, p. 20). Then, «since the beginning of 2010s, the integration of food, food security, food systems and new food planning approaches, such as City Region Food Systems (CRFS), into declarations referring to the future of cities has

⁷ In April 2000, Quito hosted a meeting of local government representatives from nine countries of Latin America and the Caribbean. The outcome was the landmark Quito Declaration, the first to call on the region's cities «to embrace Urban Agriculture».

Source: <http://www.fao.org/ag/agp/greenercities/en/GGCLAC/quito.html> - visited on 9th June 2021.

advanced in both quality and quantity» (Ibid.). The year 2015 and the signing of the Milan Urban Food Policy Pact⁸ by 120 cities is another landmark. The pact introduced a set of measures to increase the food security in cities, starting with urban policies and planning, for which is necessary an approach that is interdisciplinary, inter-institutional and comprehensive. Another major milestone at the international level was achieved in 2016, when the New Urban Agenda (NUA)⁹, adopted in Quito at the Habitat III Summit, introduced food security and nutrition as an integral part of the Declaration on Sustainable Cities and Human Settlement. The debate around food policies and Urban Agriculture is further stimulated by the growing attention from citizens, pioneers and academics. Therefore, «UA practitioners, government officials and researchers gather in national and international discussion platforms and networks exchanging expertise and supporting collaboration among cities» (Prové, 2018, p. 23). These declarations do not come solely from international organisations such as the United Nations, but also from local and regional governments, international city networks and alliances of mayors. Among others, the Resource Centres on Urban Agriculture and Food Security (RUAF)¹⁰ is a global partnership that facilitates awareness raising, knowledge dissemination, capacity development, policy design, and action planning for the promotion of sustainable UA and food systems. In addition to these networks, there are also a growing number of conferences, public debates, seminars and projects that cover Urban Agriculture and related topics promoted by cities and countries where UA is mushrooming.

Therefore, governments at all levels have realized that Urban Agriculture practices can represent a strategy in a variety of policy issues and domains connected with the urban realm (Ibid.). In general, it is proper the diversity of Urban Agriculture «one of the main attributes which contributes to its importance within a wide range of urban situations and for a diverse range of stakeholders» (de Zeeuw et al., 2000, p. 162). Because it is «claimed or reported to interact with so many facets of urban development, UA also holds the potential to help in diversify and strengthen urban management strategies» (Mougeot, 2000, p. 13), with a multi-sectoral and also multi-scalar approach, representing also a catalyst to integrate food into wider urban planning processes and policies. In this regard, much research has been conducted on the potential sustainability aspect of Urban Agriculture, and the attractiveness of these activities lies

⁸ The Milan Urban Food Policy Pact is an international agreement launched by the Milan Municipality in 2015 «to develop sustainable food systems that are inclusive, resilient, safe and diverse, that provide healthy and affordable food to all people in a human rights-based framework, that minimize waste and conserve biodiversity while adapting to and mitigating impacts of climate change».

Source: <https://www.milanurbanfoodpolicypact.org/> - visited on 9th June 2021.

⁹ The New Urban Agenda was adopted at the United Nations Conference on Housing and Sustainable Urban Development (Habitat III) in Quito, on October 2016. It represents a shared vision for a better and more sustainable future which states that «if well-planned and well-managed, urbanization can be a powerful tool for sustainable development for both developing and developed countries».

Source: <https://habitat3.org/the-new-urban-agenda/> - visited on 9th June 2021.

¹⁰ The RUAF is the Global Partnership on sustainable urban agriculture and food systems. Since the start in 1999, it has engaged with local and international partner organisations in over 100 cities in 50 countries around the world.

Source: <https://ruaf.org/> - visited on 9th June 2021.

in their potential response to a range of urban issues, thanks to the environmental, economic and social benefits that UA can provide.

Regarding the **environmental benefits**, the ones provided by Urban Agriculture are similar to those created by other urban green spaces. Urban Agriculture functions as a green infrastructure, representing a potential contribution to increasing ecosystem services, biodiversity, reducing heat island effect or helping in storm water drainage (Meenar et al., 2017). Moreover, UA can help to create a better microclimate, to improve the CO₂ balance, to minimise waste in cities and to improve nutrient recycling, or acting as an educational activities to simply increase the environmental awareness of city inhabitants. Regarding the soil conservation, through Urban Agriculture, soil systems can be kept in balance, therefore it can contribute in the conservation of urban soils, even allowing the productive reconversion of brownfield sites and contaminated land. In general, the benefits of UA can also be measured in terms of their contribution to ecological objectives such as the overall sustainability of the food supply chain, by recycling and re-using urban organic waste and waste water, or reducing the energy consumption by providing fresh food close to the consumers. Therefore, the importance of Urban Agriculture for city ecology has been pointed out by several scholars since UA is a major component in creating a green city environment and in reducing the ecological foot print of a city (Deelstra & Girardet, 2000). In light of that, Urban Agriculture represents a strategy to be integrated in urban environmental policy mainly in terms of its role in greening the city, as a result of urban gardening or even forestry as part of the green infrastructure networks, that could improve micro-climate but also reduce erosion and flood damage, decrease urban heating, contribute to biodiversity and reduce environmental pollution through the processes applied for agricultural production. However, it is also true that UA activities, if not well managed and regulated, might also have some detrimental effects on the urban environment. UA can pose risks to human health and the environment because local water sources may be polluted consequently to the use of certain chemical fertilizers and pesticides, as well as soil or air contamination by pollutants could happen (de Zeeuw et al., 2000). Therefore, it is essential to provide some regulatory solutions countering the potential negative health and environmental effects of UA, also through the promotion of ecological farming methods, or other measures and preventative actions among which a smart urban planning and zoning could contribute.

As far as it concerns the **economic benefits**, Urban Agriculture can supplement household incomes and develop human and social capital, it can support local economies in terms of creating opportunities for community education, skill-building and local employment (Prové, 2018). Moreover, always from an urban economics point of view, initiatives of Urban Agriculture can increase property values in urban areas when combined with regeneration projects; or even when integrated in or on buildings, such as balcony gardens and rooftop farms. In this regard, as pointed out by Braiterman, Urban Agriculture is also a popular topic for city branding, and as a result it attracts financial capital, investors, besides tourists and recreational visitors which can contribute to local economy (Ibid.). Finally, among the economic benefits, UA can also enter the realm of urban policies in terms of community food security, through the improvement of systems for supply and product distribution, facilitating local marketing of fresh urban grown food.

Besides environmental and economic benefits, most literature focuses also on the **social benefits** of UA, in terms of human and social capital, community development, public health and social integration. As highlighted by Hors, the social benefits of UA can be addressed in six primary categories: «increasing food access and food security, improving health, generating income, building skills, enhancing community development, and developing connections to broader efforts to contest structural causes of inequities» (Horst et al., 2017, p. 281). More in general, UA practices promotes social interaction, social networking and cohesion, and therefore also feelings of belonging among citizens, contributing to community-buildings, stimulating also the citizenships and participation in policy making processes. Thus, as UA has the potential to improve social aspects within communities, policy measures may be considered that can further enhance these benefits. For example, UA can be included in urban regeneration strategies, implementing also educational and community development activities related to Urban Agriculture also through the shared management of the areas. In fact, it becomes a strategy for urban regeneration also through the triggering of a network of social, recreational or educational activities, with the improvement of the quality of life and the urban environment related not only to the greening of the city, but also to the management of that spaces for the community. In this regard, cities that have experienced industrial decline or urban shrinkage have witnessed the rising of derelict and vacant urban land which could become a potential space for growing food, therefore UA could represent a planning policy option. In such cases, Urban Agriculture becomes a strategy for the redevelopment of unused or marginal areas of the city, even with interventions which envisage temporary reuse of such spaces.

In light of that, it is important to suggest that Urban Agriculture could also play a potential role in managing the practice of green spaces, and this needs a modifications in urban policies to integrate UA in the **public green space** policy domain (Contesse et al., 2018). As already stated, Urban Agriculture can fit within such a green space definition due to its potential capacity to deliver ecosystem services, as well as recreational values. The integration of UA as a green space in cities could rise opportunities and changes in planning policies which «should conceive UA as a complementary form of urban greening, rather than a substitute of parks» (Ibid., p. 576). Moreover, including UA in the greenery system of a city implies also the openness to new approaches in the city's green space policy arrangement, where usually green space management has often been limited to public actors. In fact, one of the opportunity introduced by UA practices is that, depending on bottom-up engagement and implying models where collective and individual purposes and uses mix, many civil actors will take an active role in the maintenance and management of public green spaces as common goods.

1.1.3 Urban Agriculture, Urban Planning and the role of Planners

Urban Agriculture has to be seen as a permanent component of the urban system, therefore it is a key component of Urban Planning, which can take various forms and occupy a variety of places. However, the current state demonstrate that often Urban Agriculture goes unregulated in many contexts, creating policy vacuums that lead to conflicts between practitioners, regulators and politicians, impeding and limiting the potential of implementing these practices in urban environments (Meenar et al., 2017). Cities require an enabling policy

framework to guide the enhancement of Urban Agriculture. Institutionally, this «framework should acknowledge that UA can fall under the jurisdiction of several different levels and types of authorities», according to the policy realm in which it is integrated and with what kind of intent; for instance UA can be addressed and managed by the «agriculture, forestry, parks and gardens, public works and urban planning sectors» (Mubvami et al., 2006, p. 22). Therefore, the successful and sustainable integration of Urban Agriculture into the urban policy framework of a city is a complex task requiring a multi-stakeholder approach. Moreover, to fully integrate UA into the Urban Planning system, a multi-disciplinary, multi-sectoral and multi-level approach is needed because the cross-sectoral nature of UA requires interdepartmental cooperation and coordination on the part of governments, and «the effectiveness of governmental initiatives is also very dependent on support from civil society» (Prové, 2018, p. 17). A fundamental step in order to set the right conditions for city farming is to develop an UA policy able to recognise the interrelated nature of food, agriculture, health and ecology by Urban Planning activities that are able to deal with UA from a total system perspective. In this regard, it is also worth to highlight that, from a broader point of view, **food systems** in general are multi-functional in themselves and have profound effects on other sectors, thus it is also true that Urban Planning should incorporate food issues as a whole into its activities (Pothukuchi & Kaufman, 2000).

According to what has been stated so far, the UA policy should be incorporated into the land-use planning system because Urban Agriculture is inevitably linked to Urban Planning and management. Urban Planners shape patterns of land use and the built environment in and around cities to manifest a desired future urban state, and to distribute public benefits to citizens, through planning and managing urban areas with increased public participation in community decision making. Planners have become increasingly involved in Urban Agriculture and can play a stronger role in its promotion. They are key factors for facilitating and promoting UA, for instance by creating a supportive policy environment; incentivizing its activities offering programming, funding, or infrastructure and public land in support; or by prioritizing it in the long-range planning efforts, removing regulatory barriers and placing UA development «as a priority, not just a placeholder for future developments on the land» (Horst et al., 2017, p. 278). However, integration of Urban Agriculture in land-use planning has been rarely considered in top-down urban planning systems, which is the model adopted even in the Italian context. Thus Urban Agriculture practices continue to be implemented and spread from the bottom-up and spontaneously. Urban Planning in most countries has tended to be characterised by long-range comprehensive planning, which adopt a blue-print approach, a type of planning that is often associated with rigidity and lack of responsiveness to the new challenges that urban contexts are facing to, and has negatively affected the integration of Urban Agriculture (Mubvami et al., 2006). As a result, in most cities UA is ignored, not addressed by urban policies and, even when regulation on UA exists, this is often not under an overall and clear policy. Moreover, despite the growing recognition of the importance of Urban Agriculture, urban planners and other professionals may still lack information and technical know-how to cope with UA and facilitate its integration into urban development. In addition, another key policy problem is that usually UA is simply not recognized or named as a land-use activity, it is not acknowledged as a valid urban land use, and therefore it may be not addressed either positively or negatively in urban planning policies. Therefore, if unaddressed in

planning, UA will imminently conflict with other land uses. «Because zoning is the most common land-use control used by planners, and offers land-use legitimacy and permanency, it is an obvious target for UA policy reformers», as stated by Guberman (Quon, 1999, p.45).

In light of that, in order to develop a land use planning policy that fully recognize and support Urban Agriculture, it should be integrated with land use planning, both in a policy and regulatory sense. The recognition in policy might take the form of **land use zoning**, where agriculture is recognized as a planned land use designation. Therefore, planners can play an important role in making UA a legitimate and formalized urban land use, addressing in this way also the land tenure problems that may challenge many UA activities by developing land use tools or experimenting new ones that are more flexible, seek greater community participation and are more responsive to the needs of urban development moving away from the blue-print approach.

The revision of urban zoning by laws, with the integration of UA in zonification plans, is a crucial passage because UA may occur in many locations, and zoning codes define where it can legitimately take place. Most of the literature on the matter highlights that UA activities can represent major components of green zoning systems, for the development of green belts and corridors, to avoid further urban development and soil consumption. In other cases, UA sites can be combined with other urban functions, promoting multi-functional land use; such spaces for horticultural activities can also be integrated in new public housing projects or private building schemes, envisaging forms of communal space for agricultural activities; or they can even be promoted as a **temporal use**, not only in vacant public land, but also privately owned one. Moreover, the encouragement of community participation in the management of these urban open spaces is also suggested by several authors as a potential solution. Consequently, engaging the community could help also to reduce the public costs of maintenance for these areas, and at the same time protect them from unofficial and informal uses (de Zeeuw et al., 2000). In this regard, the analysis of the case studies, that will be discussed later, made it possible to verify whether these considerations, present in the international literature regarding the potential solutions for greater integration of UA in the urban plan forecasts, could also be found in the Italian panorama.

What is certain is that Urban Planning system has to recognize UA as a legitimated form of urban land use, because access to land and other resources, as well as security of user rights, tenure and the level of the land rent, are crucial factors in the development of Urban Agriculture. In fact, one of the main barriers to the success of UA is generally access to the productive resources such as land, water or other inputs, which can be caused by regulatory barriers, prohibitive legislation, absence of policies and insecure land tenure; moreover, UA projects also have to face the «competition from other land use functions that have a higher return on investment» (Prové, 2018, p. 69). Land use issues, specifically **availability of land**, **access to land** and **usability of land**, are of particular concern for the development of Urban Agriculture. As far as it concerns the first issue, «in areas of rapid urbanization, undeveloped land for agricultural use may not be available or may be difficult to identify» (Quon, 1999, p.24); moreover, land speculation may influence UA opportunities. Usually, if a coherent planning

framework is lacking to support UA, urban farmers tend to find ways to use small plots or strip of land in a spontaneous way. «This leads to farming on land originally set aside for other purposes, or lands that are hazardous and therefore undevelopable, or lands that have been abandoned or contaminated by past uses» (Ibid., p. 25). Regarding the issue of accessibility, land may be available or present in a city, especially in those contexts facing urban shrinkage, but not accessible to farmers because of political or social constraints which impede the access to land, which can also be too costly. Therefore in this sense the action of local government through planning policies and legislations for providing land suitable for implementing UA practices is crucial. Finally, with regard to usability, it is important to consider also aspects linked to the land's biophysical characteristics or physical dimensions, as well as the presence of services, such as water for irrigation or market facilities and transportation infrastructures, all elements that could determine a plot's usability, which may make it unfit for agriculture (Ibid.).

Generally, UA suffers from a combination of political restraints, that could include restrictive urban policy, law and regulation and in addition the uncertainty about property right of land or land use designation, as well as the lack of supportive services are limits that the spread of UA has to face to. «These issues are imposed or perpetuated by the Urban Planning policy context through a lack of **formal recognition of Urban Agriculture in planning policy**, through a lack of awareness about the socio-economic and environmental role of Urban Agriculture in cities, through a lack of clear government responsibility for the various aspects of UA, through resistant attitudes or cultural norms held by players in the land use planning process, and through a lack of resources, technical and financial support for urban farmers from the government» (Quon, 1999, p.2).

In addition to all these issues and concerns highlighted so far, it is also worth to specify that, as stated before, one feature that contributes to the definition of Urban Agriculture is its spatial dimension and location, therefore it takes place in all urban contexts, from the built-up downtown areas to the open space of peri-urban areas. However, the differences between Urban and Peri-Urban Agriculture require different knowledge and planning approaches, since the two contexts differ in their setting, development perspectives and therefore regulation needs. Thus, they calls for different strategies, for example while in more urban areas, land allocation is the main issue; in peri-urban contexts the focus is more on land protection through fore-front appropriate zoning measure and policies, since the conversion of agricultural land to urban uses is a particular concern (Drescher, 2001).

To conclude, urban planners can most significantly facilitate UA in a city by seeking to alter urban land-use planning policy to recognize, permit and favour UA, legalizing it at the local level, giving to urban farming activities their practice legitimacy and stability. As far as it concerns the urban farmers' side of the coin, planners can also assist them with information on land-use and zoning changes, impending developments, and guiding them in using the planning process to voice their concerns about the state of agriculture in cities, also through community-led projects. In this regard, also the promotion of tools and space management instruments which go behind formal ownership or permanent user rights could play a role,

promoting short or medium-term occupancy licences which could foster urban farmers and citizens interested in such initiatives to implement UA activities (de Zeeuw et al., 2000).

1.2 Research Objectives

The purpose of this research is to explore the current state of Urban Agriculture practices in the Italian context, focusing primarily on Urban Food Gardening activities. The intent is to investigate any possible link or interaction between Urban Agriculture and City Planning, through the comparative analysis of case studies concerning **Urban Gardens** experiences, in order to answer the research question on what Urban Food Gardening means and represents from the perspective of **Urban Planning and Management of urban spaces, within the Italian planning and policy system**, or the annexed legislative and regulatory framework.

In order to pursue this research objective, four of the main cities that in recent years have shown particular propensity to the issue of Urban Agriculture were selected: **Bologna, Milan, Rome and Turin**. These four Italian urban contexts have been characterized by experiences related to Urban and Peri-Urban Agriculture activities rooted in time and in local communities, hence they all demonstrate to be active and involved in the formulation and implementation of specific policies on the issue, also representing a fairly wide and varied range of situations. Moreover, in more recent times, all of these cities have been actively involved in projects and initiatives to promote Urban Agriculture practices in different contexts and typologies, also playing decisive roles in European and international projects and research networks. It is also worth to highlight that Bologna, Milan, Rome and Turin are also Metropolitan Cities¹¹, which means special provinces with wider powers than municipal ones, especially in planning and urban matters. Consequently, the study of Urban Policies and Planning activities, relating to UA in each city, has been further enriched by exploring policies and strategies aimed at promoting Urban and Peri-Urban Agriculture at the **Metropolitan Level**, in order to investigate the extent of any possible influence exerted by the superordinate territorial body represented by the Metropolitan City.

The work that will be introduced in this thesis represents an attempt to explore how Urban Agriculture relates to Urban Policies and Planning in Italy, in order to identify current **trends and path-dependencies, possible recommendations or constraints for the development of Urban Agriculture** related to the adoption of certain urban policies, strategies, plans or regulations, with particular attention to space management tools and urban planning instruments. In this regard, the relationship with the planning system was **explored both in terms of integration of UA in urban policy areas, and in terms of land use regulations in the strict sense**. With regard to integration into urban policies, the intent was to investigate whether the theme of Urban Agriculture was declined in a sectorial or inter-sectoral manner. While, with

¹¹ In Italian: *Città Metropolitane*. The Metropolitan City is a local administrative body, provided for by the Italian Constitution, in Article 114, after the reform introduced with the Constitutional Law 3/2001. Then, the Law 56/2014 "*Disposizioni sulle città metropolitane, sulle province, sulle unioni e fusioni di comuni*" disciplined its operational institution.

regard to land use regulations and designations, it is worth to highlight that the panorama of the Italian planning system is particularly heterogeneous on a national scale, as will be deepened in the next Chapter 2. The four cities selected for this research, in fact, all show the adoption of different types of planning tools at the municipal level. This diversity derives from the lack of homogeneity in the legislative system on urban planning at the regional level, since in Italy the Regions can legislate autonomously on this matter¹². Nevertheless, this variety made it possible to investigate even if there were aspects of diversity in the relationship between Urban Food Gardening and planning tools also in relation to the formulation and different settings of these instruments, whether more of a strategic or regulatory nature. In fact, depending on the context, the municipal planning tools analysed can range from strategic land use plans in forms of master plan, aimed at setting long-term land use strategies, to more binding and traditional zoning plans, as implementation tools for more regulatory planning systems.

Therefore, the research approach was based on the collection of several case studies of Urban Food Gardening practices in each urban context. The case study method has allowed an in-depth and holistic investigation within each specific situation. In particular, as regards to Urban Agriculture, the case study comparison appears to be probably the most effective and suitable method to be applied, since it is expected to grasp and understand the complexity and various facets of the issue. It allows to look for the details of interaction between the case and its context, analysing the background and the premises of each experience. In this regard, the case study approach was suitable to conduct a comparative analysis, to explore similarities, differences and patterns across more cases, allowing to understand which and how specific circumstances lead to different policy, planning and governance processes to Urban Food Gardening in the different urban contexts explored.

1.3 Research Methodology

The research has been intended to be based on the analysis of multiple case studies, which made it possible to examine in a comparative way varying experiences of Urban Food Gardening in the cities of Bologna, Milan, Rome and Turin. As already stated in the previous section, such cities were selected being at the forefront in the Italian panorama when it comes to Urban Agriculture, characterized by a varied range of situations and initiatives on the issue, rooted in time and in the local context, as well as in the international one of networking projects and research, also considering their role as Metropolitan Cities. The sampling of the Urban Food Gardening case studies in each city has been addressed giving preference to projects implemented **strictly within the urban areas**. Although the main focus of the research is on urban horticulture practices, for the most part classifiable as Urban Food Gardening, some cases

¹² The first transfer of planning functions from the State to the Regions took place with the Presidential Decree 8/1972, with which the state administrative functions relating to urban planning, viability infrastructures, aqueducts and public works are transferred to the Regions. The Presidential Decree 616/1977 officially transferred the urban planning functions from the State to the Regions.

included in the analysis can be also recognized as Urban Farming activities¹³. The multiplicity of the experiences collected is also made explicit in terms of their more or less urban or peri-urban locations, in terms of management or property owners, in terms of cultivations carried out on the ground or above ground, for example integrated as rooftop gardens in buildings. In any case, indoor farming experiences has been excluded from the sample, as they have been deemed irrelevant for the purposes of the research aimed at exploring any interactions between UA and Urban Planning. Moreover, an ample casuistry relating to Squatter Gardens has also been excluded, since they are undefined cases, which goes unregulated, usually as private initiatives on public land, and that as a consequence are characterized by scarce availability of data and less accessible useful information.

Being based on the case studies methodology, the research allowed to combine **multiple sources**. Nevertheless, at the same time the case study approach depends on the validity and contribution of each selected case study, which is strongly correlated with the quality of the data that have been available through various sources. With the adoption of the case studies method, documents play an explicit role in data collection, thus a broad range of data and information sources have been used in the analysis. In order to identify the urban policy framework in each selected city and the state of the art and trends about the Urban Food Gardening practices explored, documents, official websites, events referred to urban policies, planning activities and urban agriculture have been collected and analysed. Among the formal documents, several sources have been analysed, such as policy documents, report and annexes of territorial and urban planning tools, survey and mapping initiatives, research reports, but also documents produced in the context of research networks and projects of national or international relevance. However, in order to gather information to go in deep of each case study about the selected Urban Gardens experience or project, it has been necessary to collect and consult also informal documents, such as newspaper items, social media, websites, newsletters, and other information channels about any events connected to UA initiatives.

Therefore, in each city a range of different Urban Gardens typologies has been identified, so as to be able to compare the initiatives and practices that emerged for their similarities through the main reading and interpretation keys adopted for the analysis. Thus, each case study has been filed on the basis of three categories of fields (Figure 2): a first group of a descriptive nature; a second one relating to generic management aspects; and finally a group relating to the regulatory instruments in force. Starting from the fields of a descriptive nature, they have been introduced to collect data about the typology of Urban Garden; its urban or peri-urban location; the land ownership; and finally the classification of the land cover on which the initiative is developed. A second family of fields was instead defined to investigate aspects relating to management in general, these concerned the identification of the main users to whom the case study is addressed, thus distinguishing between citizens, cooperatives, associations or schools; the maintenance methods in terms of economic sustainability has been

¹³ The difference between Urban Food Gardening and Urban Farming activities is that the latter are characterized by being a business model, taking advantage of proximity to the city; while the first are more oriented to achieve other goals, mostly social (Lohrberg et al., 2016).

also investigated, separating cases of for-profit or not-for-profit initiatives; finally, the possible use of contract or concession instruments between public and private actors has been explored, in order to distinguish whether the activity was managed individually or collectively by civic groups or companies, by NGO associations or by the public administration as a public facility. In the end, the last category of research fields focused with particular attention on the regulatory instruments in force, both in terms of land use designation and space management and regulation, in order to understand possible different solutions adopted through the use of any urban planning tools, rather than building regulations, green regulations and plans, or instruments concerning urban commons management, or simply specifically addressed to urban vegetable gardens ruling.

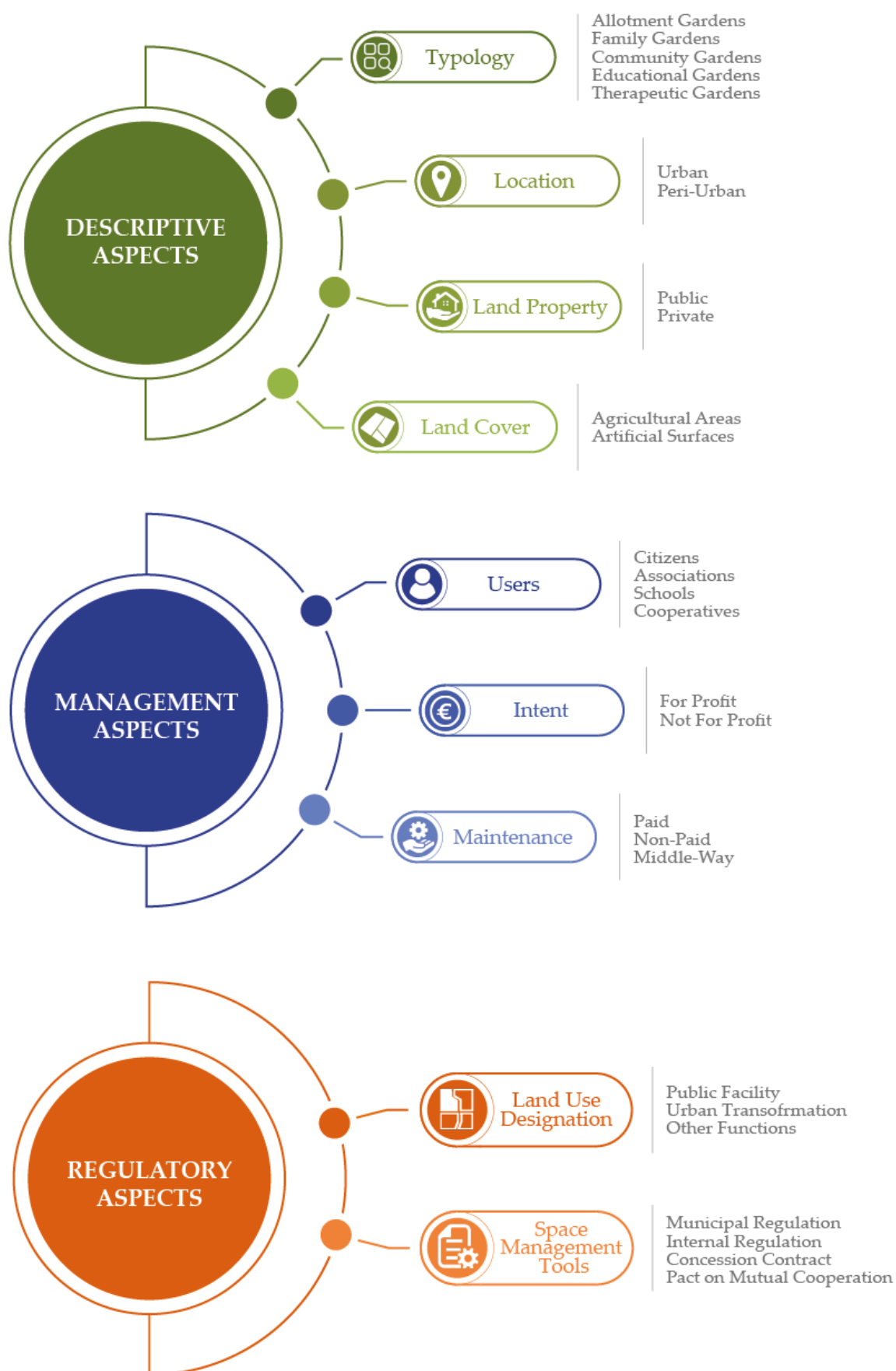


Figure 2 - Interpretation keys for case studies analysis. *Personal elaboration.*

As regards the **definition** of the typologies of Urban Gardens, the classification elaborated in the context of the international research COST-ACTION Urban Agriculture Europe ¹⁴ carried out between 2012-2016 was applied, the results of which have been presented in the previous sections. As already mentioned, most of the case studies fall into the category of Urban Food Gardening, which generally includes those UA practices not aimed at an economic profit and where food production is an opportunity to achieve largely social objectives; however, the sample includes also experiences in which the Urban Garden is developed within a larger project of Urban Farming, which includes most professional experiences and agricultural activities, linked to the presence of farms and certain multi-functional business models that benefit from the proximity to the city.

Regarding the classification of the **land cover**, the typing and evaluation of land uses on which the various case studies fall has been based on the analysis of the data provided by the CORINE Land Cover (CLC) inventory updated to 2018¹⁵. It allowed to identify the land covers in terms of spatial setting classified according to criteria considering location, texture and patterns, function and use of land. The CLC provides a five-level hierarchical classification system of land uses, with the fifth level being the most detailed one; for the purpose of this research and given the availability of data, the third level of CLC class has been considered, which corresponds to the highest level of detail available¹⁶.

Then, as far as it concerns the **land use designation**, a further diagnostic effort was made referring to the urban planning tools in force in each of the various urban realities analysed. This stage of the research made it possible to identify how the function of Urban Agriculture has been more or less integrated into the planning system of each city, in relation to which themes, policies and strategies. It allowed to identify whether the various Urban Food Gardening initiatives have been more or less integrated in the context of regeneration and transformation policies of the consolidated urban fabric; or in relation to the system of green spaces and green infrastructures of the urban context; or whether these initiatives have been placed in the articulation of public facilities provision or in any other sector or realm of urban

¹⁴ The COST-ACTION Urban Agriculture Europe represented a research project to explore Urban Agriculture in Europe based on case studies from Dublin, Geneva, Milan, Sofia, Warsaw, and the Ruhr metropolis, which allowed a comparative view of European practices.

Source: www.urban-agriculture-europe.org - visited on 23th March 2021.

¹⁵ The CORINE Land Cover (CLC) inventory was initiated in 1985 (reference year 1990). Updates have been produced in 2000, 2006, 2012, and 2018. CLC service has a long-time heritage (formerly known as "CORINE Land Cover Programme"), coordinated by the European Environment Agency (EEA). It provides consistent and thematically detailed information on land cover and land cover changes across Europe in forms of datasets. CLC belongs to the Pan-European component of the Copernicus Land Monitoring Service.

Source: <https://land.copernicus.eu/pan-european/corine-land-cover> - visited on 8th June 2021.

¹⁶ For the correct nomenclature to be adopted, the official Nomenclature Guidelines "Updated CLC illustrated nomenclature guidelines" has been taken into account (European Environment Agency. European Topic Centre on Urban, land and soil systems, 2019).

Source: https://land.copernicus.eu/user-corner/technical-library/corine-land-cover-nomenclature-guidelines/docs/pdf/CLC2018_Nomenclature_illustrated_guide_20190510.pdf - visited on 8th June 2021.

policies. Furthermore, the difference in the typologies of urban planning instruments in force in each of the four cities, deriving from different regional legislative contexts in the field of urban planning, has also made it possible to compare different approaches to planning, from the most regulatory based on functional zoning, to others more strategic and flexible, linked to the adoption of non-directly binding master plans.

In conclusion, to help define a systemic and integrated reading of the case studies in order to draw the final findings of the research work, **five typified categories** have been defined, to which bring back the case studies analysed. This allowed a transversal and comparative reading by type between the diverse cities. As already stated by scholars such as Opitz et al. (2016), Urban Agriculture can be distinguished according to the related spatial, ecological, economic and social conditions. Being the aim of this research to explore the relation of urban gardens with urban planning, the spatial dimension and classification of UA practices has prevailed. The study conducted by Opitz et al. (Ibid.) identified diverse spatial factors to be considered in analysing urban gardens; among them, this research has mainly focused in the study of the location and the land use category for the definition of the five macro categories for typifying the case studies. As for the location, urban gardens can in fact be situated in more or less densely settled zones, in proximity to housing areas, or located in the urban fringe and periphery. While regarding the land use category, usually «UA is performed on land that is not agriculturally zoned», therefore «UA is situated on non-agricultural spaces marked as private or public vacant lots, in public parks, on rooftops, in backyard gardens or indoors. Previous land uses were often related to industry and to infrastructure, housing, or recreation» (Opitz et al., 2016, p. 345). Consequently, the identification of the five macro categories arose following the collection and analysis of the case studies, for addressing the question of this research. They have been derived from the empirical evidence of the UA practices analysed, typified on the basis of land use designation, land cover, or typology of urban fabric found in the different situations. These five typified categories (Figure 3) adopted to frame each Urban Food Gardening practice are: Urban Food Gardening in Agricultural Area; in Green Urban Area; in Public Facility Area (excluding public green); in Mixed-use built-up Area; and in Specialized built-up Area (intended for commercial or industrial use). The first class relating to agricultural areas finds its place mostly peri-urban, in zones that can be identified as rural. The second category, on the other hand, refers to urban gardens located within urban parks, in most cases recognized by the same municipal planning tools as green public areas. The third class includes the experiences of urban horticulture conducted in areas dedicated to the provision of public facilities, which can include public open spaces such as squares, or building complexes hosting social, educational or cultural services, but not gardens or parks that fall instead into the previous category. The fourth and the fifth categories refer to more densely urbanized areas, where the urban fabric in one case accommodates different functions, from residential to commercial; while the other refers to specialized urban districts, mainly of commercial or productive nature, often located in peripheral areas. This categorization could be generalized and applicable as a key to understanding in other urban contexts. In fact, these five categories make it possible to differentiate the cases of UA practices based on their urban location in terms of urban fabric and functions, fundamental aspects when it comes to city planning policies. In

fact, the five categories refer to the context in which the urban garden is located from the point of view of the prevailing land cover or urban function.



TYPIFIED CATEGORIES

Figure 3 - Five typified categories emerged from the case studies analysis. *Personal elaboration.*

Finally, for an even more generalized reading, three macro-groups of study have also been defined, distinguishing between Urban Food Gardening on Public Land; on Private Land; and a special category concerning examples in Protected Natural Areas was also included, in which both case studies on private and public land can fall.

1.4 Outline of the thesis

The present research thesis aims to explore the current state of Urban Food Gardening practices in the Italian context, therefore the focus has been on the Italian planning and policy system, as well as the annexed legislative and regulatory framework. In this regard, Chapter 2 introduces the theme of Urban Agriculture in the Italian context. In particular, the historical background was retraced that led urban horticulture practices to become part of more or less structured territorial and urban policies. The chapter intends to present an overview of the increasing diversification of experiences of UA that are spreading in Italy, presenting the results of some census attempts about the Urban Food Gardening phenomenon by various institutions and actors, which nevertheless still appear incomplete attempts, continuing to lack a complete reference knowledge framework on the issue. Then, the integration of Agricultural issues in the Italian Planning System is investigated, exploring how the Italian context has long been characterized by a traditional separation between urban and agricultural policies at various levels of government, from the Region to the Municipality, both in terms of policies and applied territorial planning tools. Finally, the Chapter 2 concludes with an analysis of the policies and tools that are emerging on the Italian scene strictly on the subject of Urban Food Gardening, presenting a series of initiatives, including legislative ones, both at regional and national level.

Chapters 3, 4, 5 and 6 are then each dedicated to an in-depth study of the contexts of the four cities selected for the analysis of the case studies: Bologna, Milan, Rome and Turin. For each city, a state of the art is introduced on the dissemination of Urban Agriculture practices, on the types of different Urban Food Gardening initiatives in progress, with reference to any attempts to map and census the phenomenon in each city. A section is then inserted in which the context of policies, strategies and initiatives relating to Urban Agriculture is outlined, with a particular focus on the presence of specific tools and regulations that relate to the reality of Urban Food Gardens, followed by a section dedicated to the possible influence of policies adopted on Urban and Peri-Urban Agriculture at the Metropolitan City level. Furthermore, with regard to the land use regulations and designations provided in each city, a specific in-depth section is dedicated to illustrate the type of urban planning tool in force at the municipal level. This was necessary because, as previously pointed out, the four cities all show the adoption of different types of planning tools. Finally, each chapter ends with a section dedicated to the presentation of the selected case studies, in which the various initiatives are told and discussed, accompanied by a summary information sheet with the main interpretation keys adopted for the comparative reading of the case studies, and the fields of analysis presented in the previous section dedicated to the Research Methodology.

The last chapter is then dedicated to the conclusions where the main findings of the research are collected, deepening the comparative and transversal reading of the selected case studies, bringing them back to the three macro-groups of studies identified to distinguish Urban Food Gardening on Public Land, on Private Land and in Protected Natural Areas. These reflections intend to outline the path-dependencies that influence Urban Agriculture policies and initiatives in the four cities analysed and to deepen their relationship with the planning system, in terms of more or less inter-sectoral integration and comparing the different planning approaches, in order to highlight any successful solutions, limits and potential of certain options, with reference to the adoption of certain space management or regulatory tools, rather than others.

CHAPTER 2

Urban Agriculture in Italy

The Italian urban planning debate has been witnessing a renewed attention to agriculture and its spaces for some years. To attract the attention of urban planners have been in the first place the peri-urban areas, rather than the urban ones, where conflicts between land uses occur traditionally with greater intensity, but where the proximity to the city can enhance the multifunctional character recognized today to the agricultural landscape (Ferrario, 2011). Interest has grown in Italy towards the theme of territorial planning of these peri-urban rural spaces, and in this regard it is worth to mention the studies of Mininni (2005; 2007) who explored the themes inherent to the urban planning of urban countryside. Or the work of Ferrario (2009; 2010) about the debate on dispersed city and agricultural spaces, which are under pressure in terms of agricultural land consumption, and are subjected to uncertainty, also accentuated by the ineffectiveness of urban plans and agricultural policies, which struggle to converge in shared territorial projects, able to integrate agricultural and urbanized spaces. This theme has mainly developed in a line of research closely linked to the paradigm of the Agricultural Park (Branduini, 2005; Fanfani 2006; Magnaghi & Fanfani 2010), which has also developed in terms of practical experiences, started since the 90s, and of which the *Parco Agricolo Sud Milano* is the most successful example in Italy.

As regards the framework for discussion more properly linked to Urban Agriculture, internal to the cities and not developed on the margins, the urban planning debate in the Italian context is lagging behind than in other European contexts, despite the proliferation of experiences and initiatives. This is because the spaces dedicated to agriculture have generally been interpreted mainly as of economic nature, and therefore as a field of action for sectorial policies. This has weakened the role of the urban planning tool in defining policies or strategies that integrate UA within city policies (Ferrario, 2011). Therefore, the theme of UA in the Italian scientific literature is declined more in a social key (Di Iacovo, 2009; Uttaro, 2012; Perri & Torquati, 2016), one of the more investigated aspect of its multi-functionality, together with the provision of ecosystem services (Martinico et al., 2013). The literature on social benefits and aspects of shared governance linked to community garden experiences is wide, also in relation to themes of active citizenship and citizens empowerment. But the theme of agriculture in the city is developing above all with a view to formulating food planning policies. The awareness that public policies and planning practice must recognize a central role in the relationships between food, agriculture and urban phenomena is becoming more and more consolidated, orienting public debate and local political agendas towards agricultural and food strategies. Therefore, another line of research is developing around the debate on food strategies, performing rurality in city planning and multi-functionality of UA in alternative food networks, in order to rethink the local agenda of food and food supply chains. In this regard are worth to be highlighted the works of Calori (2010; 2015), Sonnino (2014), Cinà & Dansero (2015); or even Marino & Cavallo (2016).

2.1 Historical Background

The production of food in urban areas is not a new practice in the history of the city and has always played an important role in urban economies. Furthermore, the history of Urban Agriculture in Italy is not a modern concept. The first traces of Urban Gardens can be found in the Middle Ages, with the diffusion of the *hortus conclusus*, a fenced garden in the middle of the urban area for the production of fruit, aromatic and medicinal plants, often resulting from religious contexts and conventual institutions (Cardini & Miglio, 2002). The cities of medieval Europe, including Bologna, essentially had two types of Urban Gardens: those intended for the subsistence of families and those of large conventual institutions. This system allowed cities to be self-sufficient in food in the event of a siege. During the industrial revolution, the costs of transporting products decreased, and the application of industrial methods to agriculture impacted the spread of Urban Agriculture in most cities. However, the vegetable gardens in the city continue to be present in some Italian contexts for reasons of self-sufficiency: the increase in the workforce in the factories produced a great phenomenon of migration from the countryside to the cities, causing severe phenomena of urbanization. Poor wages pushed working citizens to seek other forms of food self-sufficiency, and many began to cultivate agricultural products, giving rise to new private forms of spontaneous Urban Gardens (Tei & Gianquinto, 2010). This phenomenon did not concern only Italy, but also other European contexts. Subsequently, Urban Agriculture continued to play a fundamental role in the subsistence of populations during the First and Second World Wars. In Italy, the so-called "War Gardens" (*Orti di Guerra*) were established by law. They were land cultivated in urban areas, usually realized within public gardens and green areas, an initiative promoted starting from 1941 to counter the serious Italian food crisis, which was accentuated from the beginning of the Second World War. Examples of large areas intended for these crops were in Rome in the gardens of the Imperial Forums, in Milan near the *Duomo*, in Turin in the *Valentino* Park, in Bologna in the *Giardini Margherita* and *Villa Putti*¹⁷. After the Second World War, the economic boom, modernization and industrialization of the agri-food sector freed urban inhabitants from food worries, and Urban Agriculture in Italy was reduced to a marginal phenomenon.

As highlighted by Djalali and Virgilio (2007, p. 23), it was starting from the 1970s and 1980s that Urban Agriculture experienced a new phase of expansion, following new cultural, political and social changes on the international scene. The concept of Urban Agriculture was reborn in those years taking on a new role. Awareness of the purpose of Urban Food Gardening in cities as a source of social integration, ecological activism and civic engagement began to spread. In addition, the energy crisis of the 70s, and the subsequent social tensions, created the need to return to and rediscover the ancient "peasant tradition", as a solution not only in terms of self-consumption, but also for pursuing environmental education and social integration. Citizens were starting to play an increasingly active role in their communities, taking action against industrial pollution and overbuilding, aspiring to new models of urban development. In this context, the first cases of shared Community Gardens begin to develop, which in Italy are

¹⁷ Source: https://guerrainfame.it/orti_di_guerra - visited on 14th August 2021.

being created for example in the Milanese and Turin suburbs, in the farms of the natural reserves of Rome by agricultural cooperatives, or by the committees of elders active in Bologna through the creation of first example of Municipal Allotment Gardens. Over the years, especially the agricultural tradition of the shared Community Gardens has been strengthened. The areas where this typology of Urban Food Gardening developed more were usually found in abandoned, degraded, peripheral zones, which needed redevelopment interventions. Urban Gardens have become expressions of “agricivism”, because they act against urban decay, marginalization and urban poverty through the active involvement of citizens (Ingersoll et al., 2007). Up to the current context, in which Urban Gardens develop in various forms as shared or private plots, or also as episodes of *Guerrilla Gardening*.

Each Urban Garden is born for distinct purposes, which can be social, ecological, didactic, recreational, therapeutic or cultural; while the range of motivations that push new segments of the population to take an interest in Urban Agriculture is equally diverse. The growing demand for local food and the attention of large sections of the population to a healthy diet, to the reduction of waste along the food chain and to sustainable local economies, has been contributing in recent years to the popularity of Urban Agriculture practices. Consequently, also in the Italian context there is an increase and diversification of experiences that differ in terms of activities, subjects and actors involved, methods and purposes. These are not only initiatives aimed at social, environmental or cultural benefits, but in many cases Urban Agriculture also play the role of productive activity, moving from the realm of Urban Food Gardening to market-oriented Urban Farming, thus professional farmers are increasingly working in urban and peri-urban areas with innovative approaches, methods and business models (Casazza, 2015). The cultural changes that are affecting society on the one hand, and economic subjects that are acting in terms of the relationship between production and consumption on the other, constitute development opportunities for Urban Agriculture. The diffusion of the latter would allow to fully enhance the multi-functionality of agriculture and its ability to produce public benefits and common goods, responding to the new rising demand for naturalness and rurality by citizens, and to new motivations not only inherent to a desire for greenery, but also to a re-appropriation of the city that starts from primary needs, linked to the quality of life (Uttaro, 2012).

2.2 Trends and Statistics

The discourse on the development of Urban Agriculture is certainly intertwined with the sphere of policies relating to soil sealing and land taking, linked to the growing pressures of urbanization that lead to the loss of ecological and productive functions of agricultural soils, a particularly sensitive topic in the Italian context, whose urban development has been characterized by models based on building expansion and land rent, influencing the transformations of territories and landscapes.

As regards the dynamics of land consumption and urbanization that characterize the Italian context, according to what is reported by the *ISPRA* Report on Land Consumption for

the year 2020¹⁸, the new artificial coverings concerned 57.5 km², which means on average about 16 hectares per day of new impervious surfaces, an increase which shows no real slowdown. This growth in artificial surfaces has been partially offset by the restoration of natural areas, equal to 5.6 km² for 2020, which, however, still appears insufficient to achieve the goal of zeroing net land consumption. Furthermore, it must be considered that in the last year, compared to 2019, 6 km² of land have gone from reversible to permanent consumption, whereby imperviousness has grown by a total of 22.1 km².

The phenomenon of urban sprawl, which has been on-going since the 1990s and is still an issue, involves the loss of urban landscapes, soils and related ecosystem services. Despite the growing land consumption, Italian cities are characterized by phenomena of both demographic and economic shrinking, which have led to the rising of abandoned vacant areas in urban contexts. The latter are mostly disused former industrial areas, to which other zones forgotten by urbanization, such as interclosed areas, undeveloped lots or other types of “cut-out” of the urban fabric, must be added. All these elements become cornerstones of an urban redevelopment. Urban Agriculture in these sense can contribute and become an integral and strategic part of the new way of rethinking and planning the city.

Despite the data on increasing levels of land consumption, the ones provided by *ISTAT* regarding the 6th Agricultural Census in 2010¹⁹ show that in Italy the area destined for agricultural activities is still large. It varies from 33% of the regional surface in Tuscany to over 50% in the Marche region. The ratio is similar with regard to the metropolitan scale, where cities such as Bologna and Milan boast Utilized Agricultural Area (UAA) equal to 46% and 41% of their entire metropolitan area. Nevertheless, the picture that emerges from the statistics highlights that the number of professional farms is progressively decreasing, despite with an increase in the average Used Agricultural Area per farm, but an overall decrease in the area used in agriculture. However, the impression one gets from analyzing the data is that the picture, although articulated, does not realize the plurality of forms that agriculture is taking in Italy and that usually escape statistics.

A research carried out by Lupia and Giarè (2015) highlights that Italy has been starting to host a wide spectrum of amateur, social or self-consumption agricultural activities, small in size for the area used and company income, but capable of producing significant economic, environmental and social effects, which are often not registered by *ISTAT* statistics. These

¹⁸ *ISPRA* is the *Istituto Superiore per la Protezione e la Ricerca Ambientale*, a public research body subject to the supervision of the Ministry of the Environment and the Protection of the Territory and the Sea. It deals with monitoring, evaluation, control and management of environmental information. The Institute collects data on land consumption in Italy and the last Report on the issue was published for the year 2020, available online.

Source: <https://www.snpambiente.it/2020/07/22/consumo-di-suolo-dinamiche-territoriali-e-servizi-ecosistemici-edizione-2020> - visited on 2nd June 2021.

¹⁹ *ISTAT* is the *Istituto Nazionale di Statistica* in Italy. The 6th Agricultural Census was launched in 2010 and the first definitive results were published in 2012, available online.

Source: <https://www.istat.it/it/censimenti-permanenti/censimenti-precedenti/agricoltura/agricoltura-2010> - visited on 2nd June 2021.

activities are mainly carried out in urban or peri-urban contexts, but also in agricultural areas perceived as marginal, involving people also employed in other productive sectors or exiting the labor market, mainly, although not exclusively, oriented towards self-consumption. This type of agricultural activity, which we could refer to the category of Urban Food Gardening, also produces effects in terms of agricultural landscape and structuring of cities, thanks to its ability to act as a “garrison” of the territory, recovering it from neglect and abandonment and returning it to local communities. The phenomenon we are witnessing is in fact the growing recovery of abandoned land, both public and private, by subjects interested in various capacities in a careful and responsible use of the land resource. Even in highly urbanized areas, therefore, agricultural activity continues to flourish, and precisely in these areas, thanks to its ability to interact with the city, it is giving rise to different forms of Urban Agriculture belonging to both the categories of Urban Food Gardening and Urban Farming, as highlighted in the research initiative conducted in 2015 by the *Italian Network in Urban Agriculture and Food Planning*²⁰ in the context of the final conference of the COST-ACTION Urban Agriculture Europe²¹. The outcome of the research has been reported by Branduini and Laviscio (2016), which highlighted a very active Italian panorama on the subject of Urban Agriculture, confirming as consolidated and flourishing phenomena the presence of several Urban Farming activities and initiatives, such as farms with direct sales orientated to local markets and consumers (153 in Milan, 225 in Bologna, 5399 in Rome); agricultural markets and Ethical Purchasing Groups; Tourist-Recreational farms (93 in Milan and 173 in Rome) or Agro-Environmental and Experimental farms (48 in Milan and 12 in Bologna). The phenomenon of Social and Therapeutic farms is also emerging and moreover all the cities examined in the study conducted by the *Network* have demonstrated the presence of forms of UA developed in relation to the existing Cultural Heritage, where agricultural production foster also the preservation of places and traditional techniques. Finally, urban horticulture also finds expression in numerous forms of Urban Food Gardening activities, such as Social, Educational or Community gardens. What emerged from the research is that often the main promoters of Urban Agriculture projects in intra-urban spaces are public administrations or private citizens, in single or associated form, and that in these contexts the UA has been encouraged not only within social inclusion purposes, but also educational, environmental and urban regeneration policies, with the strong involvement of civil society. In peri-urban contexts, on the other hand, the main actors involved are mostly agricultural entrepreneurs, but the issues relating to the

²⁰ In Italian: *Rete Italiana in Agricoltura Urbana e Pianificazione Alimentare*. It is a Network of Italian researchers founded in 2014, which comprises 68 researchers and 20 institutions involved. The Network intend to stimulate public debate on issues related to agri-food systems in urban and metropolitan areas, in order to build spaces for sharing and networking, to encourage the development of projects and the exchange of good practices of Urban and Peri-Urban Agriculture, integrated into the theme of food planning.

Source: <https://agrireregionieuropa.univpm.it/it/groups/rete-ricercatori-au-agricoltura-urbana-e-periurbana-e-della-pianificazione-alimentare> - visited on 24th May 2021.

²¹ The COST-ACTION Urban Agriculture Europe represented a comprehensive and transdisciplinary attempt to explore Urban Agriculture in Europe from the point of view of social science, economy, agricultural ecology and spatial planning. It was based on case studies from Dublin, Geneva, Milan, Sofia, Warsaw, and the Ruhr metropolis, which allowed a comparative view of European practices.

Source: www.urban-agriculture-europe.org - visited on 23th March 2021.

protection of peri-urban agricultural areas are starting to affect increasingly varied political spheres and sectors. In such contexts, public-private partnerships are being established to coordinate public policies with civil society. To conclude, the research conducted by the *Network* demonstrates a rich variety of experiences in the Italian panorama, which attests to the growing importance of the phenomenon.

However, it is clear that the census of UA typologies and their diffusion on the Italian territory is still incomplete and not sufficient to be able to have an overall and complete reference knowledge framework on the issue. Although there are currently no integral research works, mapping or census attempts on the diffusion of UA in Italy with specific attention to Urban Food Gardening, it is worth mentioning the data provided by *ISTAT* relating to the Census of Urban Green areas updated to 2018²², which however is limited only to Italian Provincial Capitals and Metropolitan Cities. *ISTAT* data shows that, in 2018, about 207 hectares of public urban green areas were officially destined for Urban Gardens in the Provincial Capitals or Metropolitan Cities in Italy. However, in percentage terms on the entire area dedicated to public urban green, Urban Gardens have an average incidence of only 0.68%, ranging from a minimum of 0.01% to a maximum of 3.31%. Among these, only 27% of the municipal administrations did not foresee Urban Gardens among the possible land-use destination or management methods for public green areas. The distribution is also characterized by strong regional polarizations, in fact in the Southern Italy the experiences of UA managed and recognized by the public administration are inferior. In any case, the fact that Urban Gardens started to be included among the types of public urban green areas, officially recognized by the *ISTAT* Census since 2011, demonstrates a desire to institutionalize the phenomenon. Urban Gardens are in fact defined as a typology of greenery that is increasingly widespread in cities, even if the *ISTAT* surveys have also highlighted a poor application of specific urban green planning and management tools for the dissemination of Urban Agriculture practices.

To conclude the overview of the state of Urban Agriculture in Italy, it is interesting to mention a survey conducted by *Nomisma*²³ in 2012, aimed to map and quantify the phenomenon of non-professional UA in Italy, to highlight the growing diffusion of experiences of Urban Agriculture by subjects in various capacities. The survey found that the number of amateur “hobby farmers” was 2.4% of the population over 18 years old, while in particular “urban vegetable gardeners” were 5.3% (Osservatorio agricoltura amatoriale *Nomisma-Vita* in Campagna, 2012). In average, the land area used by “hobby farmers” in Italy is usually not extended, corresponding of about 0.7 hectares, even though 15% of amateur farmers cultivated

²² *ISTAT* provided the data of the Provincial Capital and Metropolitan City municipalities, updated to 2018, relating to urban greenery. The information collected are about: publicly managed green surfaces, the Natura 2000 network, Protected Natural Areas and Agricultural Parks, planning tools adopted, and the monitoring of the implementation of the National Law 10/2013.

Source: <https://www.istat.it/it/archivio/236912> - visited on 2nd June 2021.

²³ *Nomisma* is a consultancy company that carries out market research. It is equipped with a specific observatory called *Agrifood Monitor*, dedicated to monitoring the trends and performance of the sector.

Source: <https://www.nomisma.it/chi-siamo/settori/agroalimentare/> - visited on 2nd June 2021.

land with extensions greater than 1 hectare and 12% between 0.6 and 1 hectare. Among these “hobby farmers”, people involved specifically in horticultural activities in vegetable gardens, on the other hand, have much smaller portions of land available, on average equal to plots just under 160 square meters, generally adjacent to the main private house and in almost all cases with production intended for family self-consumption. In detail, it emerged that about 84% of these “urban vegetable gardeners” owned the area to be cultivated, and that only 4.6% of them dedicated themselves to the cultivation of Municipal Allotment Gardens, highlighting how UA practices connected to Urban Gardens in Italy are mostly private initiatives in forms of Family Gardens, aimed at non-commercial food production for self-consumption of healthy and genuine products.

2.3 Agriculture and Urban Planning

For the purposes of the research, it is appropriate now to investigate and explore the question concerning the integration of Urban Agriculture in the Italian Planning System, which is basically affected by a traditional separation between urban and agricultural policies that impacts at various levels of government, from the Region to the Municipality.

2.3.1 Regional and Provincial Level

At the end of the 1970s, the Regions became responsible for territorial planning in Italy²⁴. This passing of jurisdiction led to the introduction of innovative changes, opening up a new chapter in the Italian history of planning regulations, further accentuated with the second generation of regional laws in the 1990s (Gabellini, 2008). At the same time, also agricultural policies started to be increasingly managed at regional level, thus devoting more direct consideration to farming activities. Especially in the 80s and 90s, Regions issued many organic laws concerning urban and territorial planning, and delivered special regulations for agricultural activities within the planning system at different scales. The regional planning laws have acknowledged the important role of the agricultural areas in environmental and landscape protection; the nexus between agriculture-environment-landscape become central, and thus the theme of limiting land consumption. In fact, in terms of instrument, Italian Regions must provide for a Territorial Regional Plan²⁵ together with a Regional Landscape Plan²⁶, which should interact with the a Development Regional Program²⁷, in order to integrate also socio-economic forecasts. One of the elements that influenced the way regional planning tools were

²⁴ The first transfer of planning functions from the State to the Regions took place with the Presidential Decree 8/1972, with which the state administrative functions relating to urban planning, viability infrastructures, aqueducts and public works are transferred to the Regions. The Presidential Decree 616/1977 officially transferred the urban planning functions from the State to the Regions.

²⁵ In Italian: *Piano Territoriale Regionale (PTR)*. It is introduced by the Law 1150/1942 in the form of Coordination Plans, then further disciplined by regional laws.

²⁶ In Italian: *Piano Paesaggistico Regionale (PPR)*. It is disciplined by the Italian *Codice dei Beni Culturali e del Paesaggio*, adopted in 2004.

²⁷ In Italian: *Programma Regionale di Sviluppo*. It is disciplined by regional laws.

conceived, was the European Landscape Convention²⁸, which introduced an opening to the concept and definition of landscape as a product of human intervention; precisely this aspect allowed a connection with agricultural policies. Consequently, in the Italian context the National Landscape Code²⁹ was approved, modifying the landscape issue in the statutory of regional regulations (De Luca and Lingua, 2014). Therefore, the Regional Landscape Plan started to consider agricultural landscapes as elements to be protected, both as a natural-environmental value and as an artificial man-made landscape. Therefore, rural areas become part of a purely conservative strategy for enhancing landscape, nature and cultural heritage, that still remain un-related to the complexity of the economic system within which they are included. Therefore, the regional legislation and its related plans have attempted to regulate agricultural areas, combining urban issues to those of agricultural land and its relationship with landscape and environment. In this way, two directions of regulation has been developed in Italy, one related to the aspects of economic production activities, and the other to protection of rural areas in terms of landscape and environment. Nevertheless, both the approaches still appear not integrated and adequate on the changing dynamics of economic models and stakeholders involved in the agricultural market. Therefore, there is still a large gap between planning and agricultural policies in Italy (Cinà, 2014; Pareglio, 2009); as well as the connection between regional spatial planning and economic programming is still an open issue (De Luca and Lingua, 2014).

In parallel, at the provincial level, the issue about agricultural areas is concerned within the Provincial Territorial Coordination Plan³⁰. It is with this planning tool that agricultural areas started to be identified according to their different conditions and vocation, in order to define their development trajectory. Consequently, a discipline to be transposed into municipal plan was implemented. Even in the context of provincial plans, agriculture is increasingly considered as a resource in the context of environmental and landscape protection, so these territorial planning tools are called upon to protect those that began to be defined as “Agricultural Areas of Strategic Importance”, although often the only policies that are applied to those contexts translate into a mechanistic calculation of land consumption allowed by the provincial plans to protect agricultural soils (Pareglio, 2009).

2.3.2 Municipal level

Since the beginning, as clearly pointed out by Cinà and Di Iacovo (2015) the Italian municipal planning system has been limited to the classificatory function of new development in terms of functional zoning. In Italy, the main tool of the planning system at the municipal level is the General Regulatory Plan³¹, which by law should define building rights, identifying the different functions in the urban context, with particular emphasis to residential areas. The

²⁸ The European Landscape Convention was adopted by the Committee of Ministers of the Council of Europe on 19 July 2000. Source: <https://www.coe.int/en/web/landscape> - visited on 2nd June 2021.

²⁹ In Italian: *Codice dei beni culturali e del paesaggio*. Introduced with the Legislative Decree 42/2004.

³⁰ In Italian: *Piano Territoriale di Coordinamento Provinciale (PTCP)*. It is disciplined by the Law 142/1990.

³¹ In Italian: *Piano Regolatore Generale (PRG)*. It was instituted by the Law 1150/1942.

national legislation, mainly based on the National Law 1150/42³² on Territorial Governance and Planning, have been subject to several additions and adjustments. In particular, the National Law 765/67 and the Ministerial Decree 1444/68 on urban standards made of further central importance the use of zoning, broadening the normative in relation to the identification of zones and partitions linked to zone and sector plans. The agricultural land is referred to by the Municipal Plans as “Homogeneous Territorial Area E - Farming Zones”, beginning «to be studied and broken up into sub-zones, with a procedure analogous to that used for zones in urban areas» (Gabellini, 2008, p. 12). The agricultural areas in this way are simply classified in terms of maximum building density. Therefore, there is a gap between the realm of agricultural policies, that are conceived to be addressed in terms of farming activities, and urban planning, which consider farming zones just in terms of density. This approach confirms the classification and distribution role of buildings rights assigned to the Italian municipal urban planning tool, which leads to considering agricultural areas mainly as land susceptible to building development. This attitude has therefore for years consolidated the contrast between the sectoral disciplines of the agricultural activities and the urban planning of agricultural areas.

Despite a new generation of less regulatory planning tools has been rising³³, such as with the adoption of more strategic municipal master plans in substitution to the traditional one centred on functional zoning, the regulation of agricultural areas, in particular in urban contexts, has remained contradictory. In fact, in recent decades, many Italian regions have profoundly innovated their territorial governance and planning tools. The reform concerned above all the methods of formation and implementation of the municipal urban plans to overcome some limits of the traditional approach that have become evident, such as the rigidity of the provision of urban planning constraints, the mono-functional character of the zoning, the prevalence of purely quantitative performance objectives, and the general coexistence in the plan of structural guidelines and more binding implementation requirements (Pareglio, 2009).

Nevertheless, the interest in Urban and Peri-Urban Agriculture and food issues in Italy is increasing, fostered by new stakeholders, while the planning instruments are still deficient in terms of integrated strategies, regulations and technical tools. This divergence should be solved not only by laws and plans at institutional level, but with a review of the planning approach which should affect not only the vertical integration in spatial planning practices, top-down and bottom-up, but also the horizontal integration between the sectoral planning practices related to agriculture. That said, the first challenge in the Italian context in the field of governance is to overcome the limitations concerning the tradition of the top down planning system. This is

³² Legge 17 agosto 1942, n. 1150 “Legge Urbanistica”.

³³ During the XXI National Congress of the National Urban Planning Institute (*Istituto Nazionale di Urbanistica*), held in Bologna in 1995, a new proposal for a national law of principles for the territorial planning and government was discussed. The debate particularly concerned the rearticulation of the municipal General Regulatory Plan, to be based on two different and complementary tools: the Structural Municipal Plan (*Piano Comunale Strutturale*) and the Operational Municipal Plan (*Piano Comunale Operativo*). The debate inspired the adoption of several new generation regional planning laws.

Source: [https://inu.it/wp-](https://inu.it/wp-content/uploads/astengo/download/corsi/Corso_Piani_Strutturali_maggio2008/Cappuccitti.pdf)

[content/uploads/astengo/download/corsi/Corso_Piani_Strutturali_maggio2008/Cappuccitti.pdf](https://inu.it/wp-content/uploads/astengo/download/corsi/Corso_Piani_Strutturali_maggio2008/Cappuccitti.pdf) - visited on 29th April 2021.

because the transversality of the food system means that Urban and Peri-Urban Agriculture policies and practices and Food Planning must be addressed according to multiple disciplinary approaches. Cinà (2014) underlines, however, that Italian Urban Planning System struggles to find its own function in this sense, even if the field of Urban Planning at the municipal level would potentially be able to manage in an integrated way aspects related to the multi-functionality of agricultural activities, integrating facets relating to the soil regime, the issue of green infrastructures and ecosystem services, aspects related to accessibility, as well as the objectives of reducing land consumption. In any case, as also illustrated by the study conducted by Casazza (2015), although it is clear that the spread of Urban Agriculture has implications on land use regulation policies, there is still a lack of real studies and surveys that plan the integration of the UA within frameworks and urban land use regulations.

2.3.3 The Paradigm of the Agricultural Park

One of the rather widespread innovations among the policies adopted to encourage Peri-Urban Agriculture in Italy, is the implementation of the Agricultural Park model, of which the *Parco Agricolo Sud Milano*³⁴ in Milan, the *Parco Agricolo Casal del Marmo*³⁵ in Rome or the *Parco Agricolo della Piana di Prato*³⁶ in Prato represent some successful examples. The Agricultural Park, which has become the paradigm of Peri-Urban Agriculture, has become a support tool for governance and planning strategies capable of addressing in an integrated and multi-functional way a series of problems posed by the phenomenon of urban sprawl affecting peri-urban agricultural territories. The rural territory in many Italian metropolitan contexts is increasingly subjected to the urban pressure that progressively deconstructs its agricultural organization, leading to phenomena of environmental and landscape degradation. Peri-urban agricultural territories end up becoming residual landscapes, while paradoxically they are precisely these contexts that present the most favourable and potential conditions for the development of a synergy between agricultural and urban systems, with the development of environmental performance through forms of multi-functional agriculture. In light of that, public administrations have begun to develop government initiatives capable of addressing the issue of peri-urban rural spaces in an integrated manner, in order to encourage local development processes and projects. This awareness has stimulated the search for multi-functional business models with the emergence of a new paradigm of rural development, capable of creating local agri-food systems through new social, natural and economic connections that have been reflected in the experiences of Agricultural Parks. Therefore, the model of the Agricultural Park has been experimented throughout Europe as a tool to develop the mutual relationships between rural and urban areas, starting from the pioneering experience of the Milan metropolitan area. The concept of the Agricultural Park has then evolved through time shifting «from a first “defensive” idea of protection of the countryside, especially related to distinctive ecological and environmental matters or values, passing to a more pro-active one» (Fanfani,

³⁴ Source: <https://www.parcoagricolosudmilano.it/> - visited on 17th April 2021.

³⁵ Source: <https://parcoagricolocdmarmo.wordpress.com/> - visited on 4th May 2021.

³⁶ Source:

https://www.regione.toscana.it/documents/10180/70970/DOC_PROG_TERR_Parco_21_Febbraio_2011carteQC_bassa_risoluzione/d2d28f3e-d780-4e13-8023-e52a241b9ec6 - visited on 2nd June 2021.

2019, p. 163), aimed at reframing the relationship between the city and the countryside, in which agriculture assume a fundamental role. As pointed out by Poli (2015), peri-urban areas are witnessing the redefinition of what the author defines as new form of “agro-urban public space”, which develops in those intermediate territories that offer regeneration potential thanks to the presence of a large agroforestry area. The powerful relationship between city and countryside that characterizes these peri-urban territories allows to rethink them as public spaces at territorial scale, according to several aspects: from the various activities providing ecosystem services, to the presence of multi-functional agriculture, to the definition of solidarity networks and proximity economies.

As highlighted by Belletti and Butelli (2018), the experiences undertaken in Italy with Agricultural Parks have demonstrated the potential of integrated territorial governance models, developed starting from activities related to agriculture which became catalysts of social mobilization. The Agricultural Park is therefore configured as an active policy for enhancing the agricultural, landscape and environmental heritage of the peri-urban territories through the mobilization and coordination of various actors. In this regard, peri-urban contexts, on which the Agricultural Park tool is to be implemented, are characterized by their own complexity in terms of socio-economic interactions and dynamics, which require the ability to conceive the Agricultural Park as a process of communicative and concertative nature, which needs to be referred to a broad and integrated planning vision of the territory and landscape, not separated from the productive dimension (Fanfani, 2006). Such initiatives of Agricultural Parks, implemented in the Italian context, can therefore play a key role in initiating a transition towards territorial development models that strengthen the resilience of the territories, while also overcoming the unsustainability of globalized agri-food systems. Moreover, as highlighted by Fanfani (2019), the diffusion in operational terms of the Agricultural Park paradigm has triggered innovation processes in institutional planning tools and policies, given the need for a cross-sectorial and multi-level approach in public policy and the key role of a governance dimension. In this context, local public policies play a fundamental role in networking and structuring a governance that relates to the productive system and active citizenship, also intercepting different scales of intervention, to develop an integrated urban food policy that relates in an effective way also with the planning policies of urban transformations and the rural territory. Proper in this regard, the establishment of an Agricultural Park must relate to the instrument of the municipal urban plan and its operativity (Cinà, 2014). This issue obliges to find explicit solutions to the separation, present in the Italian Planning System as previously discussed, between measures and rules adopted in terms of productive agricultural activities on the one hand, and zoning regulations for agricultural areas on the other hand. In the context of Agricultural Parks, there is innovation both at the level of formal planning, governance and participation, thus the role of the Agricultural Park can represent a tool for developing and regulating agricultural activities in a framework of multi-functionality, reducing the gap between urban and agricultural land regimes.

2.4 Urban Food Gardening Policies and Tools

In order to enter in the specific merit of Urban Food Gardening in Italy, it has become part of urban policies through actions on a local scale rather than integrated systemic policies; and this, as widely discussed, was due to the historical gap between urban and agricultural policies. The phenomenon of UA in Italy has historically been characterized by spontaneous and illegal phenomena, lacking a coherent regulatory and planning framework (Casazza, 2015). The phenomenon has therefore taken on different connotations and approaches, extending heterogeneously throughout the Country, adapting to the different territorial backgrounds. Also for this reason, the Italian context is still lagging behind other international realities regarding the issue of promoting and integrating Urban Agriculture in urban contexts. Although the cultural change has affected many citizens who are increasingly sensitive to the issue, public institutions are still far from planning concrete and integrated initiatives, policies or projects, except for some Italian realities that are particularly active in this regard. On the one hand, there is a bottom-up need and a willingness to re-appropriate urban spaces for the implementation of UA practices; on the other hand public administrations are rarely available to tackle the issue both in economic and management support terms, through an effective urban planning. Consequently, the divergence between the growing interest in Urban Agriculture and the lack of corresponding territorial policies is increasing, even if in some realities a sort of reformulation of the public approach is underway, with the promotion of new forms of management of urban spaces, based on enhancing local resources and actors. However, it is still relevant that the first issue to address, in order to favour the spread of UA practices, is the one related to governance models, which have to overcome a top-down planning model and its limits, discussed in the previous section.

In addition to the more strategic and planning aspects, the management of Urban Food Gardening activities also raises a series of specific regulatory and normative questions, relating to contractual, management, licensing, health profiles, sales spaces issues and so on (Perri and Torquati, 2016). In terms of Urban Gardens on public land, in Italy it does not exist a single national legislation, thus there has been a phenomenon that has seen local administrations generally define their own autonomous regulations for the allocation of green spaces for Urban Food Gardening, through the provision of public rankings for the assignment, aimed at guaranteeing priority access to subjects in conditions of social and economic hardship. Generally, these regulations establish rules about the management of the area, with the prerogative that the cultivation and production activity must be brought back to the condition of unprofessionalism, with the prohibition of marketing the products. In these contexts, even the contractual forms of land assignment are not unique. Often in the case of public land, the natural form is the administrative concession of the land through forms of granting land for rent; in other cases the rent of the land is envisaged with an agreement of loan for use of multi-year duration. In addition, there is no shortage of cases in which municipal administrations provide for the entrusting of the area under management to associations or non-profit groups, instead of managing itself the direct allocation of the plots to private citizens. Therefore public administration rely on third parties who act as intermediaries for the management of the area. Indeed, the most common case study of Urban Food Gardening on public land in Italy is that of

Community Gardens, which takes place in public municipal spaces, abandoned or unused, for which the citizens themselves express a bottom-up will for re-appropriation and redevelopment, also through their direct management.

In this regard, it is interesting to mention the National Law 10/2013 "Rules for the development of Urban Green Spaces"³⁷, which establishes the norms for the development of public green urban areas, regulating some aspects relating to the use and management of greenery. In particular, the law highlights the importance of conventions with private citizens for the concession of urban green areas with the purpose of their management or maintenance. This law is an expression of the will of the public administration to grant public green spaces to citizens under management, using specific contractual instruments, in exchange for the maintenance of these spaces. This opening in the legislative field has led in several Italian cities towards the experimentation of a collaboration between citizens and the administration for the care and regeneration of urban commons, and the city of Bologna has been a pioneer in this sense. In this context, there are specific examples in which the convention also concerns UA practices in public, abandoned or unused municipal spaces, where, thanks to the active involvement of citizens, urban public green spaces are developed for the creation of Community Gardens. In this sense, Urban Gardens are used instrumentally for the redevelopment of some peripheral or degraded areas of the city. The use of these new contractual tools for the development of urban green spaces, mainly based on Pacts on Mutual Cooperation, in collaboration with active citizens through concessions contracts, are proving to be useful tools for the promotion of UA practices, also in the contexts of the cities analysed in the following sections.

Finally, the reality of contractual forms for the management of Urban Gardens on private land is even different. In this realm, although the case history is wide and varied and the various ways of implementing the projects differ, often the contractual forms for the direct assignment of the horticultural plots, privately owned, are to be traced back to rental contracts or loan for use. The examples of Urban Gardens on private land also sees the activation of professional figures of agricultural entrepreneurs, who begin to have an active role in the creation and management of particular types of gardens, with functions also oriented to educational and recreational purposes, also characterized by unconventional cultivation methods, able to offer citizens a private service, in parallel with the public offer of Urban Gardens. A broad spectrum is then that of gardens created by private entities such as commercial companies or private foundations, where the space dedicated to Urban Food Gardening activities, while remaining privately owned, is managed as a collective and in some way public space; in such cases the management aspects of the gardens and the tools adopted are not clearly defined and appear difficult to investigate.

³⁷ Legge 14 gennaio 2013, n. 10 "Norme per lo sviluppo di Spazi Verdi Urbani".

Source: <https://www.gazzettaufficiale.it/eli/id/2013/02/01/13G00031/sg> - visited on 15th March 2021.

2.4.1 National and Regional Policy Attempts on Urban Food Gardening

The first discourses in terms of policies at national level about the opportunity offered by Urban Food Gardening were consolidated in the 2000s, during which Italy witnessed, even at national level, a growing institutional recognition of the phenomenon, so much that it was developed the National Project "Urban Gardens"³⁸, promoted by *Italia Nostra* in agreement with ANCI (Association of Municipalities of Italy), *Coldiretti* and the *Campagna Amica* Foundation. This initiative was consolidated in a Memorandum of Understanding to promote the culture of Urban Gardens in Italy and the transfer of knowledge between municipalities and public administrations for the dissemination of initiatives aimed at enhancing and redeveloping public spaces through Urban Food Gardening activities. The first Memorandum of Understanding on Urban Gardens³⁹ was signed in 2008, and was renewed for the last time in 2020, with the aim to promote the culture of gardens throughout the Italian territory, spreading them as a social, urban and historical reality, in order to enhance them from any situations of marginalization and degradation. The gardens would act as a solution to tackle with urban decay, soil consumption and address the protection of the environment, promoting sociality and participation of citizens. Urban Food gardening is intended to encourage the activation of quality projects on urban green spaces by both public and private entities, fostering the exchange of experiences and collaboration between the two sectors. There are several Italian municipalities that have joined the project, committing themselves to promoting the creation of vegetable gardens in urban and peri-urban areas. For public administrations, joining the project is extremely simple, a Municipal Council Resolution is sufficient, in which the municipality expresses its agreement to the Memorandum of Understanding and adopt the Agricultural Guidelines⁴⁰ provided by *Italia Nostra* for the implementation of Urban Gardens, developed in collaboration with the Agricultural Faculty of the University of Perugia. It is then necessary to identify the area interest by the proposal for becoming an Urban Garden, specifying the possible management model to be applied and the crops to be planted. After having drawn up a summary information sheet to be included on the *Italia Nostra* website, the municipality is officially part of the project. The aim of this national initiative is to spread the culture of greenery and agriculture among citizens, in order to pursue the aim of limiting soil consumption and sealing, especially the agricultural one, and foster the requalification of the urban spaces and the enhancement of landscape and cultural heritage, as well as the improvement of the environmental quality of cities. The role of citizens is particularly emphasized, and in fact the approach adopted for promotion of UA practices is mainly based on the initiative of bottom-up experiences. Therefore, Urban Food Gardening is encouraged as a mean for enhancing a renewed urban civism in taking care of one's daily urban landscape and environment by learning to cooperate with community. The National Project "Urban Gardens"

³⁸ Source: <https://www.italianostra.org/le-nostre-campagne/campagne-e-progetti-ed-passate/altre-campagne/> - visited on 28th March 2021.

³⁹ Source: https://www.italianostra.org/wp-content/uploads/Testo-Protocollo_-DEF.pdf - visited on 28th March 2021.

⁴⁰ Source: <https://www.italianostra.org/wp-content/uploads/linee-guida-progetto-Orti-urbani.pdf> - visited on 28th March 2021.

is now spread throughout Italy, in small and large municipalities and also in contexts managed by religious or other private entities. The project has registered over 40 members and the creation of Urban Gardens with different vocations: social, educational, historical, therapeutic. As reported in the dossier for the *ANCI* journal (Petrocchi, 2013), in 2013 the surfaces affected by this national project covered over 550,000 square meters of surface, which was expected to be extended.

To conclude, from the point of view of purely legislative initiatives concerning the regulation and promotion of Urban Gardens in Italy, at regional level a propensity to promote the creation Urban Food Gardens has been highlighted in recent years. These regional legislative attempts explicitly declare that they want to promote the creation of Urban Gardens to spread the culture of greenery and agriculture, raise awareness among families and students on the importance of a healthy and balanced diet, disseminate sustainable agriculture techniques, redevelop abandoned areas and favour social aggregation. In this regard, the Lombardy Region has adopted the Regional Law on Urban Gardens 18/2015⁴¹ with this purpose, regulating the operational methods for the implementation of the so-called "Lombardy Gardens", which can be implemented by municipal administrations, schools or managing bodies of protected areas. The latter can then enter into special agreements with third sector actors and associations for the management and maintenance of the projects. This law is a relevant example because it represents a possibility to access specific economic contributions and support measures, granted directly by the Region, specifically addressed to promote the implementation of Urban Food Gardening projects, and therefore UA in cities. A similar attempt has been made also by the Piedmont Region, with the Regional Law Proposal 171/2015⁴², which however was not adopted. In this case, in addition to the possibility of accessing economic aid to cover design, project implementation costs and any training and information initiatives, the Region also envisaged to offer more technical support in terms of environmental monitoring of horticultural production or for training in the initial phase relating to agricultural practices for the management of urban gardens. Thus, it is important to underline that in recent years Italy is witnessing also at the regional level the rising of the will to define concrete ways to promote and support the implementation of Urban Gardens, by defining methods and possibility of accessing various types of resources, from financial aid to technical support. This could help in overcoming the initial difficulties often encountered by the promoters of bottom-up Urban Agriculture projects, who often face limits in terms of knowledge and economic resources.

⁴¹ Regione Lombardia, *Legge Regionale 1 luglio 2015, n. 18 "Gli orti di Lombardia. Disposizioni in materia di orti didattici, urbani e collettivi"*.

Source:

<http://normelombardia.consiglio.regione.lombardia.it/NormeLombardia/Accessibile/main.aspx?iddoc=lr002015070100018&view=showdoc> - visited on 15th May 2021.

⁴² Regione Piemonte, *Proposta di Legge Regionale 5 novembre 2015, n. 171 "Gli orti del Piemonte. Disposizioni in materia di orti biologici didattici, orti sociali suburbani, urbani e collettivi"*.

Source:

<http://arianna.consiglioregionale.piemonte.it/ariaint/TESTO?LAYOUT=PRESENTAZIONE&TIPODOC=TESTO PDL&FASEITER=PRESENTAZIONE&PDL=100171> - visited on 15th May 2021.

Finally, it is worth mentioning that even at the national level there have been legislative attempts for addressing and encouraging the creation of Urban Gardens, which however have been short-lived and not very successful. A first attempt dates back to 2013, with a legislative proposal⁴³, not adopted, which intended to amend the National Law 10/2013 "Rules for the development of Urban Green Spaces", in order to integrate provisions on the creation of what where defined "Urban Social Gardens". Finally, a last attempt dates back to 2020, when the Draft Law 1784/2020 "Provisions relating to the definition of a national regulatory framework to support and promote the practice of Urban Gardens"⁴⁴ was presented. As also explained by the title, this draft law intended to outline a common regulatory framework that favours the practice of Urban Gardens at a national level, integrating the already existing virtuous experiences of some Italian municipalities. It is made clear that the draft intends to be a tool for addressing the objectives set by the United Nations 2030 Agenda on Sustainable Development, with regard to the pursuit of Goal 11 concerning the development of sustainable cities and communities. In fact, the text underlines the function of Urban Gardens as an ecological response to both cultural and social needs, as a tool to support the spread of a green culture, improve the quality of life and bring benefits to public health, as well as reduce atmospheric pollution and promote respect for the environment, fostering the care of green areas inside urban context, preventing their abandonment. The draft also proposes the creation of a "National Observatory for the support and promotion of Urban Gardens", under the Ministry of Agricultural, Food and Forestry Policies, to ensure the monitoring of the horticultural practices implemented, collect data, best practices, programs and projects in collaboration with a network of citizen observers. However, what appears from the draft is that it is an embryonic and incomplete text, which leaves many questions open and unsatisfied. It simply outlines the aims and objectives for which the state would like to engage in the promotion of Urban Gardens, but without actually identifying a regulatory framework that could really solicit and direct new experiences on the national territory; in fact, the proposals for regional laws in this regard appear to be much more interesting and with greater potential.

⁴³ Camera dei Deputati, *Proposta di Legge 10 novembre 2017, n. 4734 "Modifiche all'articolo 6 della legge 14 gennaio 2013, n. 10, e altre disposizioni in materia di realizzazione di orti sociali urbani"*.

Source: https://www.camera.it/_dati/leg17/lavori/stampati/pdf/17PDL0058980.pdf - visited on 30th May 2021.

⁴⁴ Senato della Repubblica, *Disegno di Legge 28 aprile 2020, n. 1784 "Disposizioni relative alla definizione di un quadro normativo nazionale di sostegno e promozione alla pratica degli orti urbani"*.

Source: <https://www.senato.it/japp/bgt/showdoc/REST/v1/showdoc/get/fragment/18/DDLPRES/0/1154950/all> - visited on 30th May 2021.

CHAPTER 3

Bologna

Bologna is the capital of the Emilia-Romagna region and the seventh most populated city in Italy, with a population of approximately 394,463 inhabitants over a geographical area of 141 km² ⁴⁵. According to the *ISTAT* survey⁴⁶, urban green areas in 2018 occupied almost 6% of the urban territory, for a total amount of 858 hectares, resulting in 22 m² per capita. The survey, which interested only public green areas, shows also that Urban Agriculture in Bologna corresponded to 1.93% of the total municipal territory, the highest percentage compared to the other cities analysed, which means almost 17 hectares. Finally, as far as it concerns Protected Natural Areas and possible Agricultural Park, the city of Bologna has 3,738 hectares protected as Natural Parks, corresponding to 26.5% of its municipal territory, but no Agricultural Park.

As pointed out by the research carried out by Sanyé-Mengual et al., Urban Gardens in Bologna encompass not only municipality-supported but also grassroots experiences. While the number of Municipal Allotment Gardens stagnated in recent years, the diversity of UA initiatives has sprouted all over the city, including guerrilla gardening on abandoned flowerbeds as well as gardens as a requalification activity on abandoned industrial neighbourhoods. Furthermore, the case of Bologna is also cited on the international scene since the city council supported the creation of the first rooftop community garden in a social housing building in Italy. UA in Bologna has recently become a real political issue, therefore, the city has been a frontrunner in Italy regarding UA, with many initiatives developed in the last 40 years that resulted in a rapid growth of both the area devoted to UA and the number of allotments.

3.1 The state of Urban Agriculture

Bologna is a peculiar case when it comes to Urban Agriculture, since it is characterized by a proliferation of related practices and activities promoted by various actors and the municipal administration itself. The latter has favoured the birth and regulation of large horticultural areas and, in recent years, the municipality has fostered their growing integration into newly parks, in order to enrich and qualify the green heritage of the city. The new approach of the Municipality of Bologna towards Urban Agriculture is also related to an evident change in the range and identity of the “new” urban gardeners. In the past, UA practices were mainly linked to elderly users, while today vegetable gardens in the city involve very different population groups terms of age, origin, cultural background and motivations. In this regard, Sanyé-Mengual et al. conducted a research in 2018 on Bologna, considered a landmark city in Southern Europe regarding the evolution and diversity of UA projects in the

⁴⁵ Data provided by ISTAT updated as of 1st January 2021.

Source: <https://www.tuttitalia.it/citta/popolazione/> - visited on 9th June 2021.

⁴⁶ Data provided by ISTAT relating to the Census of Urban Green areas updated to 2018.

Source: <https://www.istat.it/it/archivio/236912> - visited on 2nd June 2021.

last decades, in order to explore the perception and acceptance of UA in Europe. The aim was to determine whether the inhabitants of Bologna considered UA as a valuable form of urban land use in comparison to other uses of urban green spaces. The survey revealed that participants highly appreciated UA on vacant land, as well as Urban Gardens for social purposes and activities taking place in peri-urban areas. In general, the city of Bologna showed a high level of citizens engagement in Urban Agriculture initiatives; in fact, the role of UA in the city is perceived by Bolognese citizens as potentially beneficial on the urban image of the city (Sanyé-Mengual et al., 2018).

In light of that, Bologna is experiencing a change in models of urban gardening and their management methods, with impacts on the characteristics of the current horticultural areas in the city and on the social and cultural significance of these green spaces. Recently Urban Agriculture has been garnering quite a bit of attention. The city has seen a significant increase in both privately and city funded projects. This is aligned with an ever-growing demand on the part of Bologna's citizens for vegetable gardens, as evidenced by the current long waiting lists for the assignment of garden plots. However, Urban Food Gardening in Bologna has always represented a fundamental element of the urban landscape. Bologna's old town was historically characterized by plots of cultivated land within the historic centre or the outskirts that for centuries guaranteed food supply for city dwellers, which disappeared during the 20th century under the pressure of urban expansion; or by the so-called "War Gardens" which developed during the Fascist period on lands of various kinds in many city areas; or by the many vegetable gardens born spontaneously after the World War II along the riverside areas or the foot of the railway embankments at the hands of new citizens from the nearby countryside or migrating from the South of Italy. In more recent time, Urban Agriculture has furthered spread in the Bolognese context, taking on different forms and pursuing different purposes. In general, UA is a tool to physically and culturally regenerate urban spaces affected by abandonment and degradation. Precisely in this direction, the city of Bologna is particularly active, in fact different urban horticulture projects have improved the image and re-qualified vacant areas both in the city centre and the suburbs and at different scales, ranging from top-down to bottom-up experiences, despite in the case of Bologna the role of the local government in such initiatives has proved to be essential (Gasperi et al., 2016).

In this context and in light of such interest, in 2014 the City of Bologna, in particular the Environmental and Energy Sector, conducted a cognitive survey in collaboration with *Villa Ghigi* Foundation⁴⁷, which is the regional reference Centre for Environmental and Sustainability Educational established in 2001 on the initiative of the Municipality, the Metropolitan City and the University of Bologna. The 2014 survey took into consideration different types of Urban Agriculture in Bologna, revealing an unexpectedly rich and diverse landscape, both in the historic center and outskirts of the city. Almost 162 places dedicated to horticulture were found, a multitude of spaces of differing type and size, which added up to more than 2,700 municipal Urban Gardens, corresponding to a total amount of 30 hectares (Comune di Bologna and Fondazione Villa Ghigi, 2014). In general, Urban Agriculture in Bologna encompasses not only

⁴⁷ Source: <https://www.fondazionevillaghigi.it/> - visited on 10th June 2021.

municipality-supported but also grass-roots experiences, leading to a diversity of UA initiatives all over the city. However, it is true that Bologna boasts a quite peculiar heritage of Municipal Urban Food Gardening examples, which is among the largest and most long-lived in Italy. It is the result of the specific will of the municipal administration, which started to develop social vegetable gardens from the 1980s with mainly social purposes, and which in recent years have opened up to even more different users. Therefore, the panorama of Urban Agriculture practices in Bologna is very articulated and multifaceted, characterized by richness and diversity of situations, distributed from the urban outskirts to the historic centre up to the hill and to the fields of open countryside towards the plain. Regarding the typologies, they range from urban gardens regulated in various ways to those that developed spontaneously; from gardens on public municipal, state-owned or railway property to those on private land, in condominium green areas, in courtyards and roofs of residential buildings. This panorama also includes Squatter Gardens, which have sprung up on public or private land and are not governed by any regulations.

As far as it concerns Municipal Allotment Gardens, they started to be developed since the 1980s. In the same years, the first Regulation was developed by the administration to standardize the assignment of publicly owned plots of land to be used for horticulture. Nowadays, after more than thirty years of experience, in Bologna there are 20 municipal horticultural areas that hosts about 2,700 Allotment Gardens, for a total surface of 16.78 hectares, equal to 1.3% of the city's total public greenery (Comune di Bologna and Fondazione Villa Ghigi, 2014). This amount represents an important asset for the city, both in quantitative terms and above all for the social value still carried out by these spaces which are consolidated meeting places for the residents of the various districts of Bologna. The municipal administration created a computerized reservation and assignment systems for Municipal Allotment Gardens within the *Iperbole* web portal⁴⁸, managed by the offices of each decentralized administrative district⁴⁹. Therefore, almost in each city district, Municipal Allotment Gardens are provided, and these are self-managed by the assignees on land owned by the municipality, assigned to private citizens on free loan. According to the data provided by the Environment and Energy Sector of the Municipality of Bologna (updated to January 2014), most of gardens are assigned to individual private citizens, and only 18 assignments, corresponding to 0.8% of the total, relate to projects managed by associations, schools or groups of citizens (Ibid.). Generally the production is exclusively intended for self-consumption, or at most for donation, since the sale is not allowed by the municipal regulation on urban gardening. The management of public horticultural areas over years has been an important

⁴⁸ Comune di Bologna | Iperbole rete civica. *Servizi online*, Orti.

Source: <https://servizi.comune.bologna.it/fascicolo/it/web/fascicolo/servizifull?&id=1104> - visited on 10th June 2021.

⁴⁹ The city of Bologna is divided into *Quartieri*, the administrative decentralizations of the Municipal body.

community-rooted experience. Important is the role of *ANCeSCAO Bologna*⁵⁰, to which most of the management committees of the municipal horticultural areas of Bologna adhere.

Aligned with the Municipal Allotment Gardens, school-run Educational Gardens represent the second most significant category of Urban Food Gardening in the city of Bologna. Most of Bolognese school complexes appear to have dedicated spaces within their own institutes, while other schools instead cultivate assigned plots in neighbourhood Community Gardens, or in Educational Gardens managed by social centres or in other types of shared spaces. In addition to didactic reasons, the experience of some Bolognese school-run Educational Gardens started with the desire to recover degraded and unused spaces. The horticulture projects in school gardens have also activated a series of collaborative networks between different city stakeholders, involving the University of Bologna, the *Villa Ghigi* Foundation or other associations related to the agriculture field.

The other typologies of areas dedicated to Urban Agriculture in the Municipality of Bologna currently mapped occupy a total area of 13 hectares; almost half of them are carried out on public land owned by the municipality, in particular on spaces dedicated to public green, such as urban parks and gardens (Ibid.). The variety of the constantly evolving reality of UA in Bologna is linked to spontaneous actions led by individuals or groups of citizens, but also to more complex and structured projects that the municipal administration itself has supported or is promoting in collaboration with different actors. Among other categories of Urban Food Gardening practices, there is a relevance of Community Gardens located into public residential areas for social housing, which are initiatives promoted by the municipal administration together with associations active on the territory of Bologna (such as *Biodiversity*, *Ceriss*, *Centro Interculturale Zonarelli*, *Architetti di Strada*, etc.). Among the broad category of Community Gardens, some of them are linked to public bodies or institutions, such as for example the University Food Gardens managed by the local Agricultural Institute, or the Community Gardens realized and managed by the Agri-Food Centre of Bologna⁵¹. Also interesting are the cases linked to religious institutions, among which there are horticultural areas that have an intrinsic historical-testimonial values as they are relict green spaces in the old town, linked to ancient monasteries such as the historical “Enclosed Gardens” (*Horti Conclusi*) that have deep roots in the city’s history; in other cases, these gardens are located in peripheral districts of the city, playing a public role of a social nature for local communities. As far as it concerns private gardens of public interest found in the Bolognese context, there are practices of a very different nature. This category includes examples of historic Urban Gardens preserved over time in the courtyards of the historic centre, but also recent ones, built by private initiative but open to associations or interested groups of citizens. Finally, many of the most innovative situations that testify to the new trends in Bologna regarding Urban Agriculture fall into the category of

⁵⁰ *ANCeSCAO Bologna* is part of the National Association of Social Centers Committees of Elders and Vegetable Gardens (*Associazione Nazionale Centri Sociali Comitati Anziani e Orti - ANCeSCAO*), founded in Bologna in 1990, and is involved in the management of several Municipal Allotment Gardens. Source: <http://www.ancescao-bologna.it/gli-orti/menu-orti-urbani-citta-bologna.html>- visited on 5th May 2021.

⁵¹ In Italian: *Centro Agricolo Agroalimentare di Bologna (CAAB)*. Source: <https://www.caab.it/it/>- visited on 9th June 2021.

“thematic” urban gardens in parks or other public areas. Most of the experiences are conducted by third parties who represent the new holders of requests to which the municipal administration has entrusted the direct management of an area. Finally, the Bolognese urban landscape is also characterized by spontaneous vegetable gardens, or Squatter Gardens, which cover an area of over 7 hectares (Ibid.). These gardens have grown mainly along the waterways close to motorway interchanges or in other marginal land. Generally they are located on state or municipal property areas and most of them are unregulated and without any controls.

As regards in detail the efforts to map the experiences of Urban Agriculture in the city of Bologna, two main initiatives are worth to be mentioned, representing two different types of attempt: the *Mappa delle Aree Ortive*⁵² created by the public administration and made available on the public portal, and the *GramignaMap*⁵³ initiative. The *Mappa delle Aree Ortive* has been created by the Municipality of Bologna, it is an information system for citizens interested in knowing the location of a horticultural area falling within the category of Municipal Allotment Gardens, to offer citizens the necessary information for any subsequent request for assignment. Therefore, the vegetable gardens surveyed in the mapping are municipally owned gardens that can be assigned to citizens, through the online booking service for the assignment request. The mapping initiative began in 2013 and its updating is carried out by the administration and is limited only to the location of the areas available for urban food gardening, without providing statistical information in this regard. The information available relates to the name of the horticultural area, the address and the number of garden plots available, a brief description of the areas and references to the management body or association for the various districts; the related regulations are also included. The map is incorporated in the *Iperbole* web portal of the municipality of Bologna and does not allow for a data download. It is designed as a support tool for citizens and allows a service for the allocation of gardens in a computerized way thanks to the system developed by the municipal administration. As for the *GramignaMap*, it is the result of a participatory project aimed at the census of the various UA activities in Bologna launched by *Orti47*, which in addition to being an urban garden of Bologna it is also a blog. The map is created and updated through a bottom-up process that involves individual users who have the opportunity to map new garden sites with a participatory approach, therefore it can be defined a crowd-mapping project. The map surveys various types of UA in Bologna, distinguishing between Municipal Allotment Gardens; private urban gardens intended for the production of vegetables for self-consumption located on the ground but also present on balconies or roofs; another category identified are then Community Gardens, in both public or private spaces, managed by a group of citizens. Cases of Guerrilla Gardens are also surveyed, i.e. sites where groups of citizens try to revitalize the urban context by inserting plants and crops in urban areas which usually result in abandoned and degraded flower beds. However, even in this case the map is available to be visualized but it does not allow the download of data about the experiences surveyed. The *GramignaMap* project was born in the Bolognese context but has the aim of extending the mapping to build a geographical framework of self-managed

⁵² Source: <http://www.comune.bologna.it/ambiente/servizi/6:3241/6108> - visited on 10th April 2021.

⁵³ Source: <http://www.gramignamap.it> - visited on 10th April 2021.

green spaces in other Italian cities; however, there are still few registered sites relating to other areas of the Emilia Romagna region or in the rest of the Country.

3.2 Policies, strategies, initiatives and regulations related to Urban Agriculture

Bologna has been a pioneer in Italy in the area of Urban Agriculture and horticulture. The will of the public administration to grasp current trends in Urban Agriculture in the city, and collect information on the various actors active in the Bolognese area, who are carriers of new instances and sensitivities on the issue, is testified by the survey carried by the *Villa Ghigi* Foundation (Ibid.). The latter was planned by the Municipality with the aim to grasp enough information in order to plan a more effective management of Urban Agriculture practices in the city, integrating in the best way new generation horticultural areas in the green system, in aesthetic, landscape and environmental terms, fostering also experimental forms of individual and collective management capable of involving new types of users. In line with the evolving context and trends and the diversity of UA experiences which characterize the city of Bologna, the latter started to be actively engaged in a series of initiatives, policies and projects to promote UA practices. Therefore, UA in Bologna has recently become also a political issue, resulting in a series of projects and initiatives promoted by public administration and other kind of institutions.

Between 2014 and 2015, the Urban Center Bologna has launched the initiative “*Città degli orti è Bologna*”⁵⁴, a program dedicated to Urban Agriculture and Greenery in the city through the organization of events spread throughout the territory which included exhibitions, conferences, and visits guided tours dedicated to contemporary forms of Urban Agriculture. The projects was also a guest of the Biodiversity and Biological pavilion at EXPO Milano 2015. This initiative is indicative of the desire to spread the use of UA, aligning Bologna with similar approaches now widespread in Europe, North America and Canada. In that context, the city hosted the international traveling exhibition “Carrot City” about the use of design to re-introduce UA to the world’s cities, from the scale of entire cities down to off-the-shelf components. Aligned with this exhibition, the city showed also the 81 projects from all over the world that took part in the international design competition “*Orti per Tutti*”⁵⁵ launched in 2014. It was an innovative international architecture competition which combined urban planning with agronomic criteria in order to provide the city new Urban Food Gardens within a variety of public green spaces and promote a new generation of vegetable gardens. The competition was aligned quite well with the themes presented at EXPO Milan 2015, with its dedication to Urban Agriculture and in particular to the new generation gardens in Bologna, which will demonstrate a greater respect for the environment and more refined sense of design paying

⁵⁴ Source:

<https://www.fondazioneinnovazioneurbana.it/42-urbancenter/1068-bologna-citta-degli-orti-tutti-gli-appuntamenti> - visited on 6th April 2021.

⁵⁵ Source: <https://www.fondazioneinnovazioneurbana.it/42-urbancenter/896-esiti-del-concorso-ortipertutti> - visited on 6th April 2021.

particular attention to sustainability, quality of agricultural choices, recycling best practices, accessibility and biodiversity (Urban Center Bologna, 2015).

Among the initiatives oriented to the implementation of UA practices in Bologna, the University of Bologna also coordinated the European project HORTIS - HORTiculture in Towns for Inclusion and Socialisation⁵⁶, funded within the framework of Lifelong Learning Programme in 2013-2014. The project's aim was to contribute to fight social exclusion, and to promote lifelong learning among adults through community and urban gardening. In the context of Bologna, several initiatives were carried out, among which public meetings for raising awareness about UA; training activities for design and management of Community Gardens; or the pilot training course as part of the "100x100 ORTI"⁵⁷ project promoted by the Agri-Food Centre of Bologna and ResCUE-AB, which is the Center for Studies and Research in Urban Agriculture and Biodiversity. It was founded in 2013 at the University of Bologna, and contributes to a series of interdisciplinary activities in the field of UA and biodiversity both in Europe and in various countries of the Global South, with the aim of transforming the city into a widespread eco-laboratory creating a network of experiences of Urban Agriculture, having as its main objective the development of ecological corridors. The Center actively collaborates with other research groups, acting as an awareness and training subject, as well as a support for the definition and implementation of programmatic policies on UA. It coordinates or collaborates in numerous Urban Agriculture projects. Among them, the most recent is FoodE⁵⁸, launched in 2020 and led by the University of Bologna, which brings together 24 organizations spread across 8 European Countries, financed under Horizon 2020. FoodE aims to accelerate the growth of sustainable and resilient citizen-led urban food system initiatives. Among the 15 pilot projects launched, two of them are implemented in Bologna and involve interventions for the realization of indoor farming. Other UA practices present in Bologna are also involved in the SustUrbanFoods⁵⁹ project, which ended in 2018. Its aims were to develop an interdisciplinary methodological framework to assess the sustainability of urban food systems, for providing tools and data, supporting policies and decisions on sustainable urban food systems towards local and green economies. Among the case studies selected by the project for their social or technological innovations, six cases are from Bologna. Among these, two of them are the ones selected and presented in this thesis: the community rooftop garden in the social housing complex of *via Gandusio*; and the peri-urban Community Supported Agriculture (CSA) farm *Arvaia*, a social cooperative who manage a piece of peri-urban agricultural land as a community to obtain local zero-kilometre and ecological food through cooperative work among citizens. In this regard, there are also numerous innovative UA enterprises active in the Bolognese context. In particular, some of them has been involved in the project Urban Green Train⁶⁰, addressed to urban green education for enterprising agricultural innovation, started in 2019, which aims to encourage pioneering business oriented initiatives on Urban Agriculture. It has been funded

⁵⁶ Source: <https://site.unibo.it/hortis/it> - visited on 15th April 2021.

⁵⁷ Source: <https://www.caab.it/it/2013/10/orti-urbani-100x100-caab/> - visited on 15th April 2021.

⁵⁸ Source: <https://site.unibo.it/rescue-ab/it/progetti/foode> - visited on 15th April 2021.

⁵⁹ Source: <https://site.unibo.it/susturbanfoods/en/project> - visited on 15th April 2021.

⁶⁰ Source: <https://www.urbangreentrain.eu/> - visited on 15th April 2021.

with the support of the Erasmus+ Programme of the European Union, involving Italy, France, Germany and The Netherlands. Among the innovative UA enterprises selected by the project several are from the Bolognese context, such as *Arvaia*, *Agribologna*, *Eta Beta*, *Biodiversity*, *Hortycity*, *Green Habitat*, which are very active in the UA Bolognese landscape, being involved in different projects and practices. Some of these innovative UA enterprises are also involved in other projects, for example *Arvaia* is part of the SMARTCHAIN - Smart Solutions in Short Food Supply Chains⁶¹ as one of the two innovation hub involved in Italy. This project aims to introduce innovative practical solutions and business models to enhance the competitiveness and sustainability of the European agri-food system.

More in general, as a legacy of the experiences gained in the EXPO context, Bologna also signed the Milan Urban Food Policy Pact in 2015, which encompasses a range of food policies towards sustainability and social justice, to develop sustainable food systems that are inclusive, safe, resilient and diverse, able to provide healthy and affordable food minimizing waste and conserving biodiversity, while adapting to and mitigating impacts of climate change. In this regard, the Municipality launched the Bologna City of Food⁶² initiative in 2015, a territorial marketing project undertaken in view of EXPO 2015, born with the intention of coordinating all food initiatives in the city, actively promoting scientific, cultural and commercial research, spaces, experiences and events linked to the themes of nutrition throughout the metropolitan area. In this context, the municipality of Bologna had identified the network of local farmers' markets and the network of urban gardens as fundamental elements of the project. However, the city of Bologna has not yet endowed itself with a specific Food Policy, despite the fact that there are several food-oriented initiatives in the city and also several actors active in the issue. In particular, in 2020 the *Slow Food Bologna* association launched a proposal to regenerate the agri-food system of Bologna, through a Food Policy draft oriented towards a transition to a short, zero-impact, healthy and safe agri-food chain. Its intent was to collect contributions, good practices, innovations and solutions to be harmonized in a solid, shared and achievable project proposal. This led to the definition of five strategic guidelines that make up "*Nutrire Bologna 2030*" strategy (Slow Food Bologna, 2020). However, the guidelines do not make explicit reference to urban or peri-urban agriculture initiatives, despite the panorama of Bologna is very active in this topic. In any case, the goal of creating and designing the local agri-food sector cannot ignore that phenomenon.

To conclude the overview on the several initiatives and policies pursued by the city of Bologna regarding the theme of UA, despite it is not strictly recognised as an Agricultural Park, the Municipality, together with the influence of the Metropolitan City, is implementing the *Parco Città Campagna*⁶³ project. It officially started to be implemented in 2010, as a result of a long participatory and concerted planning path started already in 2006. It is a territorial planning project with landscape-environmental connotations, also aimed at addressing

⁶¹ Source: <https://www.smartchain-platform.eu/en/case-studies/italy#ITcase2> - visited on 15th April 2021.

⁶² Source: <http://partecipa.comune.bologna.it/city-food> - visited on 15th April 2021.

⁶³ Source:

[https://www.cittametropolitana.bo.it/pianificazione/Pianificazione_del_territorio/Progetti_Metropolitani/Parco_Città_Campagna](https://www.cittametropolitana.bo.it/pianificazione/Pianificazione_del_territorio/Progetti_Metropolitani/Parco_Citt%C3%A0_Campagna) - visited on 20th April 2021.

agricultural production, based on the concept of green and blue infrastructure network. The main objective is to enhance the strategic value of peri-urban agricultural areas through the option of a sort of Agricultural Park, intended as an operational and design method for valorizing peri-urban open spaces through the activation of processes of protection and stimulation of local cultures and rural productions. The first development nucleus of the *Parco Città Campagna* is in the city of Bologna, relating to the *Villa Bernaroli* intervention. The project is aimed at preserving the agricultural open spaces that develop continuously in the western peri-urban sector of the city of Bologna, characterized by valuable historical-landscape quality. The main objective was to enhance the reality of *Villa Bernaroli* consisting of farms, farmers' market, vegetable gardens, social center and publicly owned land to create an Agricultural Park where the objectives of landscape improvement, recreational offer and economically sustainable production were integrated. The case of *Villa Bernaroli* will be further explored in the section dedicated to the case studies selected in the city of Bologna.

3.2.1 The influence of the Metropolitan City of Bologna on Urban and Peri-Urban Agriculture policies

The context

The territory of the Metropolitan City of Bologna is characterized by a rich natural and environmental heritage in terms of parks and Protected Natural Areas, as well as ecological corridors, forest and wooded areas. Moreover, the Metropolitan City of Bologna is located in a favourable geographic context from an agricultural point of view, due to the presence of a fertile plain and proximity to various waterways. However, the natural and rural heritage of the metropolitan area is interested by conditions of fragility related to the characteristics of artificiality that have led to consistent variations in land uses over time. As regards agricultural areas, they decreased by 1.87% between 2003 and 2008, replaced mainly by productive urban areas, infrastructures, plants or partly by woods, according to what is testified in the Report concerning the Metropolitan City of Bologna (Gabellini et al., 2017). The Bolognese countryside is therefore characterized by a strong level of artificialization, but it still retains clearly perceptible landscape values. An issue common to the whole area is that of the urban fringes between city and countryside, where decay often prevails, characterized by a disruption of the constituent reference elements of the territory and a progressive impoverishment of the natural components and the loss of ecological functionality (Alampi, 2010). As far as agricultural activity is concerned, according to what Alampi reported, agriculture represents an important resource of the local economy in the metropolitan area, in fact there are over four hundred farms present. The rural context is active and productive but in 2010 the presence of farms dedicated to organic and integrated production still appeared to be scarce. However, it was possible to find a presence of multi-functional type companies, in some way oriented towards the urban market, with direct sale of agricultural products, which represent an important reference for the residents. However, there were few farms that differentiated their activity by proposing themselves as agritourisms or educational farms (Ibid.).

Policies, strategies and initiatives

In the Bolognese case, the peri-urban agricultural area has been object of various attentions over years, initially mainly in terms of landscape protection, on the initiative of both the former Province and Municipalities. In particular, the concept of “*Cuneo Agricolo*” (Agricultural Wedge), that insinuates itself into the urbanized territory by introducing environmental quality and historical memory, has been present for years in the territorial plans and strategies. With regard to the planning of peri-urban areas in the former province of Bologna, as early as 1995, its north-east sector had been extensively studied as part of the project *PEGASO - Pianificazione E Gestione Ambientalmente SOstenibile*⁶⁴ (Environmental Sustainable Planning and Management), co-financed by the European Commission under the LIFE 1995 Program, and promoted by the Provincial and Municipal administrations of Bologna together with the *Politecnico di Milano*. The project was born from the need to experiment innovative planning processes on a very delicate portion of the Bolognese metropolitan area, the peri-urban areas located close to the urban context of the regional capital city and heavily affected by the typical phenomena linked to metropolitan expansion and urbanization. The Infra-regional Territorial Plan approved in 1995 by the Province of Bologna identified some fundamental guiding principle for the rationalization of the settlements’ development and expansion in the metropolitan area, identifying the main lines of transport by rail as development guidelines, interconnected by vast containment areas, the so-called “Agricultural Wedges”⁶⁵. The latter were identified by the plan as a set of peri-urban agricultural territories wedged between urban settlement systems. To connect the wedges, the plan identified the main territorial ecological infrastructures, consisting essentially of river courses and their natural territory. In detail, the metropolitan area of Bologna is characterized by two agricultural wedges, one located in the north-east and one in the south-west, also identified by the Regional Territorial Landscape Plan as study areas worthy of in-depth attention and detailed assessment.

In this respect, the former Province of Bologna, which later became the Metropolitan City in 2014, has managed to evolve the concept of these peri-urban “Agricultural Wedges” into the broader project of the *Parco Città Campagna*, a process that has been explored by Alampi (Ibid.). The *Parco Città Campagna* is a project undertaken by the Province of Bologna officially started to be implemented in 2010, the result of a season of participatory planning activities promoted by the Municipality of Bologna already from 2006. The peri-urban agricultural territory is approached as a complex territory threatened by settlement dispersion, which can find overall rebalancing through a network-based framework centred around the importance of green and blue ecological infrastructures. This approach, adopted for the metropolitan area of Bologna, implies a general rethinking and restructuring of the peri-urban rural space oriented to the formation of green infrastructures networks, systems of natural and tourist-oriented

⁶⁴ Source: https://www.cittametropolitana.bo.it/pianificazione/PROGETTO_PEGASO - visited on 15th April 2021.

⁶⁵ Città Metropolitana di Bologna. *La pianificazione delle aree periurbane nella provincia di bologna: dai cunei agricoli periurbani al parco città campagna*.

Source:

<https://www.cittametropolitana.bo.it/pianificazione/Engine/RAServeFile.php/f/urbanistica/parcocittacampagna/ProgettoFinale/relazione2.pdf> - visited on 15th April 2021.

spaces, on which to found multi-functional services that go beyond the generic category of urban green. Therefore, by promoting the development of the *Parco Città Campagna*, the Metropolitan City of Bologna intends to enhance the former “Agricultural Wedges” of the Bolognese suburban countryside by creating an articulated strategy aimed at preserving the rural identity of those places; safeguarding the traditional agricultural vocation of the territory; enhancing the existing historical-cultural heritage; but also the landscape values and the ecological network at metropolitan and local scale, creating an opportunity to promote local agriculture and support multi-functional farms, interpreting better also its tourist-recreational needs. The Metropolitan City intends to follow two development lines to be applied in metropolitan peri-urban agricultural territories, one relating to agricultural and one relating to accessibility and soft-mobility networks, intertwined with each other. Ultimately, there is now a considerable and innovative interest in the strategic value of the Agricultural Park as an operational and design method aimed at enhancing peri-urban open spaces starting from the activation of processes of protection and stimulation of local cultures and rural productions. The *Parco Città Campagna* can thus be defined as a territorial planning project with landscape-environmental connotations which is also based on addressing agricultural production. In detail, the territorial scope of the project interests the south-western sector of the Bolognese metropolitan area, involving a total area of about 7,300 hectares.

With the transition from Province to Metropolitan City of Bologna, a series of new policies, planning documents and strategic initiatives regarding peri-urban and metropolitan agriculture have been undertaken. The issue of metropolitan agriculture has long been of interest to public administrations. In 2013, in view of the preparation of the new Regional Rural Development Program 2014-2020, the province of Bologna, a Metropolitan City shortly thereafter, developed the “Metropolitan Agriculture”⁶⁶ project, aimed to strengthen the agricultural sector with a new focus on the city-countryside relationship in the Bolognese metropolitan area. The project had as its main objectives the protection and enhancement of agriculture, agricultural entrepreneurs and the rural territory as a whole, with a particular focus on assessing the interdependence and influence between urban and rural areas. The project intended to follow a systematic approach to include in the economic system of agriculture, understood as a potential productive sector, the new tension of the city towards the agricultural world. The peri-urban agriculture in the Bolognese context was identified as a buffer zone that would meet both the needs of the city and the countryside, with the main objective of exploiting the proximity to the urban fabric to meet the demand for services and facilities by citizens through the promotion of multi-functionality of the farm and agricultural activity as a facility for the territory. Overall, the project was articulated on three levels through which to decline the theme of agriculture: metropolitan, peri-urban and urban. In particular, with regard to the declination of the project in the urban context, the proposal was to develop a Bolognese Agricultural District, which would have had the function of promoting the territorial and social importance of agriculture in an urban context, strengthening the agricultural economy of the

⁶⁶ Provincia di Bologna. (2013). *Piano strategico metropolitano. Agricoltura Metropolitana*.

Source: https://psm.bologna.it/Engine/RAServeFile.php/f/Progetti/4.16_AGRICOLTURA-METROPOLITANA.pdf
- visited on 15th April 2021.

residual countryside of the “Agricultural Wedges” and of the hills of the Bolognese urban conurbation, as well as its offshoots in the consolidated urban area. The actual goal would have been to support and strengthen the rural areas included in the urban contexts, consolidating the short supply chain and making agricultural businesses more competitive. In this perspective, the future Metropolitan City would have played a coordinating territorial role for the implementation of the Rural Development Program. Nevertheless, to date there has been no evidence of the implementation of the “Metropolitan Agriculture” project proposal. Despite this, the suggestions and the innovative approaches developed by the working group involved in the project are valid and deserving to be mentioned, testifying the will and commitment of the Metropolitan City of Bologna to the themes of urban and peri-urban agriculture.

With regard to Urban Agriculture, the Metropolitan city of Bologna has been active in various projects and initiatives. These include the European project MADRE - Metropolitan Agriculture for Developing an innovative, sustainable and Responsible Economy⁶⁷, co-financed by the Interreg MED program for the period 2017-2018. The aim of the project was to promote Metropolitan Agriculture among the main stakeholders, create a transnational group of urban and peri-urban agriculture in the Mediterranean area, and develop innovative local policies. The project involved the organization of thematic in-depth events, with the development of a platform to collect a catalogue of the good practices analysed on Metropolitan and Peri-urban Agriculture (MPA), in order to promote dissemination of operational solutions at local, national and transnational levels through an online Mediterranean MPA Platform, to share experience and peer learning amongst stakeholders from participating countries. As part of the project, the Metropolitan City of Bologna organized meetings of the metropolitan working group bringing together local actors to collect good practices, from the experiences of *Arvaia* and *Campi Aperti*, two examples of innovative cooperatives and associations of producers and citizens that support local organic agriculture, and short supply chain based on direct sales; to those dedicated to social innovation such as the Educational Farm *La Fattoria Urbana* and the Community Gardens *Orti Urbani in via Salgari*, which have been included in the Catalogue of MADRE Good Practices, a source of inspiration for discussing possible solutions to encourage the role of agriculture in urban policies and as a key factor in sustainable economic models. At the end of the project, the Metropolitan City of Bologna signed the “Memorandum of Understanding for the Mediterranean network on Metropolitan Agriculture and Food systems”, which commits the signatories to work together on the themes of the MADRE project even after the end of the project, to promote and to preserve metropolitan agriculture and agri-food systems through research and dissemination activities. Another project undertaken by the Metropolitan City of Bologna is SESAME⁶⁸ started in 2019, which aims to support entrepreneurship and agricultural know-how in metropolitan areas. The project aims to promote the dissemination of agricultural projects in urban and peri-urban areas of the partner countries through the development of innovative training opportunities to the key players in

⁶⁷ Source: <https://madre.interreg-med.eu/> - visited on 15th April 2021.

⁶⁸ Source: https://www.cittametropetere.bo.it/progetti_europei/Progetti_europei/SESAME - visited on 15th April 2021.

the sector, taking into account the skills-based approach and the challenges of the digital transition.

Planning Instruments at Metropolitan City level

With regard to the planning instruments currently in force in the Metropolitan City of Bologna, the territorial planning tool is the Provincial Territorial Coordination Plan⁶⁹ (*PTCP*) adopted in 2004, that further framed the planning approach of the peri-urban agricultural territories of the metropolitan area, continuing to recognize them as “Agricultural Wedges” and laying down protective provisions about their environmental and ecological characteristics, identifying areas of particular landscape-environmental interest or aimed at safeguarding naturalistic values. Thanks to the research contribution developed in the 90s, the *PTCP* had developed an appropriate definition of the discipline concerning peri-urban agricultural areas. It recognized a single peri-urban agricultural area comprising the surrounding rural territories or interlude within the settlements of the Bolognese conurbation, defined in reference to precise spatial relationships of contiguity, inclusion and complementarity with the central urban area. To date, the territorial policies of metropolitan peri-urban areas continue to constitute one of the main issues that territorial-urban planning has to face. The Bolognese peri-urban area is affected by the phenomenon of metropolitan decentralization and the blurring of the urban-rural fringe, accompanied by the rising of new dynamics and functions in the rural peri-urban spaces that lead to analyse the interactions between city and countryside in the prospect of developing new models and frameworks of territorial organization suitable for these peri-urban rural context. In this regard, the Metropolitan City of Bologna, in line with European guidelines, has focused on the management and planning of peri-urban agricultural territories adopting as guiding principle the redefinition of the relationship between the city and countryside, as an alternative to the growing process of suburbanization, starting from the reintroduction of agriculture as a system of complex co-production of goods and services, and as an activity destined to regenerate the complexity of large suburban open spaces.

If we then go on to analyse the strategic planning tools currently in force and adopted by the Metropolitan City of Bologna, the Metropolitan Strategic Plan⁷⁰ (*PSM*) was adopted in 2018. Within the sectoral policy of the *PSM* defined as “Urban and Environmental Regeneration”, the “Protection and Enhancement of the Environment, the Rural Area and the Landscape” is identified as a fundamental strategy for pursuing urban regeneration and soil consumption containment. In this context, the Metropolitan City of Bologna focuses the regulation of the rural territory on the protection of the landscape also through the promotion of multi-functional and social agriculture, and on the promotion of sustainable and highly productive agriculture to enhance the necessary food subsistence basin. Furthermore, the

⁶⁹ Provincia di Bologna. (2004). *Piano Territoriale di Coordinamento Provinciale*. Source: https://www.cittametropolitana.bo.it/pianificazione/Engine/RAServeFile.php/f/PTCP/elaborati_piano/relazione.pdf - visited on 19th April 2021.

⁷⁰ Città Metropolitana di Bologna. (2018). *Piano Strategico Metropolitano di Bologna 2.0*. Source: https://psm.bologna.it/Engine/RAServeFile.php/f/documenti/Relazione_PSM_2.0.pdf - visited on 19th April 2021.

strategy identifies by the *PSM* as “Metropolitan Bologna: Sustainable, Responsible and Attractive” intends to pursue objectives of sustainability and growth for the new Apennines, including the protection and enhancement of quality agriculture also in the mountain context of the Bolognese Apennines, at which the metropolitan city pays particular attention as it represents the main environmental asset of the metropolitan area, to be protected and enhanced. Quality agriculture is identified as an opportunity for growth and development of these territories.

With regard to the Metropolitan Territorial Plan⁷¹ (*PTM*), the strategic objectives were approved in February 2021, opening the consultation and participation path that will lead to the approval of the *PTM* by the end of 2021. The *PTM* has set as a priority objective to promote the development of a sustainable, resilient and attractive territory, focused on the key concepts of regeneration and limits to soil sealing. In particular, agriculture is recognized as a «fundamental economic activity also for the ecosystemic balance of the territory, to be treated with guidelines and rules relevant to the different forms of activities in the plains, hills and mountains and in the peri-urban fringes», i.e. the former “Agricultural Wedges”, testifying to be in line with what was inherited from the 2004 *PTCP* (Città Metropolitana di Bologna, 2021).

To conclude, despite it can be noticed a strong interest and involvement by the Metropolitan City of Bologna on the themes of peri-urban agriculture, as testified also through the two most recent strategic and territorial planning documents adopted by the metropolitan body, there is never explicit reference to Urban Agriculture, understood as to be undertaken strictly within urban context. The only attempt to integrate and decline UA in a metropolitan policy had been partially explored and taken into consideration within the “Metropolitan Agriculture” project developed for the management of funds of the Regional Rural Development Program 2014-2020, which however found no entire practical implementation in the years following the establishment of the Metropolitan City.

3.2.2 Regulations on Urban Food Gardening

As far as it concerns Urban Food Gardening regulation, vegetable gardens in Bologna are subject to two different types of regulations, one provided by the Municipality, the other providing the internal rules of the horticultural area. The municipal regulation, adopted in 2009 and titled “Regulation for the conduction and management of land used for horticultural areas”⁷², identifies the purposes pursued through the use of Urban Agriculture by the City of Bologna. Among them two key issues can be deduced, firstly the municipality perceives UA as a means of encouraging social aggregation and citizen empowerment, through the development

⁷¹ Città Metropolitana di Bologna. (2021). *Piano Territoriale Metropolitano. Documento di Obiettivi Strategici*. Source: https://www.cittametropolitana.bo.it/portale/Engine/RAServeFile.php/f/news/PTM_Obiettivi_11022020.pdf - visited on 19th April 2021.

⁷² Comune di Bologna. (2009). *Regolamento per la conduzione e la gestione dei terreni adibiti ad aree ortive*.

Source:

http://www.comune.bologna.it/media/files/regolamento_per_la_conduzione_e_la_gestione_dei_terreni_adibiti_ad_aree_ortive_1.pdf - visited on 15th May 2021.

of shared experiences of horticulture. Secondly, the municipal administration promotes UA to improve the urban environment, through the variety of ecosystem services that urban green is able to guarantee but also through the improvement and valorisation of otherwise abandoned urban spaces and areas. The regulation also explicitly provides for a ban on the sale of products from Urban Food Gardening activities, containing in this way the economic function of these Urban Agriculture practices of this type. It also provides for the assignment of the management of horticultural areas to associations or other local authorities, which have the duty to draw up further internal regulations for the horticultural areas. Finally, the regulation does not specify any conditions relating to the rent as it is defined that the urban gardens will be assigned on free loan.

Another interesting regulatory tool adopted by the city of Bologna and which could represent a potential tool to further promote UA in the urban context is the “Regulation on collaboration between citizens and administration for the care and regeneration of urban commons”⁷³, approved by the Municipality in 2014. Bologna has been the first Italian municipality to adopt a regulation of this kind to follow up on the initiatives undertaken towards a new way of managing urban commons; it was developed in collaboration with Labsus - Laboratory for subsidiarity⁷⁴. With regard to policies related to the issue of Urban Commons, which may include cases of Urban Agriculture, the Municipality of Bologna represents a particular example. In recent years, the administration has been active in promoting the idea that cities can and must be managed as common goods, that is, as essential and functional resources for individual and collective well-being. The different urban population groups of Bologna, thanks to the collaborative approach undertaken by the city, have the opportunity to contribute to designing the rules of their own coexistence, identify the directions of urban development, managing services, activities, neighbourhoods and city’s assets and resources, together with administration. The intention is to allow the various civic, social, economic, cultural and institutional actors to find themselves in an “urban constitutional agreement” that responds to the changing needs of the context. This purpose resulted in the adoption of the Regulation. The Pact on Mutual Cooperation is the tool through which the Municipality and active citizens agree on what is necessary for the purposes of carrying out interventions for the care and regeneration of common goods. This regulation is indeed the result of the project “*Le città come beni comuni*”, which aimed to make shared administration the distinctive feature of the Municipality of Bologna, which in fact was the first administration in Italy to experiment with this “shared administration” framework. The goal is the operational experimentation of forms of civic management of public spaces which is implemented through a collaboration agreement between the Municipality and active citizens. In relation to the realm of UA practices, the city’s regulation on Urban Commons represents a potentially useful tool to support further development of UA practices in the Bolognese scenario, since many of the

⁷³ Comune di Bologna. (2014). *Regolamento sulla collaborazione tra cittadini e amministrazione per la cura e la rigenerazione dei beni comuni urbani*.

Source:

http://partecipa.comune.bologna.it/sites/comunita/files/allegati_blog/odg_172_reg.beni_comuni_urbani_pgn_45010_2014.pdf - visited on 15th May 2021.

⁷⁴ Source: www.labsus.org - visited on 15th May 2021.

existing and on-going practices in the city could be considered as established, organized and managed collectively as commons, rising a democratic use of public spaces. In this regard, more recent realized project of UA in Bologna already have exploited this regulation applying as space management tools a Pact on Mutual Cooperation between the municipality and any kind of citizen association.

Finally, in 2020 the Municipality adopted the “Regulation on public and private green”⁷⁵, as part of the Urban Building Regulations⁷⁶ (*RUE*). However, no reference is made to urban horticultural areas, so it can be understood that areas dedicated to Urban Agriculture practices are not officially or strictly recognized as urban green, for regulatory purposes. In fact, as will be discussed in the section dedicated to the urban planning tools in force at municipal level, a specific Article is dedicated to urban food gardens in the context of the *RUE*.

3.2.3 Urban Planning tools in force

The Municipal Structural Plan⁷⁷ (*PSC*) is the general planning tool currently in force in the municipality of Bologna, that is characterized by being a strategic tool, not strictly focused on functional zoning. It outlines the strategic choices for the structure and development of the territory, protecting its physical and environmental integrity, guiding the urban development of the city in the long term. It was introduced with the Regional Law 20/2000⁷⁸ on Urban Planning, which replaced the previous municipal planning tools represented by the General Regulatory Plan (*PRG*) and the Building Regulations. According to this law, the *PSC* is supported by the Municipal Operational Plan (*POC*) and by the Urban Building Regulations (*RUE*). These three tools are developed in an integrated manner and the set of all these documents constitutes a single, internally coherent instrument for territorial governance and planning.

The *PSC* currently in force dates back to 2008 and is made up of various documents and maps. The Explanatory Report explains the various development strategies of the territory and is flanked by the Knowledge Framework of the territory, and by the Regulatory Framework documents, which organizes the contents of the *PSC* by specifying their value in terms of address, directive or prescription. These documents are flanked by three series of graphical tables. The first series concerns the “Seven Cities of Bologna”, or rather the seven macro-areas of intervention identified by the urban planning tool of the city. The second series of tables

⁷⁵ Comune di Bologna. (2020). *Regolamento edilizio. Regolamento del verde pubblico e privato*. Source: http://sit.comune.bologna.it/alfresco/d/d/workspace/SpacesStore/b25b3048-a733-4c02-9563-abfa6151005d/RE_AllegatoRegolamentoVerdePubblicoPrivato.pdf - visited on 15th May 2021.

⁷⁶ Comune di Bologna. Assessorato Urbanistica, Pianificazione territoriale, Casa. (2009). *Regolamento Urbanistico Edilizio*. Source: http://sit.comune.bologna.it/alfresco/d/d/workspace/SpacesStore/6da15be7-16dd-4f40-af43-056d24a965ab/Rue_vigore.pdf - visited on 15th May 2021.

⁷⁷ Comune di Bologna. Assessorato Urbanistica, Pianificazione territoriale, Casa. (2007). *Piano Strutturale Comunale*. Source: <http://dru.iperbole.bologna.it/categorie-pianificazione/piano-strutturale-comunale-psc> - visited on 15th May 2021.

⁷⁸ Regione Emilia Romagna, Legge Regionale 24 marzo 2000, n. 20 “Disciplina generale sulla tutela e l’uso del territorio”.

concerns the “Strategies for quality”, which are articulated through three systems: that of infrastructures for mobility; that of equipment and public collective spaces; and the system of ecological and environmental equipment. The third series of tables is called “Rules”; they include a single map of the territory with the reorganization of all the constraints and protection prescriptions identified by the higher-level plans; and a “Territorial Classification Map”, which could be assimilated to an attempt of zoning, despite it is not of a functional type, but attributable to the classification of the territory in terms of urbanized, urbanizable or rural areas, as required by Regional Law 20/2000. This map provides for the disaggregation of the territory into 189 areas which are defined as: urban territory to be structured; structured urban territory; historical areas; and rural territory. Furthermore, each area is also distinguished by its functional characterization, distinguishing between mixed and specialized areas. The areas are aggregated into 34 situations, divided into: urban; countryside; and hilly, in order to manage the qualification micro-processes to be undertaken. As for the elaboration of any *POC*, this tool is drawn up in coherence with the *PSC* for areas intended for new settlements, urban replacement or redevelopment interventions. With regard to the formation of the *RUE*, on the other hand, it contains the general discipline of the types of intervention, methods of implementation and intended land-use designation, possibly specified in the context of each *POC*.

It is important to underline that in 2017, the new Regional Law 24/2017⁷⁹ on Urban Planning was adopted. It introduced again a new municipal planning tool in substitution to the *PSC*, which is the General Urban Plan (*PUG*). The new *PUG* for the city of Bologna was adopted by the City Council at the end of 2020, however it is not yet in force, so for the purposes of the research the provisions contained in the planning instruments previously presented have been considered, namely the *PSC* of 2008, the *RUE* and any possible *POC*. As part of the drafting of the new *PUG*, also in 2020, it should be specified that Bologna, which has always been at the forefront of urban green management in Italy, has also developed a Municipal Green Plan⁸⁰, mainly oriented towards contrasting soil sealing and land taking, and to the conservation and enhancement of ecosystem services related to urban greenery.

A research study carried out by Djalali and Virgilio (2007) regarding the relationship between urban planning and the food system in the Bolognese context, heralded how the new planning tool being drafted in that period, the *PSC* of the municipality of Bologna currently in force, could implicitly have offered numerous opportunities for Urban Agriculture. On the one hand, the *PSC* introduced the concept of sustainability as one of the principles that must inspire the action of transformation of the urban environment. It also provided for the acquisition through urban equalization of a large number of areas, located mainly in the suburbs, but also within the built fabric, which could have been constitute the first nuclei for the realization of Urban Agriculture projects, opening also the possibility to their official recognition as an urban standard. However, the research also highlighted the lack of a systematic and strategic vision

⁷⁹ Regione Emilia Romagna, *Legge Regionale 21 dicembre 2017, n. 24 “Disciplina regionale sulla tutela e l’uso del territorio”*.

⁸⁰ Source: <http://www.comune.bologna.it/ambiente/notizie/6:48355/> - visited on 15th May 2021.

on Urban Agriculture in the tool. In addition, it was interesting that the paper also indicated how the *RUE* could have been the most suitable tool to define the rules for the construction and implementation of urban gardens, incentives for the construction of green roofs and rules for the provision of cultivated areas to support new building interventions. Furthermore, the future Municipal Green Plan could have regulated management problems and the networking of all urban and peri-urban cultivation activities.

In this regard, the *RUE* currently in force explicitly mentions Urban Gardens in its Article 42, part of Title I dedicated to the discipline of public open spaces. The *RUE* defines urban gardens as plots of land for cultivation for domestic use, within which the construction of structures for purposes solely related to the cultivation of the gardens themselves or for social activities of associations or managing bodies is allowed. The *RUE* also states that the presence of Urban Gardens is encouraged for its social function as a protection of the territory and an opportunity for socialization, as well as in terms of their contribution to the formation of an environmental connective and the enhancement of organic products and short supply chains. The Urban Building Regulations also specify, through specific forms, the performance requirements to be respected for the construction of urban gardens, which pursue the objective of guaranteeing the quality of the food products grown, regulating the water consumption of horticultural activities and improving the urban image of the contexts in which the gardens are inserted.

3.3 Case studies of Urban Food Gardening in Bologna

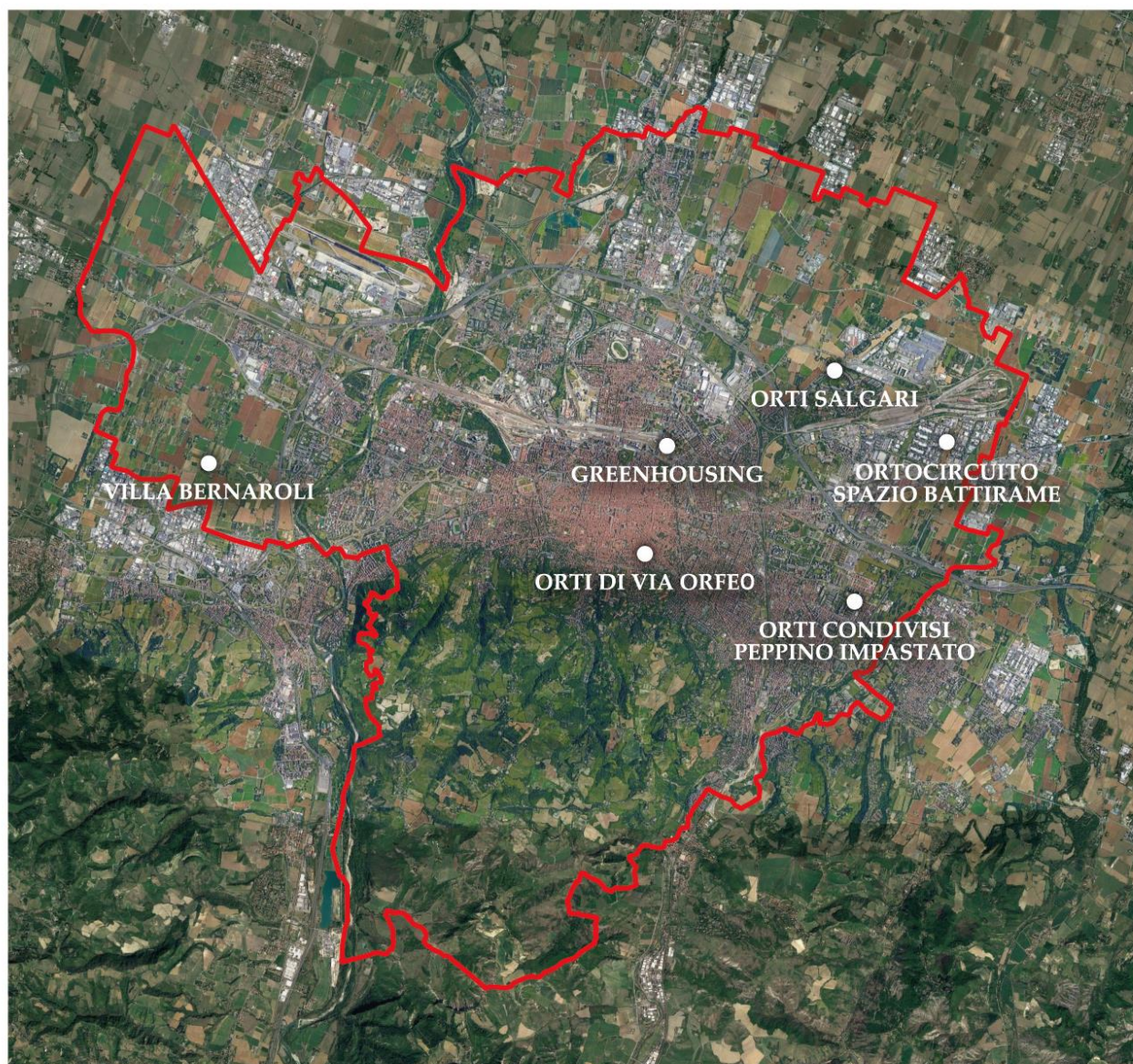


Figure 4 - Case studies of Urban Food Gardening selected in Bologna. *Personal Elaboration.*

3.3.1 Orti Salgari



Mixed-use
Built-up
Area.

Figure 5 - Aerial view of Orti Salgari. *Personal Elaboration.*

Source: Google Satellite. <https://mt1.google.com/vt/lyrs=s&x={x}&y={y}&z={z}> - visited on 20th August 2021.

Typology:	Allotment Gardens, Therapeutic Gardens.
Land property:	Public.
Location:	Peri-Urban.
Timeframe:	Since 1980-85.
Dimension:	About 24,000 m ² .
Stakeholders:	<i>Comune di Bologna, Associazione Orti di Via Salgari, ANCeSCAO, Quartiere San Donato.</i>
Main Source:	https://www.pilastrobologna.it/tag/associazione-orti-di-via-salgari/ - visited on 23 th March 2021.

Table 1 - Information summary about Orti Salgari. *Personal elaboration.*

The context

The *Orti Salgari* are located in a fairly peri-urban location, in *via Emilio Salgari*, in the *Quartiere San Donato*. The gardens occupy a large area that is part of the urban greenery conceived to complement the residential expansion of the *Pilastro* neighbourhood, in the north-eastern part of the city of Bologna. The urban gardens occupy a vast area, representing the largest Allotment Gardens complex in Bologna. The residential expansion in the *Pilastro* district started around 1965 towards the countryside and continued in the following decade with the construction of the so-called "*virgolone*", a seven-storey building over 700 m long for social housing. The area destined to the Urban Food Gardens follows the half-moon shape of the

building, surrounded by road infrastructures, and is divided into two main large lots, separated by a green area once dedicated to sporting activities, with several fruit trees planted in the common zones. Given the extent of the gardens and their peripheral location, the strip of land on which they develop has been classified by CLC dataset⁸¹ as an agricultural area, despite being located between a low-density residential expansion zone and a specialized industrial district.

The horticultural area is entrusted to the managing body *Associazione Orti di Via Salgari*⁸², whose management board is made up of 7 people who are responsible for maintenance, general observation of the area and also socialization activities. The total number of available plots is 398. Part of them are assigned to the *Anmassim*⁸³ association, aimed at the integration of women of Arab origin residing in the city. Social and recreational activities are also carried out in *Orti Salgari*, also in collaboration with the nearby *Circolo la Fattoria*⁸⁴, which manages an Urban Farm in Bologna not far from the *Orti Salgari*. The gardens were involved in the *Orti per Tutti*⁸⁵ project and, in a collaboration with the University of Bologna is also part, of the European project HORTIS - HORTiculture in Towns for Inclusion and Socialisation⁸⁶, for promoting training opportunities in community horticulture, involving unemployed adults in training courses dedicated to creating and maintaining a vegetable garden. The *Orti Salgari* have become a real social place, that offers education, opportunities and support. For example, some local middle schools started an outdoor afternoon workshop involving students in the cultivation of a vegetable garden and in the harvest of vegetables. Some direct experiences also gave rise to the idea of starting, in collaboration with *Lega Italiana per la Lotta contro i Tumori*⁸⁷ (LILT) and the patronage of the *Quartiere San Donato*, a project of orthotherapy for cancer patients and their families.

As in the case of *Villa Bernaroli*, presented later, the horticultural areas have been developed under public initiative, undertaken by the Municipality since the 1980s. The type of Urban Food Gardening is declined in this case in the Allotment Gardens and partly in the Therapeutic Gardens; the former are mainly granted on loan for free use to private citizens, while the latter are used for therapeutic and social purposes by various associations, as in the case of the *Anmassim* or the orthotherapy program promoted in collaboration with LILT. The management of the entire area and the allocation of gardens is also mediated in this case by a managing body, the *Associazione Orti di Via Salgari*, that acts as an intermediary between the municipality, owner of the area, and the tenants, whether they are associations or private citizens. The area was assigned with a public tender by the Municipality for land assignment on free loan. Therefore, the space management tool applied is the municipal regulation

⁸¹ The CORINE Land Cover (CLC) inventory updated to 2018. Source: <https://land.copernicus.eu/pan-european/corine-land-cover> - visited on 8th June 2021.

⁸² Source: <https://www.pilastrobologna.it/tag/associazione-orti-di-via-salgari/> - visited on 15th April 2021.

⁸³ Source: <http://annassimblog.blogspot.com/> - visited on 15th April 2021.

⁸⁴ Source: <http://www.circolofattoria.it/> - visited on 15th April 2021.

⁸⁵ Source: <https://www.fondazioneinnovazioneurbana.it/42-urbancenter/896-esiti-del-concorso-ortipertutti> - visited on 6th April 2021.

⁸⁶ Source: <https://site.unibo.it/hortis/it> - visited on 15th April 2021.

⁸⁷ Source: <https://www.legatumoribologna.it/> - visited on 15th April 2021.

“Regolamento per la conduzione e la gestione dei terreni adibiti ad aree ortive”, while the publication of an internal regulation for the horticultural area has not been confirmed.

Land Use Designation

The Allotment Gardens in *via Salgari* are considered by the *PSC* of Bologna and the annexed *RUE* as public green areas, therefore as a public facility, inserted in a structured urban fabric, in a planned mixed-use built-up area.

3.3.2 Villa Bernaroli



Agricultural Area.

Figure 6 - Aerial view of Villa Bernaroli urban gardens. *Personal Elaboration.*

Source: Google Satellite. <https://mt1.google.com/vt/lyrs=s&x={x}&y={y}&z={z}> - visited on 20th August 2021.

Typology:	Allotment Gardens, Therapeutic Gardens, Cultural Heritage Farm. + Urban Farming.
Land property:	Public.
Location:	Peri-Urban.
Timeframe:	Since 1980.
Dimension:	About 21,000 m ² .
Stakeholders:	<i>Comune di Bologna, Centro Sociale Anziani e Orti di Villa Bernaroli, ANCeSCAO, Quartiere Borgo Panigale, Arvaia.</i>
Main Source:	https://www.villabernaroli.it/ - visited on 23 th March 2021.

Table 2 - Information summary about Villa Bernaroli urban gardens. *Personal elaboration.*

The context

Villa Bernaroli estate is located in the south-western peri-urban countryside of the city of Bologna, in *Quartiere Borgo Panigale*. The area surrounding Villa Bernaroli, a prestigious seventeenth-century rural villa with attached service buildings and a chapel, is included in the larger rural context of the "Agricultural Wedge" of the Bolognese metropolitan area. The estate as a whole occupies almost 56 hectares of agricultural land of public property, which was in fact purchased in 1973 by the Municipality of Bologna. The characteristics of the estate, the usability of the external open spaces as well as the functionality of the indoor spaces made the estate a

potential place for social, recreational and tourist functions. In 1980 the restoration of the Villa began and the first Community Gardens for the elderly were activated by the Municipality, while part of the estate was equipped as a public park. Only in 1987 the *Centro Sociale Villa Bernaroli*⁸⁸ was founded, giving official institution to voluntary activities which, through self-financing solutions, manage a constant social activity. At the time, about 46 hectares were granted for agricultural use to various actors with different contractual deadlines, while the remaining ones were destined to *Quartiere Borgo Panigale* and other associations active in the area. Since 2006, the entire area has become an integral part of the *Parco Città Campagna*⁸⁹ peri-urban Agricultural Park project, a metropolitan scale initiative whose first development nucleus has been *Villa Bernaroli* complex, in the municipality of Bologna. In fact, it was in 2006 that a Committee for the promotion of the park was promoted by *Quartiere Borgo Panigale*, which allowed various active actors, individual citizens and representatives of various groups and associations to develop a shared planning path for the recovery and protection of the rural landscape of the area, by maintaining the agricultural management of the estate, and at the same time favouring recreational, educational and tourist vocation of the area. In 2013, through a Council Resolution⁹⁰, the *Parco Città Campagna* at *Villa Bernaroli* became a reality, with the aim of creating a park equipped with various facilities and pedestrian and cycle paths, which at the same time would enhance the agricultural vocation of the land, even though the direct involvement of citizens in land cultivation experiences.

Nowadays, 47 hectares of land, owned by the municipality and located in *via Olmetola* are entirely cultivated by the *Arvaia*⁹¹ agricultural cooperative. It is a cooperative of citizens, producers and farmers, founded in 2013 in Bologna, which started by cultivating just 3 hectares of land with vegetables in a small patch within the *Villa Bernaroli* agricultural area. In 2015, through a public tender, the Municipality of Bologna rented them 47 hectares of agricultural land in the area of *Villa Bernaroli*, with a 25-year lease as part of the *Parco Città Campagna* project. Of the 47 hectares, 40 are intended for agriculture and 7 are open to the free use of citizens through a network of cycle and pedestrian paths. *Arvaia* is the first Community-Supported Agriculture (CSA) in Italy, a business model based on a participatory management of agricultural production. Being a CSA, the members of the cooperative actively participate in its economic management, applying the redistribution of the vegetable harvest. The members finance the agricultural production with an annual fee, receiving a part of the harvest weekly. The CSA activities are coordinated through the internal "CSA Regulation"⁹² drawn up on the basis of the cooperative's statute. Thanks to this peculiarity, the *Arvaia* cooperative is part of the SMARTCHAIN - Smart Solutions in Short Food Supply Chains⁹³ project as one of the two

⁸⁸ Source: <http://www.villabernaroli.it/> - visited on 15th April 2021.

⁸⁹ Source: <http://www.comune.bologna.it/news/parco-citt-campagna-di-villa-bernaroli> - visited on 20th April 2021.

⁹⁰ Comune di Bologna, *Delibera di Giunta* 9 luglio 2013, P.G. 160000/2013. "Attuazione del progetto Parco Città Campagna di Villa Bernaroli. Indirizzi per l'affidamento di immobili di proprietà comunale".

⁹¹ Source: <http://www.arvaia.it/> - visited on 15th April 2021.

⁹² Arvaia. *Regolamento CSA – Comunità che Supporta l'Agricoltura*.

Source: http://www.arvaia.it/wordpress/web/wp-content/uploads/2016/02/REGOLAMENTO-SOCI-FRUITORI_DEF.pdf - visited on 15th April 2021.

⁹³ Source: <https://www.smartchain-platform.eu/en/case-studies/italy> - visited on 15th April 2021.

innovation hub involved in Italy. In addition to the agricultural production, the cooperative is also in charge for the management of the public green of the *Parco Città Campagna*. In the context of the park, the cooperative also manages the *Arvaia* Educational Farm, where various recreational and workshop activities are proposed, aimed at environmental education, with specific practical activities aimed at bringing citizens closer to agricultural production and in particular to organic farming techniques. In the same context, the direct sale of seasonal organic fresh vegetables, cereals, legumes, fruits and honey takes place.

The agricultural practices managed by the *Arvaia* cooperative have been identified as Urban Farming practices, since they are intentionally oriented to local markets and foster direct relationship with consumers and short food supply chain in quality of Community Supported Agriculture. However, the case study has been selected for this research as a Urban Food Gardening practice since part of the publicly owned land is dedicated to Allotment Gardens. In fact, there are currently 345 plots dedicated to Allotment and Therapeutic Gardens, owned by the municipality but entrusted to the management of the *Centro Sociale Villa Bernaroli*. Moreover, being the Villa a building complex of historical value, this experience can be also interpreted as a Cultural Heritage Farm. The first Allotment Gardens were created in 1980 on the initiative of the municipality of Bologna, when 80 small plots of land were realized. In 1983, given the request, the gardens became 420 and another 150 were in planning. To date, the volunteers of the *Centro Sociale Villa Bernaroli*, affiliated with *ANCeSCAO*, are responsible for the administrative and practical management of the gardens, including the assignment procedures. Most of the horticultural plots are therefore Allotment Gardens assigned to individual citizens, although part of them are used for educational activities. The horticultural area refers to the structures of the adjacent Villa, headquarters of the *Centro Sociale*. In this context, the latter carries out an intense social and recreational activity as well as didactic and educational initiatives in collaboration with some local schools and parishes. An agricultural market of local producers is also hosted on site. The horticultural areas are therefore owned by the municipality, which assigns to private citizens a plot of size between 20 and 40 square meters on a free loan for use in horticulture. With regard to regulations, the one applied for the management of horticultural areas is the municipal regulation "*Regolamento per la conduzione e la gestione dei terreni adibiti ad aree ortive*", and no internal regulation has been found.

Land Use Designation

The Allotment Gardens are considered by the urban planning instruments of the city of Bologna (*PSC* and *RUE*) to be a public facility, classified as green areas in a rural territory of landscape values, for this reason a protected site. In particular, the horticultural areas are recognized in the strategic documents of the municipal master plan (*PSC*) as elements of ecological-landscape connection, included in the *Parco Città Campagna* project, a peri-urban Agricultural Park aimed at the protection, recovery and enhancement of the agricultural territory.

3.3.3 Orti Condivisi, Giardino Peppino Impastato



Green Urban
Area.

Figure 7 - Aerial view of Orti Condivisi. *Personal Elaboration.*

Source: Google Satellite. <https://mt1.google.com/vt/lyrs=s&x={x}&y={y}&z={z}> - visited on 20th August 2021.

Typology:	Community Gardens.
Land property:	Public.
Location:	Urban.
Timeframe:	Outcome of the international design competition “Orti per Tutti” in 2014. Community Gardens active since 2018.
Dimension:	About 2,000 m ² .
Stakeholders:	Comune di Bologna, Urban Center Bologna, Fondazione Villa Ghigi, Quartiere Savena, Associazione Orti Giardino Peppino Impastato.
Main Source:	http://www.comune.bologna.it/news/ortipertutti-selezionati-i-tre-progetti-vincitori - visited on 23 th March 2021.

Table 3 - Information summary about Orti Condivisi. *Personal elaboration.*

The context

The *Giardino Peppino Impastato* is a public green area located in the *Quartiere Savena*, a residential district in the eastern outskirts of Bologna, in *via Luigi Bombicci*. After years of abandonment, recently part of this land was recovered on the initiative of *Quartiere Savena* to develop a “new-generation” type of shared vegetable gardens called *Orti Condivisi*, within the “*Orti Per Tutti*” *orti* project, a tender promoted in 2014 by the Municipality of Bologna, Urban Center Bologna and *Villa Ghigi* Foundation. This international design competition combined

urban planning with agronomic criteria in order to equip the city of Bologna with new Urban Food Gardens within a variety of public green spaces. The “new-generation” shared vegetable gardens promoted by the project are conceived to demonstrate a greater respect for the environment and more refined sense of design paying particular attention to sustainability, quality of agricultural choices, recycling best practices, accessibility and biodiversity. The call therefore had as its objective the design of solutions for small-medium size urban vegetable gardens that could be integrated into the urban space, in particular in three public green areas selected by the administration, which identified also the *Giardini Peppino Impastato*. Among the 81 project proposals, the winning one⁹⁴ was positively judged for his ability to overcome the logic of Community Gardens as a closed enclosure, proposing a system capable of organizing flexible open spaces. Although the implementation of the gardens was scheduled for one year from the end of the competition, the project was characterized by a long and difficult bureaucratic process, that ended only in 2018, when the management of the gardens was assigned to the *Associazione Orti Giardino Peppino Impastato*.

The assignment of the area has been realized through the signing of a Pact on Mutual Cooperation⁹⁵ with the Municipality in 2018. Regarding this cooperation agreement, the document expressly mentions the intent of the Municipality of Bologna to promote and enhance active citizenship for the care and regeneration of urban common goods, with reference to the regulation “*Regolamento sulla collaborazione tra cittadini e amministrazione per la cura e la rigenerazione dei beni comuni urbani*”, approved in 2014, which governs the relationships between the administration and citizens in regards to the management of urban commons. The collaboration agreement was a response to the expression of interest moved by a group of citizens interested in the assignment of the shared use of the Community Gardens realized in the *Quartiere Savena*. This group of citizens would later have constituted the *Associazione Orti Giardino Peppino Impastato*. The concession for the land of the horticultural area takes place through a free grant, whose purpose is the implementation of the “*Orti per Tutti*” project, as an experience to increase the ecological and landscape value of the area, as well as promote awareness and learning on the issues of local and sustainable cultivation. The management model is of a shared type, it is a Community Garden where no individual parcels are assigned to single member of the association. The cultivation and maintenance of the whole area is expressly oriented to the principles of organic farming. Furthermore, the agreement with the municipality envisaged that the association would not have received any remuneration for the management of the horticultural area and that the management of other facilities or ancillary activities by third parties would not have pursued profit-making purposes. For further details relating to the management of horticultural areas, reference is made to the current legislation on

⁹⁴ Source: <https://www.fondazioneinnovazioneurbana.it/42-urbancenter/896-esiti-del-concorso-ortipertutti> - visited on 6th April 2021.

⁹⁵ Comune di Bologna. Quartiere Savena. (2018). *Patto di Collaborazione con l'Associazione Orto Giardino Peppino Impastato A.P.S. per la realizzazione di un progetto denominato “Orti Per Tutti, Condivisione di un Progetto Sociale” nel Quartiere Savena*.

Source:

http://partecipa.comune.bologna.it/sites/comunita/files/pdf_patto_collaborazione/orto_giardino_peppino_impastato.pdf - visited on 15th April 2021.

the subject by the municipal administration, which is the *“Regolamento per la conduzione e la gestione dei terreni adibiti ad aree ortive”*.

Actually, this case study does not regards Allotment Gardens, intended as horticultural plots rented under tenancy agreement from municipal initiatives on public land. Although the project for realizing these *Orti Condivisi* was a public initiative, the effective management of the horticultural area was then made possible emerging as a bottom-up initiative, therefore the Community Gardens are tended collectively. This aspect, which differentiates this case study from the ones of *Villa Bernaroli* and *Orti Salgari*, also demonstrates a different solution in the adoption of space management tools. In fact, in this case, a collaboration agreement was signed for the management of the Community Gardens as urban commons.

Land Use Designation

The Community Gardens, being located in a public urban park, are recognized by the *PSC* and the *RUE* as public green areas. In specific, at the time of the plan adoption, the area was identified as “planned to be implemented”. Therefore, the horticultural areas are considered as a public facility in the form of public green spaces. In fact, the master plan, although it indicates the area as a project area on which to intervene for the development of urban greenery, does not identify Urban Food Gardening as a specific function or intended land use.

3.3.4 OrtoCircuito, Spazio Battirame



Public
Facility
Area.

Figure 8 - Aerial view of OrtoCircuito. *Personal Elaboration.*

Source: Google Satellite. <https://mt1.google.com/vt/lyrs=s&x={x}&y={y}&z={z}> - visited on 20th August 2021.

Typology:	Community Gardens, Therapeutic Gardens, Educational Gardens.
Land property:	Public.
Location:	Urban.
Timeframe:	Since 2013.
Dimension:	About 1,700 m ² .
Stakeholders:	<i>Comune di Bologna, Eta Beta, University of Bologna, Enel Cuore Onlsu, ResCUE-AB.</i>
Main Source:	https://www.etabeta.coop/spaziobattirame-orti/ - visited on 23 th March 2021.

Table 4 - Information summary about OrtoCircuito. *Personal elaboration.*

The context

OrtoCircuito is an horticultural area located in the urban context, in the specialized *Roveri* industrial district, part of the *Quartiere San Vitale*, in the north-eastern outskirts of Bologna. The manufacturing district was abandoned during the industrial decay of the area, therefore this case study represented an attempt of urban regeneration within an abandoned and degraded urban area through the implementation of an urban garden, basing the project on the creation of a food cooperative for fostering social integration. The *OrtoCircuito* horticultural

area is part of the *Battirame* project, led by *EtaBeta*⁹⁶, a social enterprise whose purpose is to create long-term, self-sustaining job opportunities for disadvantaged people. The regeneration project started in 2013 and initially included a permaculture biodynamic Community Garden and a soilless Therapeutic Garden occupying just 1,300 square meters. These horticultural areas were technically designed by the association *BiodiverCity*⁹⁷, following permaculture and biodynamic agriculture principles, dedicated to vegetable and ancient fruit three species production. In addition to the gardens, in 2013 *Spazio Battirame*⁹⁸ was inaugurated, as a result of constant and collective work. It is hosted in a historical farmhouse, open to the public and to the integration of people, around which the urban vegetable gardens open to the community comes to life. The *Battirame* farmhouse is the site of meetings, courses and activities, such as handcraft atelier of ceramic, glass and wood, as well as of bread production and cuisine activities, educational workshops and other knowledge exchange initiatives. In the same context, the Faculty of Agrarian Science of the University of Bologna is also involved as an active actor in the organization of meetings for the study of issues related to agriculture and sustainable food. Subsequently, the project was further developed and implemented. In particular, the *Spazio Battirame* was promoted by the *Enel Cuore Onlus* association as part of the call for proposal "*Orti Urbani e Agricoltura sociale*"⁹⁹ to spread community horticulture, which started in 2015, being included among the 13 most innovative social inclusion projects which used horticulture in disadvantaged contexts for therapeutic and rehabilitative purposes, as well as educational, recreational and occupational ones. Then, in 2016, the project related to the vegetable gardens expanded re-qualifying an adjacent area of 4 hectares from the abandoned industrial neighbourhood. This second vegetable garden was dedicated to organic production of vegetables and cereals, conducted by members of the social cooperative *EtaBeta*, under the scientific guidance of the University of Bologna, and thanks to the financial support of the City Council and the private foundation *Enel Cuore Onlus*.

Thus, *Spazio Battirame* has different types of terrain to which the *EtaBeta* has given different functions. Near the farmhouse there is the internal Community Garden with aromatic and medicinal plants as well as Educational Gardens designed for school visits. Outside the walls surrounding the estate of the farmhouse there are gardens of about 4 hectares owned by the Municipality of Bologna and leased to the cooperative through a free grand of land. The whole system of gardens are managed by local residents, volunteers and *Eta Beta*'s workers, while assisted also by students from the University. Moreover, *ResCUE-AB* periodically monitors the eventual presence of contaminants in both soil and vegetable samples, to ensure food safety of the cultivated species. The economic sustainability of the gardens is ensured through self-financing, by direct selling of the produce in the farmers' market, as well as providing fresh ingredients to the *Battirame* restaurant. Indeed, horticultural production has allowed the development of *EtaBetaBio*, a branch of the cooperative devoted to the production

⁹⁶ Source: <https://www.etabeta.coop/> - visited on 15th April 2021.

⁹⁷ Source: <https://site.unibo.it/urbangreentrain/it/inventario/biodiversity> - visited on 15th April 2021.

⁹⁸ Source: <https://www.etabeta.coop/spaziobattirame/> - visited on 15th April 2021.

⁹⁹ Source: <https://www.enelcuore.it/it/comunicazione/news/d201703-inaugurazione-dello-spazio-battirame-bo-un-orto-urbano-per-ricominciare.html> - visited on 15th April 2021.

and distribution of vegetables to families and Ethical Purchasing Groups in Bologna, allowing the creation of jobs for the most disadvantaged people. Moreover, local residents are also allowed to rent a portion of the garden for their family needs, either growing crops themselves or hiring socially disadvantaged people from *EtaBeta* to get help in agricultural activities.

With the endowment of these spaces, *EtaBeta*, together with the Municipality of Bologna, the Faculty of Agrarian Science of the University of Bologna and the *Tasca* Architecture Studio, is involved in the project for the construction of a Cycle-Eco-Horticultural Corridor¹⁰⁰ which starting from the *Roveri* railway station develops along *via delle Bisce*, involving the *Battirame* land and spaces up to the Faculty of Agriculture. The goal of the project is to create an ecological corridor that involves a series of green infrastructures such as vegetable gardens, public parks and cultivated fields, ecologically interconnected for the preservation of urban biodiversity, also allowing a series of ecosystem services to be provided.

The UA practices conducted in the context of this case study partly represent Urban Farming activities, conducted by *EtaBetaBio* that deals with direct selling and short food supply chain. However, it was selected for the purpose of this research as a horticultural area where Urban food Gardening is addressed to different activities; thus we find Community Gardens, managed collectively by the resident volunteers and by the association's workers, and also Educational and Therapeutic Gardens dedicated to didactic activities carried out by the cooperative. As for the space management tools, the project is based on a well-established public-private collaboration and on a formal agreement for the use of public land with the Municipality over a 20 year period, therefore an ensured long-term sustainability of the project is expected. As for the vegetable garden spaces inside the walls surrounding the farmhouse that is the headquarter of *Spazio Battirame*, it was assigned to *EtaBeta* in 2013 through a public tender at a pre-established rent of concession. This concession also included the open areas adjacent to the buildings affected by the tender, occupied by the 1,300 square meters of Community Gardens. In particular, in the context of the Cycle-Eco-Horticultural Corridor, in 2016 a Pact on Mutual Cooperation¹⁰¹ was signed between the municipality of Bologna, the *Quartiere San Donato-San Vitale* and *EtaBeta*, with free grand of land owned by the Municipality, corresponding to 4 hectares on which the cooperative's horticulture activities take place. The Pact on Mutual Cooperation stipulated is based on the "*Regolamento sulla collaborazione tra cittadini e amministrazione per la cura e la rigenerazione dei beni comuni urbani*". In the document of collaboration agreement it is expressly indicated that the leased land should have been destined

¹⁰⁰ Source:

<http://atti9.comune.bologna.it/atti/determine.nsf/xsplaibmmmodres/dominol/OpenAttachment/atti/determine.nsf/159D135A763A8156C125805000418FD0/testoricco1/progetto%20Eta%20Beta%20Onlus%20con%20PG.pdf> - visited on 15th April 2021.

¹⁰¹ Comune di Bologna. Quartiere San Donato-San Vitale. (2016). *Patto di Collaborazione tra il comune di bologna – Quartiere San Donato-San Vitale e l'associazione EtaBeta Onlus per la realizzazione del progetto di Corridoio Ciclo-Eco-Ortivo con concessione, a titolo gratuito, di terreno di proprietà comunale sito in Bologna, via delle Bisce*.

Source:

http://partecipa.comune.bologna.it/sites/comunita/files/pdf/patto_collaborazione/patto_collaborazione_eta_beta_0.pdf - visited on 15th April 2021.

in part to social gardens for the citizens, in part to the production of vegetables and ancient grasses. In addition, the agreement emphasized that the land is granted free of charge, given the social value of the activities presented within the urban redevelopment project. It is therefore interesting to note that in this case, as part of a project aimed at the development of green infrastructures for the urban regeneration of a degraded industrial district, the UA practices appear cited as a specific function and intended use of the land within a Pact of Mutual Collaboration between the municipality and the citizens, but not in a dedicated urban planning tool.

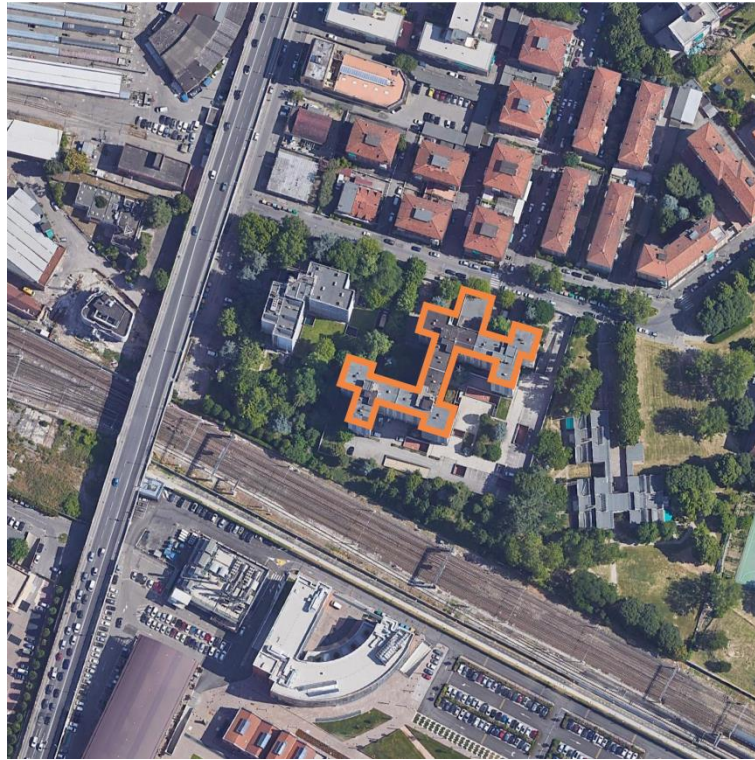
Land Use Designation

The horticultural area is located in the structured urban fabric. The *PSC* identify the area in which *Spazio Battirame* is located as a specialized built-up area, object of urban regeneration. In detail, the Urban Building Regulations classify the area dedicated to the *Spazio Battirame* together with its horticultural area, named *OrtoCircuito*, as a public facility complex as a whole, in this case intended as a public space for social and cultural activity, not classified as urban green.

Being identified as object of urban regeneration interventions, since 2017 the area is involved in the "*Corridoio Ciclo-Eco-Ortivo Roveri/Battirame/Scuola di Agraria*"¹⁰² project, aimed at creating a system of green infrastructures represented by vegetable gardens, public parks and cultivated fields, ecologically interconnected for the conservation of urban biodiversity integrated with the productive development of the same green infrastructures in terms of ecosystem services.

¹⁰² Source: <http://partecipa.comune.bologna.it/corridoio-ciclo-eco-ortivo-roveri> - visited on 15th April 2021.

3.3.5 GreenHousing



Mixed-use
Built-up
Area.

Figure 9 - Aerial view of GreenHousing rooftop gardens. *Personal Elaboration.*

Source: Google Satellite. <https://mt1.google.com/vt/lyrs=s&x={x}&y={y}&z={z}> - visited on 20th August 2021.

Typology:	Community Gardens.
Land property:	Public.
Location:	Urban.(Rooftop gardens).
Timeframe:	2010 - 2017.
Dimension:	About 1,300 m ² .
Stakeholders:	<i>Comune di Bologna, ACER, University of Bologna, ResCUE-AB, BiodiverCity.</i>
Main Source:	https://www.youtube.com/watch?v=1XwvRcONXHc - visited on 23 th March 2021.

Table 5 - Information summary about GreenHousing rooftop gardens. *Personal elaboration.*

The context

The *GreenHousing* project involved the realization of rooftop gardens on four housing buildings in *via Gandusio*, north of Bologna, where nearly 160 families live in the *Quartiere San Donato*. It is a pioneering experience of UA practice consisting in social inclusive rooftop gardens in a public social housing building, which is managed by *Azienda Casa Emilia-Romagna* (ACER). The social housing complex was originally built for hosting workers that migrate from the South of Italy in the 60s. Nowadays, it still host two different communities: advanced-age Italians (former migrants in the 60s) and current international immigrants from Africa and Asia.

The realization of the rooftop gardens was part of the *GreenHousing*¹⁰³ project, a local initiative launched by the Municipality of Bologna with the goal of bringing different communities living in the city closer together while implementing strategic solutions for a more sustainable city. The aim of the project was to encourage the alternative use of almost 250 square meters of each roof terrace of the residential complex towards community building and social inclusion in a public housing development. The realization of a community garden has been a way to improve relationships between building residents, to act on social and regeneration themes, as well as to produce pesticide-free vegetables for self-sufficiency. The community garden was designed by the Municipality of Bologna in cooperation with the association *BiodiverCity* and the ResCUE-AB. A participatory design process was performed through multi-stakeholder meetings with residents to decide together the typology of plant production to be adopted in the garden as well as the crops. The pilot rooftop garden was set-up in 2010. Nevertheless, this was removed due to objections from the residents on the top floor of the building who complained about noise and dirt resulting from the garden. Therefore, two other rooftop gardens were created in 2011. Initially, a sociologist assisted residents in the creation of a group, by sharing their opinions and different cultural heritage. During the project, new methods for spreading good co-existence practices were explored to overcome language, cultural and personal difficulties associated with life in public housing. The cultivation of a community garden allowed residents to work together and enjoy the common activity in redeveloping unused space. Then, the gardens have been proceeding autonomously in improving cultivation with the technical support of the University of Bologna who involves them in dissemination and experimental activities. Furthermore, gardeners collaborate with two students associations, *BiodiverCity* and *L'Altra Babele*, in organizing training and dissemination events. In particular *BiodiverCity* is an association founded in 2011 by researchers and students of the Faculty of Agrarian Science of the University of Bologna for the promotion of urban biodiversity in its various forms. Since its creation, it has involved young people and the Bolognese citizens in shared projects aimed at promoting an innovative use of urban space. Over the years it has launched several projects in Bologna with the aim of promoting urban horticulture, the most important of which was *GreenHousing*.

The project proved to be successful, promoting social cohesion, intercultural dialogue, involving many tenants of the housing complex. Since its inception, the space of the rooftop gardens was used for educational initiatives and cultural involvement, by organizing social activities and events. In 2015, the project was reported as an innovative example of sustainable planning by the European Journal "Science for Environmental Policy"¹⁰⁴ and also provided the University of Bologna with a large number of scientific data that allowed it to deepen knowledge on the issues of green infrastructures and ecosystem services in the urban environment, giving visibility to Bologna as a sustainable city. In fact, this project has been considered as a good practice in a number of major EU funded research projects, such as Urban

¹⁰³ Source: http://www.comune.bologna.it/media/files/green_housing.pdf - visited on 15th April 2021.

¹⁰⁴ Source:

https://ec.europa.eu/environment/integration/research/newsalert/pdf/rooftop_gardens_could_grow_three_quarters_of_citys_vegetables_409na2_en.pdf - visited on 15th April 2021.

Green Train and SustUrbanFoods. Nevertheless, despite the positive outcomes of this experience, in 2017 the municipality of Bologna had to undertake extraordinary maintenance and energy retrofitting of the buildings in *via Gandusio*, affecting, for technical reasons, the experience of the urban horticulture, interrupting the project. Given these circumstances, an online petition¹⁰⁵ was officially launched, also supported by the academic community of the University of Bologna, to defend the existence of the rooftop gardens. Due to the particular public interest covered by the *GreenHousing*, the *Quartiere San Donato* also submitted an official request to the Municipality of Bologna to ensure the restoration of the roof gardens project once the maintenance works would have been completed. However, there was no response from the public administration, much less from ACER.

The example of the rooftop gardens of the *GreenHousing* project represents one of the few case studies selected for this research conducted on a building. The project initiative comes from the local municipality, conducted with the support of the academic and scientific community of the University of Bologna as well as thanks to the involvement of the local community of residents. No space management tool has been specifically adopted, since it is Community Gardens on the roof of a building. As regards the management of the rooftop gardens, in fact, it was based on a model of co-governance and co-management with the direct involvement of the residents of the building, coordinated by the associations involved, in particular *BiodierCity* and *L'Altra Babele*, actively engaging in the organization of events to involve citizens.

Land Use Designation

The rooftop gardens are located on four social housing buildings, whose property is of the municipality of Bologna and managed by ACER. Being a social housing complex, it can be identifiable as public facility. The buildings of *via Gandusio* are located in the structured urban fabric, identified by the PSC as urban regeneration mixed-use built-up area.

¹⁰⁵ Source: <https://www.change.org/p/comune-di-bologna-salviamo-l-orto-sul-tetto-di-via-gandusio-bologna-city-council-save-the-gandusio-rooftop-garden> - visited on 15th April 2021.

3.3.6 Orti di Via Orfeo



Mixed-use
Built-up
Area.

Figure 10 - Aerial view of Orti di Via Orfeo. *Personal Elaboration.*

Source: Google Satellite. <https://mt1.google.com/vt/lyrs=s&x={x}&y={y}&z={z}> - visited on 20th August 2021.

Typology:	Community Gardens.
Land property:	Private.
Location:	Urban.
Timeframe:	Since XVII century. Closed to the public since 2003 and open only for occasional events.
Dimension:	About 120 m ² .
Stakeholders:	Fondazione Pio Istituto delle Sordomute Povere di Bologna (PISP), Fondazione Villa Ghigi.
Main Source:	https://zero.eu/it/luoghi/74841-orti-di-orfeo,bologna/ - visited on 23 th March 2021.

Table 6 - Information summary about Orti di Via Orfeo. *Personal elaboration.*

The context

The Orti di Via Orfeo are located in the historic city center of Bologna, inside a courtyard included in the urban block between *via della Braina*, *via de' Coltelli*, *via Orfeo* and *via Rialto*, in the *Quartiere Santo Stefano*. They are an example of an urban convent garden of exceptional historical and testimonial value, located within the historic courtyard of the former *Istituto delle Sordomute Povere di via della Braina*. The presence of the historical gardens is documented as early as the mid-1600s, the management was entrusted to a gardener who resided on the property while the products of the garden were used for the sustenance of the members of the

religious congregation. In the following century, the religious complex was bought by a female religious order who further developed the vegetable garden area. Thus, a large cultivated portion was formed with a well and a small fish pond. In 1810, the religious institutes were suppressed by Napoleon, and both the buildings and the land were bought by private individuals. The *via della Barina* complex was bought by the *Ranuzzi* family and became the headquarter of the *Pio Istituto Sordomute Povere di Bologna*, dedicated to the care of deaf-mute girls, which had remained active for about a century. Despite the private acquisition, the area has retained the dimensions of the ancient monastic garden and still appears today as a large horticultural courtyard inside the hold town, a sort of rural oasis inserted in the urban fabric. The case of the *Orti di via Orfeo* testifies to a singular and fascinating historical continuity of the urban fabric, which remained intact for over three and a half centuries. The persistence of the gardens, which have incredibly preserved their original layout and ancient destination, is also the result of the efforts made in the past years by groups of citizens who have repeatedly emphasized the testimonial and ecological value of this unique place, preserving it from any hypothesis of urban transformation. For over 50 years the reality of the *Orti di Via Orfeo* was experienced, up to a few decades ago, also by the residents themselves, thanks to the presence of a nurseryman, who rented the gardens by the *Pio* Institute since 1965 and in addition to taking care of the garden he kept it open for citizens. An experience that was abruptly interrupted in 2004, the year in which the *Pio* Institute was converted into a private Foundation, which became an institution of public assistance and charity, engaged in assistance activities for deafness pathologies and hospitality of girls, temporarily far from the family for study purposes. The new owner decided that they would build an underground car park where the historical gardens were. A collection of signatures against the project and the rejection by the City Planning Committee meant that the project was not carried out, however the gardens were closed completely to the public and the rental contract with the nurseryman was not renewed.

Nowadays, the gardens continue to be currently managed by the *Pio* Institute Foundation, but remain open to citizens only for a few days a year, reopened to the public in occasional events. They can be visited, for example, on the occasion of the *Diverdeinverde*¹⁰⁶ initiative, organized by the *Villa Ghigi* Foundation to visit the hidden gardens of the historic center of Bologna, organized annually since 2014. The green space of the gardens also opens on the occasion of the summer dinners of the nearby *Scaccomatto* restaurant and for the *Peonia in Bloom* market exhibition, born in 2013 with a charity project linked to deafness. For the purposes of the research, these gardens were selected as they represent a peculiar case of a vegetable garden conducted on private soil of historical and testimonial value. However, being a peculiar case, it was difficult to trace it back to the categories of analysis adopted. Despite being closed to the public, it has been considered as a Community Garden, given its vocation to be used for charity events, exhibitions or culinary events. However, it is not clear which management model is applied, and in particular who are the parties directly involved in the maintenance of the horticultural area, it is assumed that these aspect are in charge of the owner, the *Pio* Insitute Foundation. In order to have the gardens open and usable all year round, they are expecting a

¹⁰⁶ Source: <https://www.diverdeinverde.fondazionevillaghigi.it/wp-content/uploads/2019/05/19-Via-della-Braina-7-Orti-di-Orfeo.pdf> - visited on 15th April 2021

management proposal from third parties, including associations or citizens' committees, which at the moment is not yet there.

Land Use Designation

The *Orti di Via Orfeo*, located in a private courtyard of the historic city centre, are subject to specific urban regulation dedicated to the hold town. This space is identified by the *PSC* and the *RUE* in the category of historical “*corti, cortile, giardini ed orti*”, together with the surrounding buildings of historical-architectural interest. In addition, the *PSC* recognizes the area as an ecological-environmental element to be enhanced and valorised within the consolidate urban fabric of the holt town.

CHAPTER 4

Milan

Milan is the capital of the Lombardy region and the second most populated city in Italy, with a population of approximately 1,397,715 inhabitants over a geographical area of 182 km²¹⁰⁷. According to the ISTAT survey¹⁰⁸, urban green areas in 2018 occupied almost 14% of the urban territory, for a total amount of 2,482 hectares, resulting in almost 18 m² per capita. The survey, which interested only public green areas, shows also that Urban Agriculture in Milan corresponded to 0.31% of the total municipal territory, which means almost 8 hectares. Finally, as far as it concerns Protected Natural Areas and the presence of any Agricultural Park, the city of Milan has just 35,323 square meters of protected territory as Natural Parks, which also include the presence of Agricultural Parks, the main of which is the *Parco Agricolo Sud Milano*¹⁰⁹.

As stated in the Report provided by Lupia and Pulighe (2015), nowadays, UA initiatives are rapidly developing and spreading in the Milanese context. There is a mushrooming of neighbourhood gardens linked to social promotion associations; educational gardens cultivated in schools; therapeutic gardens; abandoned flower beds and spaces transformed into shared gardens; small vegetable gardens for self-production in almost all social spaces; but also horticultural areas integrated in numerous urban parks. Furthermore, UA in the city of Milan is developing in a municipal context characterized by a strong agricultural vocation, since almost half of the municipal area is characterized by agricultural and forestry land use, with over a thousand farms, and hosting the *Parco Agricolo Sud Milano*, the largest agricultural park in Europe.

4.1 The state of Urban Agriculture

The Milanese context shows a variety of cases that deal with the issue of Urban Agriculture: alongside the initiatives of the public administration, varied are the experiences that arise thanks to the initiatives of formal and informal groups, that in different ways take foster the promotion, design and maintenance of new and lively public open spaces. But the history of UA in the city of Milan has very ancient roots, some urban gardens already appear in a map of the city designed by Antonio Lafrèry in 1573¹¹⁰, and their presence has continued to characterize the city evolving during the industrial era in various forms, starting as means to be self-sufficient, up to the most recent initiatives (Lupia and Giarè, 2015). In the first decades of the 20th Century there was a first explicit attempt to bring the horticultural production to the

¹⁰⁷ Data provided by ISTAT updated as of 1st January 2021.

Source: <https://www.tuttitalia.it/citta/popolazione/> - visited on 9th June 2021.

¹⁰⁸ Data provided by ISTAT relating to the Census of Urban Green areas updated to 2018.

Source: <https://www.istat.it/it/archivio/236912> - visited on 2nd June 2021.

¹⁰⁹ Source: <https://www.parcoagricolosudmilano.it/> - visited on 17th April 2021.

¹¹⁰ Antonio Lafrèry, *Pianta prostettica di Milano*, 1573. Civica Raccolta delle Stampe Achille Bertarelli (Inv. PV m 3-43).

city. In 1915 the *Istituto Autonomo Case Popolari*, the body responsible for social housing, started an experiment in the Milanese suburbs, creating a horticultural cultivation project in its social housing districts, renting the first public vegetable gardens realized in Milan to tenants (Cucchi and Longo, 2018). In the 20s, other experiences of workers' urban gardens followed, promoted by the *Opera Nazionale del Dopolavoro*, an association established by the fascist regime for offering activities to workers in their free time. In fact, with the advent of fascism, there was a further spread of urban gardens, to then arrive at the period of the Second World War, during which most of the green spaces of the city become cultivated (Ibid.). After the War and until the 1980s, the urban gardens were marginalized towards the suburbs, in abandoned, degraded or residual areas. This is how most of the unregulated Squatter Gardens originate, set up mainly by peasant and workers who moved to the city. Therefore, in the 80s the Milanese hinterland was dotted with spontaneous gardens, outcome of the occupation of non-productive land in marginal areas of the city (Laviscio et al., 2016). The widespread opinion among administrators and citizens perceived these Squatter Gardens as linked to a phenomenon of degradation and abandonment of the territory. For this reason, the first sector studies on Urban Agriculture carried out by public bodies date back to the 1980s, conducted with the aim of rationalizing and institutionalizing a phenomenon that had hitherto been disordered and spontaneous. Thus, the *Italia Nostra* association began a process for the promotion of a new model of city based on Urban Agriculture, encouraging an experimental initiative for the creation of urban gardens for citizens leisure inside the *Parco Boscoincittà*¹¹¹, in the western area of Milan, where the first settlement of public Allotment Gardens were realized in 1987, the *Orti Spinè*, discussed in the section dedicated to case studies. In the same years, other pioneering example of Allotment Gardens were created within the *Parco Nord*¹¹², for the revitalization of the park areas closest to the city. It is precisely starting from these pioneering experiences in peri-urban areas, interested by municipal parks, that the phenomenon of Urban Agriculture in Milan started to be recognized by the municipal administration. The latter, following the examples of *Italia Nostra* and *Parco Nord*, in turn initiated a regulation for the leasing of municipal plots of land, through a public tender, respectively managed by the Councils of each administrative district¹¹³. Thus, after the abusive experiences of previous years, a proliferation of Allotment Gardens started, based on a public offering model. This trend represents the Milanese experience of traditional municipal gardens, a phenomenon that was further consolidated during the 2000s, often converting pre-existing Squatter Gardens into object of redevelopment projects. Alongside these experiences, the city of Milan also recorded the spread of less-formalized UA practices, consisting in innovative initiatives on private land or temporary projects, which stimulated the municipal administration to act also on the regulatory front in terms of bottom-up solutions for the management of urban gardens and urban green spaces as a whole.

¹¹¹ Source: <https://www.italianostra.org/wp-content/uploads/MILANO-BOSCOINCITT%C3%80-1.pdf> - visited on 14th June 2021.

¹¹² Source: <https://parconord.milano.it/scopri-il-parco/spazi-e-attrezzature/orti-urbani/> - visited on 14th June 2021.

¹¹³ The city of Milan is divided into *Municipi*, the administrative decentralizations of the Municipal body.

Among the various UA activities in place in the city of Milan, the Allotment Gardens represent a rooted experience, supported by the Municipality through the assignment of municipal undeveloped urban areas, made available to citizens and associations through appropriate public tenders and regulations. The administration of the traditional municipal Allotment Gardens is based on decentralization, entrusted to the Councils of each *Municipio*, which take advantage of the direct relationship with local citizens, especially with regard to the analysis of the demand. The decentralized *Municipi* are entrusted in defining the allocation criteria and methods of use of the horticultural spaces, as well as their administrative management, organizing public notices for assignment to residents. In this case, the horticultural areas are given in concession to citizens, with the provision of a variable annual rent accompanied by the payment of a flat fee for the use of water for irrigation. These municipal Allotment Gardens are cultivated for non-commercial purposes and with social objectives, usually aiming at the redevelopment and enhancement of city's green spaces. In addition to the ones implemented in each *Municipio*, the Allotment Gardens located in *Parco Boscoincittà* and *Parco Nord* are rather managed by the respective public entities in charge of the administration of the two parks. Despite the three different management bodies, the public offer of Allotment Gardens remains slightly small, in fact the public offer of urban gardens fails to respond to the increasing demand from the population (Cognetti et al., 2012). Moreover, the offer is still linked to a logic of marginality and welfare, favouring weaker economic and social categories for the assignment. In more mature experiences, an expansion has been reached involving young people, associations and immigrants and an effective criterion for proportional division of the lots has been identified, ensuring a heterogeneous use of the gardens. To conclude, the municipality of Milan is also engaged in the promotion of Educational Gardens, implemented in school-run gardens, when available, or in collaboration with gardeners or farms in the area. The most recent monitoring, carried out annually by the Education Department of the Municipality of Milan, showed 107 school-run gardens present today in Milanese schools¹¹⁴, created with the support of volunteers or in some cases even professionals.

The public offer of Allotment and Educational Gardens is supported and integrated by initiatives and projects promoted by other public institutions, as well as by private individuals and professional associations. For instance, there is a series of cases linked to horticultural therapy experiences which concerns gardens managed and recognized within the context of public health facilities, which can be accessed through the network of Local Health Services. Another casuistry concerns initiatives born within institutional settings, such as universities, hospitals or penitentiaries, to implement cultivation initiatives, which do not need formal recognition from the municipality and which obtain funding directly from their institutional sources. There are also projects sponsored by the Municipality of Milan, such as initiatives included in larger projects of territorial redevelopment and regeneration, aimed at specific areas that usually involve various third sector actors such as foundations or non-profit organizations. Often these initiatives involve negotiations with private companies and large external investors, so that in these cases the urban horticultural spaces tend to give rise to risks of privatization of public spaces, or running the risk of remaining confined to limited areas without activating

¹¹⁴ Source: <https://foodpolicymilano.org/orti-didattici/> - visited on 15th June 2021

synergies in local communities. An example of this trend is the *Coltiviamo Insieme* project by the *Riccardo Catella* Foundation, developed in the program *Porta Nuova Smart Community*¹¹⁵, which will be discussed among the selected case studies. The initiative is part of the urban renewal that interested *Porta Nuova* in the *Isola* district, whose large investment has led to a deficit in listening to the needs of the inhabitants of the neighbourhood. The urban gardens managed by the Foundation are in fact an UA project aimed at external schools and private groups, which does not involve directly the local community.

The Milanese panorama on Urban Food Gardening is also characterized by several example of urban gardens on private land, or on public land but of private initiative. Among these, we certainly find the traditional Squatter Gardens, deriving from unregulated occupations dating back to the 60s, and which consist of singular lots managed for decades by individuals or families. In addition, there are also episodes of bottom-up initiatives that implemented Community Gardens on public parks without formal recognition by the administration, conceived as attempt for the re-appropriation of spaces by self-managed groups of citizens, with mainly aggregative purposes (Cognetti and Conti, 2014). The city of Milan is in fact animated by cases of Guerrilla Gardens, due to spontaneous movements and groups inspired by international experiences for the recovery of uncultivated green spaces. *Critical Gardening*, *Landgrab*, *Guerrilla Gardening*, *Cascina Autogestita Torchiera*, are some of the names of groups that practice demonstrative actions on urban greenery, with incursions and transformations of green spaces left in a state of neglect (Felici, 2017). Finally, there is also evidence of a range of initiatives on private land, that started from bottom-up voluntary collaboration with the Municipality for the reactivation of abandoned areas, aimed at providing urban green and urban gardens as public facilities. In some cases, these initiatives also involve the third sector, which for example preferred to turn to private actors for the granting of space, to reduce time and bureaucratic needs with respect to the public. These initiatives respond to the growing demand for green areas intended for urban gardens by citizens, and the lack of public areas made available by the Municipality for this purpose. Among these, the most striking example is the initiative carried out by a citizen which started a pilot project of Community Gardens on a private land of about 1.6 hectares, located in *via Cesare Chiodi*, which it will be deepened among the selected case studies.

As far as it concerns some census attempts of the phenomenon of UA in the municipality of Milano, a first effort was conducted as part of the Project of Relevant National Interest titled "The territorial project: methods, techniques, experiences"¹¹⁶, launched in 2008, whose results has been collected in a research report edited by Cognetti at al. (2012). The outcomes of the survey derived from the integration of satellite data updated to 2010, and the information provided by the census attempt on urban vegetable gardens carried out by *Italia*

¹¹⁵ Source: <https://www.fondazionericcardocatella.org/it/progetti/porta-nuova-smart-community/> - visited on 26th April 2021.

¹¹⁶ The *Progetto di Rilevante Interesse Nazionale (PRIN)*, titled *Il progetto di territorio: metodi, tecniche, esperienze*, launched a research program on the experiences of horticultural activities in cities. It was coordinated by Alessandro Balducci and Giorgio Ferraresi for the city of Milan. Source: <http://www.ortianimati.com/wordpress/terraccita/> - visited on 26th April 2021.

Nostra in 1999, through its operational body *Centro Forestazione Urbana*¹¹⁷, sited in Milan (Ibid.). The results highlighted that in 2010, the city of Milan hosted 194 “vegetable colonies” (*colonie ortive*), covering an area of approximately 167 hectares. It is interesting to highlight that 65% of the vegetable gardens in Milan are private, therefore Allotment Gardens on public land represents a minority typology (Ibid.). These vegetable gardens were equally distributed over almost the entire municipal territory, with the exception of the denser central areas, where they were almost absent. Most of the gardens resulted concentrated in the southern part of the municipality, in particular in the context of the *Parco Agricolo Sud Milano*, which has been active for long time with numerous initiatives on the issue. The comparison between the 1999 data, and the mapping updated to 2010, showed a decrease of about 10 hectares in Urban Agriculture activities, a phenomenon characterized also by dynamics of spatial mobility, as regards the location of the various initiatives, pointed out by Lupia et al. (2016).

In 2014, a second mapping survey of UA in Milan was developed as part of the project coordinated by the Center for Agricultural Research and Analysis of Agricultural Economics (CREA) titled *Promozione della cultura Contadina*¹¹⁸. The aim of the survey was filling the information gap about UA practices, a quite common issue in various metropolitan realities, in order to update and complete official information about the issue. In particular, the census attempt was carried out in the cities of Rome and Milan. In the case of the latter, the investigated territorial area coincides with the administrative borders of the city. As part of this research, the classification of urban cultivated areas was based on the identification of five typologies of urban gardens. Residential Gardens, recognized as plots of land worked by private owners, with production intended for self-consumption; Community Gardens, represented by large complexes often located in municipal parks, public areas or along rivers, managed collectively and generally regulated by municipal regulations; Institutional Gardens, which are vegetable areas managed by institutions such as schools, religious centers, penitentiaries and non-profit organizations; Squatter Gardens; and finally forms of UA that we could define Market-Oriented Urban Farming, identified in cultivated areas annexed to farms, interested by intensive cultivation system with predominance in peri-urban areas. The survey, conducted over the period 2007-2014, reports that overall the non-professional UA sites in the municipality of Milan amounted to 945 in 2014, occupying about 80 hectares and recording a decrease in terms of surface area of about 14% compared to 2007. In general, the share of non-professional urban agriculture is only 3.4%; in fact, the Milanese area is characterized by important farm areas destined for arable land, rice fields, pastures and permanent crops, covering 2,730 hectares of the administrative territory. With regard to the other typologies of urban gardens typified by the research, Residential Gardens are the most widespread in terms of the number of cultivated plots, although this category is recording a contraction both in terms area than in number of parcels. Community Gardens, on the other hand, represent the

¹¹⁷ Source: <http://www.cfu.it/> - visited on 14th June 2021.

¹¹⁸ It was a project funded by the Ministry of Agricultural, Food and Forestry Policies, aimed at promoting the social and cultural aspects of agriculture, and at acquiring new knowledge about innovative trends in agriculture with particular attention to its multifunctionality; the city-contryside relationships; and the issue of public goods in relation to rural development.

Source: <http://antares.crea.gov.it:8080/-/promozione-della-cultura-contadina> - visited on 14th June 2021..

largest category in terms of surface area, amounting to 57 hectares in 2014, although they are also decreasing. The only category to show an increase in horticultural surface were Institutional Gardens, which in 2014 occupied 5% of horticultural areas, recording an increase of 30%. Their evolution is probably linked to an intensification of initiatives around UA with various purposes by public institutions, as in the case of schools. Finally, Squatter Gardens are the least widespread category in the case of Milan, resulting in only 1% of horticultural areas in 2014, both in terms of surface and number of plots. This category is also decreasing, probably thanks to the spread of other regulated initiatives (Lupia and Pulighe, 2015).

Finally, the most recent data regarding the experiences of Urban Agriculture on public land are finally those made available by the Municipality of Milan in open data format¹¹⁹. The data regards the location and surface of the municipal urban gardens, only those created by initiative of the public administration and managed by the Councils of the various decentralized districts, or by other public bodies. As of 2016, the latest update, the municipal urban gardens were found to occupy 5,509 square meters of the administrative territory, while the gardens on public land managed by other bodies are far more extensive, covering 6.8 hectares, for a total of approximately 7.38 hectares of municipal area dedicated to public vegetable gardens.

To conclude, as regards efforts strictly related to mapping the diversity of UA sites in Milan, a map by the public administration is not made available for the horticultural areas in the Milanese context, not even for Allotment Gardens. Therefore, the first source made accessible regarding the georeferencing of UA experiences is the one created in 2009 within the *Orto Diffuso*¹²⁰ project. The initiative led to the implementation of a participatory mapping activity which produced the *Orto Diffuso Wiki Map Milano*, created to collect horticulture practices in the city of Milan involving users in the survey of municipal Allotment Gardens, Community Gardens, as well as private gardens and also rooftop and balconies gardens, including abandoned green areas. However, this map is not accompanied by a downloadable database with related information to each urban garden. Nevertheless, from 2018 the mapping of Urban Food Gardens in the entire metropolitan area of Milan is available, thanks to the research project *La città degli Orti*¹²¹, coordinated by *Italia Nostra* and *Politecnico di Milano*. The mapping activity was carried out by the academics of the latter, combining photo-interpretation of satellite images which made it possible to identify the location, geometry and characteristics of each horticultural areas, provided in an open access dataset¹²² which also includes information relating to their location, management, classification and size.

¹¹⁹ Source: <https://dati.comune.milano.it/dataset/ds1322-verde-urbano-anno-2016> - visited on 15th June 2021.

¹²⁰ Source: <https://ortodiffuso.noblogs.org/la-mappa/> - visited on 15th June 2021.

¹²¹ Source: <http://www.boscoincitta.it/3190-2/> - visited on 15th June 2021.

¹²² Source: <https://zenodo.org/record/3635463#.YMiKiUzOPIW> - visited on 15th June 2021.

4.2 Policies, strategies, initiatives and regulations related to Urban Agriculture

In the Milanese context, the contribution of the public administrations has been decisive in spreading and supporting the phenomenon of UA, usually with the involvement and active participation of citizens. Although studies on horticultural areas have shown that the municipal Allotment Gardens represent a relatively small share of the areas actually cultivated in Milan (Cognetti et al., 2012), the municipality is really involved in the promotion, design and implementation of urban gardens mainly in residual areas of peripheral neighbourhoods and within public parks, pursuing a strategy of integrating UA within the city green system. The intervention of the public administration often involves the conversion of pre-existing spontaneous gardens in order to favour local revitalization and redevelopment, especially in the marginal areas of the city (Ibid.). Therefore, Urban Food Gardening is placed, in terms of urban policy, side by side with institutional green spaces as a means of increasing the safety and control of public green areas.

As regards the political trends of the city of Milan in terms of UA, the first attempt of sectoral researches on the opportunity offered by urban gardens date back to the initiative promoted by *Italia Nostra* in the 80s. It gave start to the first shared implementation of vegetable gardens within the *Parco Boscoincittà*, whose management was entrusted to the *Centro Forestazione Urbana* (CFU), the operational body of *Italia Nostra*, whose headquarters were based inside the park. Years later, this initiative continued with the National Project "Urban Gardens"¹²³, launched in 2006 by *Italia Nostra* and then subject of a Memorandum of Understanding with ANCI (Association of Municipalities of Italy), *Coldiretti* and the *Campagna Amica* Foundation in 2018, discussed in Chapter 2. Consequently to the Memorandum, the two trade associations *Coldiretti* and *Campagna Amica* are particularly active in the Milanese context, promoting a technical support project¹²⁴ for the development of private vegetable gardens throughout the city. The initiative is addressed to private citizens interested in urban agriculture practices to be carried out on terraces, balconies or private gardens, for whom a tutoring and home assistance service is provided, managed with the involvement of local plant nursery companies.

Nevertheless, it is mainly since the 2000s that there has been a greater involvement of the public administration in the promotion of policies and projects related to UA. The Municipality engaged in the construction of horticultural complexes pursuing objectives of urban regeneration and redevelopment. An example is the project launched in 2008 on behalf of the sector in charge of the Urban Planning Policies for the Suburbs, in order to identify some critical areas of the city for the implementation of new urban gardens, or for the conversion of existing unregulated ones. Among the experimental areas, the municipality identified 6,000

¹²³ Source: <https://www.italianostra.org/le-nostre-campagne/campagne-e-progetti-ed-passate/altre-campagne/> - visited on 28th April 2021.

¹²⁴ Source: <https://www.campagnamica.it/la-nostra-rete/orti-urbani/> - visited on 29th April 2021.

square meters in the *Parco Lambro* for the creation of new urban gardens¹²⁵, with the aim of restoring a situation of evident degradation linked to the presence of pre-existent Squatter Gardens. A few years later, in 2010, the redevelopment project of the Blue Park¹²⁶ began, which also involved the rationalization of pre-existing unauthorized gardens and the subsequent integration of new horticultural areas, inserted within the overall design of the public park. Therefore, these project initiatives are all regarding green areas in urban redevelopment and regeneration contexts, where the urban gardens are inserted as active control and management measures of green areas (Cognetti and Conti, 2014). In parallel to that, the Municipality of Milan is also strongly committed in promoting Educational Gardens in school contexts, taking on an educational and pedagogical connotation. In particular, in the context of *I Progetti della Gente*¹²⁷, which is a program aimed at implementing neighbourhood civic initiatives for improving urban quality promoted by *Riccardo Catella* Foundation and the public administration, the *MiColtivo, Orto a Scuola*¹²⁸ project was launched in 2012. The initiative was intended to promote concrete experience of Educational Gardens to be installed in the courtyards of city public schools, proving for a wider redevelopment of these spaces through the involvement of local community in a participatory process. The aim was to activate a school program that could have been exported and disseminated nationwide, creating a virtuous specialized network on the topic of school-run UA experiences.

Another successful example in the promotion of UA undertaken by the Municipality of Milan is the initiative *Bando Cascine*¹²⁹, a public tender which initiated a series of experiences of Community Gardens within municipal farmhouses, i.e. the *cascine*, included in a program for re-launching the agricultural and rural heritage of Milan. Since 2013, the municipal farmhouses started to be subject to assignments through public concession tenders, aimed at third sector subjects for setting up public functions. Sixteen farmhouses in Milan were identified by the municipality to be redeveloped. The success of this initiative has been proved in 2019, when the *Manifesto delle Cascine di Milano*¹³⁰ was drawn up, a working tool to further protect the heritage of the Milanese farmhouses and enhance their role of enabling environmental and social regeneration processes.

The commitment of the Milanese administration in promoting issues related to Urban Agriculture has been further consolidated in parallel with EXPO 2015, where the theme of

¹²⁵ Given the consolidated presence of spontaneous Squatter Gardens, the Municipal Administration and the *Parco Media Valle Lambro* decided to redevelop these spaces through a shared planning process, that led to the creation of the *Orti della Bergamella*. Source: <http://www.boscoincitta.it/wp/wp-content/uploads/2017/10/Orti-Bergamella-5.2-SMALL.pdf> - visited on 28th April 2021.

¹²⁶ Source: <https://www.comune.milano.it/aree-tematiche/urbanistica-ed-edilizia/attuazione-pgt/calchi-taeggi-e-bisceglie-programma-integrato-di-intervento> - visited on 28th April 2021.

¹²⁷ Source: <https://fondazione.ordinearchitetti.mi.it/it/notizie/dettaglio/4926-i-progetti-della-gente> - visited on 28th April 2021.

¹²⁸ Source: <https://www.fondazionericcardocatella.org/it/attivita/micoltivo-orto-a-scuola/> - visited on 28th April 2021.

¹²⁹ Source: <https://www.comune.milano.it/aree-tematiche/urbanistica-ed-edilizia/attuazione-pgt/valorizzazione-cascine> - visited on 29th April 2021.

¹³⁰ Source: https://www.cascineapertemilano.it/wp-content/uploads/2019/09/manifesto_21-02-19.pdf - visited on 29th April 2021.

agriculture in Milan has been developed through a multidisciplinary approach that concerns productive, economic, social and environmental aspects. In this context, the concluded *Agricity*¹³¹ project had the objective of analysing the Milanese agricultural reality, with the collaboration of the Municipality, the *Politecnico di Milano* and the *Cariplo* Foundation. The project led to the creation of a web portal that collected images, publications and information on the Milanese agricultural sector, providing citizens and interested parties with a dissemination tool, giving space to a diversity of events related to the rural context, especially as part of EXPO 2015. Following this initiative, the Municipality of Milan, together with the Lombardy Region, the Metropolitan City and other subjects active in the Milanese agricultural districts, signed a Framework Agreement for Territorial Development titled *Milano Metropoli Rurale*¹³² to consolidate the rural matrix of the Milanese metropolitan area in the definition of a sustainable and durable urban-rural development model.

Still on the wave of EXPO 2015, urban food production themes started to be further included in the Milanese policy agenda, perceived as relevant by policymakers. Milan has moved to integrate the food system into the urban agenda, conferring on this topic a crucial importance in city planning and development (Quaglia and Geissler, 2018). In this regard, the city has been the promoter of the Milan Urban Food Policy Pact, signed by 180 cities all over the world interested to achieve more sustainable food systems. The Pact aims at creating a network of cities committed to develop and implement policies that promote fair, sustainable and resilient food systems, and a framework for action that focuses on six different areas of intervention: governance, sustainable diets, social and economic justice, food production, food distribution and food waste. In light of that, Milan is among the first Italian cities that has defined a successful Food Policy, recognized with an international prize, to outline integrated policies to harmonize projects that the administration and other actors carry out on food issues. Though its spectrum of action is very broad, UA and Urban Food Gardening have a key role in the Milan Urban Food Policy¹³³ with regard to the productive, health, educational, environmental and social aspects. In particular, among the five priorities set out by the Policy, the first is to ensure healthy food for all, for which the administration is actively committed to promoting and facilitating different forms of agriculture and urban horticulture, as well as the establishment and consolidation of networks and activities aimed at creating social inclusion and providing food to the weaker sections of the population. Moreover, the municipality is also committed to promoting the maintenance and dissemination of Educational Gardens through its own educational, food and green space policies, promoting “communities of practice” to bring together the various existing experiences on the territory.

Hitherto the panorama of the policies regarding UA directly promoted by the public administration has been presented, but the Milanese context is active above all on the side of bottom-up initiatives, which have played an essential role in the definition of tools and

¹³¹ Source: <https://www.comune.milano.it/aree-tematiche/verde/milano-metropoli-rurale/progetto-agricity> - visited on 29th April 2021.

¹³² Source: <https://www.milanometropolirurale.regione.lombardia.it/wps/portal/site/milanometropolirurale> - visited on 29th April 2021.

¹³³ Source: <https://foodpolicymilano.org/> - visited on 29th April 2021.

strategies to further institutionalize Urban Food Gardening practices. In this regard, it is worth to mention the experience of the *Rete delle Libere Rape Metropolitane*¹³⁴, a Network which has acted as a bridge between the pure activism of urban horticulture and its integration into the policies of the city. It started a process of policy dialogue, soliciting the municipal administration for the adoption of tools suitable for supporting bottom-up experiences of urban gardens. The Network was born spontaneously in 2010, to share knowledge on different experiences of urban cultivation and to promote new projects of Community Gardens, as a form of re-appropriation of urban green. To pursue this objective, the Network tried to develop collaboration formulas to obtain the concession for agricultural purposes of abandoned areas from the municipal administration, asking for new forms of regulation on the use of greenery which would include the recognition of urban gardens. Thanks to this commitment, in 2012 the City Council of Milan approved the guidelines for entering into agreements with non-profit organizations in order to create new urban gardens in the municipality, at no cost for gardeners and reduced execution time, giving life to the tool of *Giardini Condivisi*¹³⁵.

Actually, the Municipality of Milan, on its own initiative, had already launched in 2012 the *ColtivaMi*¹³⁶ tender for the assignment of public green spaces on which to realize urban gardens, aimed at non-profit organizations. The tender identified new areas to be used for UA practices, providing for the concession by loan for use, where the assignee would have to implement an UA project from scratch. The innovation of this initiative was represented by the willing of guaranteeing forms of free access to urban green areas by all citizens, in order to encourage their participatory management for the creation of urban gardens that differed from traditional Allotment Gardens. The novelty was also in the experimentation of new forms of public-private partnership. Nevertheless, the *ColtivaMi* initiative did not turn out to be particularly successful. In part, the failure was due to the fact that advanced technical skills were needed for the drafting of a project for participation in the tender. Furthermore, it required to invest huge resources by the proponent, since the implementation and management from scratch of a large horticultural area would have been the responsibility of the winner of the concession, without any financial support from the public administration.

Therefore, it is with the *Giardini Condivisi* initiative that the municipal administration has finally adopted an effective tool for developing constructive collaboration with the civil society who intend to take care of greenery in a state of abandonment or degradation. Its format is based on the key concept that public green is to be understood as a public common good. Thus, the management of shared gardens is the result of a collective and concerted activity, where the participatory approach favours the management of public areas. This tool will be further deepened in the next section dedicated to the regulations on Urban Food Gardening in force in the city of Milan. In general, it is worth to say that *Giardini Condivisi* led to a great activism on the part of citizens, triggering successful initiatives and favouring the formalization

¹³⁴ Source: <https://rape.noblogs.org/> - visited on 29th April 2021.

¹³⁵ Source: <https://www.comune.milano.it/servizi/giardini-condivisi> - visited on 29th April 2021.

¹³⁶ Source: <https://ortodiffuso.noblogs.org/post/2013/05/13/il-bando-coltivami-orti-su-misura-del-comune-di-milano/> - visited on 29th April 2021.

of UA experiences that had not managed to obtain institutional recognition. As a result of this political decision, a growing number of new gardens have been established in the city of Milan, and many others are planned to be implemented in vacant spaces, following requests by voluntary associations as well as individual citizens.

To conclude the overview on the policies pursued by the city of Milan on UA, with regard to future prospects, Ruggeri et al. (2016) conducted a research for investigating the main reasons behind Urban Food Gardening practices in Milan, with the aim of identifying possible guidance for the development of new policies related to the issue. The research highlighted that a planning policy that cares to dedicated spaces and projects to foster participation in Urban Gardening could certainly be well received by the community of Milanese gardeners, which are really interested in the issue of UA in relation to the possibility of producing healthier food and sociality. «The great emphasis given by Milanese gardeners to health-related motivations for gardening should encourage more quality-related interventions, such as incentives for soil testing services, the development of real-time soil quality map of the city or the study of potential pollutant sources near the gardens» (Ibid., p. 16). Furthermore, it could be interesting to propose innovative and experimental solutions for new forms of UA, also taking into account the demographic trends that see a latent demand of aspiring gardeners increase. The municipality should look at these dynamics and urge the decentralized districts to invest in vegetable gardens and related social activities, also engaging in verifying the existence of any illegal Squatter Gardens, a phenomenon that mainly affects peri-urban areas (Cattivelli, 2020).

4.2.1 The influence of the Metropolitan City of Milan on Urban and Peri-Urban Agriculture policies

The context

Contrary to what one might imagine, the metropolitan area of Milan is characterized by a strong agricultural vocation, and the fact that it hosts the largest Agricultural Park in Europe is proof of this (Laviscio et al., 2016). However, at the same time the city is object of strong urban planning pressures and land taking. The city has spread in the surrounding rural areas with its fringes, the relationship between urban expansion and free land highlights, especially for the very suburban municipalities, the extensive use of land for residential and settlement purposes (Cattivelli, 2020). In detail, the Milanese urban region, which overlaps with the metropolitan area, is characterized to the north by an urban continuum in which parks and agricultural open spaces are residual, and the opposition between city and countryside is almost no longer recognizable. In the south, on the other hand, the contrast between the built-up area and the open countryside is more marked, the agricultural territory develops with greater continuity, although the urban system is well consolidated and developed along the main infrastructural axes.

With specific regard to Urban Food Gardening, it is worth to cite that in the case of Milan a mapping research project has been recently carried out, hence several data are available with respect to the long history of horticultural experiences in the Metropolitan City. The research project is the one previously quoted: *La città degli Orti*, coordinated in 2018 by *Italia*

Nostra and *Politecnico di Milano*. The outcomes have been edited by Cucchi and Longo (2018) in a report which collects the whole panorama of Urban Food Gardening sites in the metropolitan area. The aim of the research was to provide knowledge on the experiences gained in the 124 municipalities of the Metropolitan city of Milan, to stimulate the respective administrative body towards large scale green policies for addressing urban horticulture, widespread throughout the metropolitan area. The vegetable gardens identified were classified on the basis of their morphological characteristics, distinguishing between *Colonie di Orti*, in which the dimension of the horticultural practice prevails, and *Colonie di Recinti*, where the horticultural activity is secondary to other forms of land use. The outcomes confirmed the existence of 2,255 total horticultural sites, corresponding to 855 hectares, 20% of which is included in urban context. Most of the sites identified are *Colonie di Recinti*, in total 1,322, covering almost 586 hectares; while the *Colonie di Orti* are 933, representing about 268 hectares (Ibid.). Regarding their geographical location, the phenomenon of urban gardens appears to be predominantly urban, placing itself in contact with the built-up areas and thickening in the northern conurbation of the city, or in the areas of ancient industrialization, along the infrastructures and in the residual agricultural spaces. The infrastructures location have a close relationship with the position of some types of urban gardens, in fact historically these have developed along railway lines or road areas, which otherwise would have remained unused spaces and neglected by the strict control of land use designation tools. In case the gardens are located in agricultural areas, this occurs along the urban edges, forming islands in the continuity of monoculture of the peri-urban spaces. This is particularly evident in the south of the metropolitan area, where arable land and simplification of the agricultural landscape prevail. The research had the intent of bringing out how the heritage of Urban Food Gardens in the Metropolitan City of Milan represents a potential experimentation policy field, which could be integrated in a metropolitan management strategy for the systems of open spaces and parks. Urban Gardens represent trigger points for multi-functional practices that do not compete with traditionally understood agricultural activities, becoming complementary elements for providing services to the urban environment and restoring the city-countryside relationships, contributing also to the ecological network and biodiversity.

Policies, strategies and initiatives

In the Milanese metropolitan area, the relationship between city and countryside has always been characterized by mutual interdependencies, with an economy based on agriculture, expressed in its role as a multi-functional activity that is creator of economic, social, historical, cultural and landscape value. As far as it concerns the policies and strategies adopted by the Metropolitan City, it is committed in implementing projects and initiatives, also with the active participation of the local population, in order to rebalance the relations between the urbanized metropolitan area and the surrounding countryside, promoting a more deeply rooted culture of respect for the environment and landscape and aimed at restoring, at least in part, the lost naturalness (Cattivelli, 2014). The intent is to enhance the rural matrices of the Milanese metropolitan area, promoting the economy and the quality of the environmental and territorial context with a view to sustainability. In addition to envisage possible restrictions on the conversion of agricultural land into urbanized areas also through legal provisions,

regulations and agreements, Milan promotes specific agreements with neighbouring municipalities for a more rational management of soil and natural resources.

In 2015, the Metropolitan City, together with the Lombardy Region and the Municipality of Milan and other entities active in the Milanese Agricultural Districts¹³⁷, signed a Framework Agreement for Territorial Development called *Milano Metropoli Rurale*¹³⁸. The debate that led to the signing of the Agreement started in 2010, fuelled by the results of the European project Interreg RURBANCE¹³⁹ for balancing relations between urban and rural areas, of which the Lombardy region was a partner. The goal of the *Milano Metropoli Rurale* Agreement is to strengthen rural systems in the metropolitan area as a strategy for containing land consumption and as an operational method for defining a balanced model of sustainable economic development. The intent is to support diversification of agricultural activity that can broaden the perspective of traditional agricultural production, also responding to new needs of the city, creating synergies with other economic sectors and consequent market opportunities, in particular through the support of a competitive agricultural activity capable of combining traditional production with a more comprehensive ecosystem requalification. This also through the enhancement of the peculiarities of the urban-rural area with the development of green and blue infrastructures, aimed at increasing the resilience and biodiversity of ecosystems. The Action Plan¹⁴⁰ of the *Milano Metropoli Rurale* Agreement is divided into several macro actions that concern the strengthening and improvement of the irrigation system; the requalification and enhancement of the environmental landscape; the innovation of products and production processes; the promotion of short supply chain and agricultural multi-functionality; and the enhancement and promotion of rural culture.

Nevertheless, the case of Milan is quite peculiar because it is the Agricultural Park paradigm that play the main role in the policies adopted for the metropolitan area on peri-urban agriculture. The *Parco Agricolo Sud Milano* constitutes the first experience of an Agricultural Park created in the European panorama and is considered an example to refer to. It is the most significant example in this field since of its pioneering role either in terms of geographical dimensions and richness of natural and cultural endowments. It extends south of the city of Milan and affects various municipalities in the belt, representing an interesting experience of territorial safeguarding and protection in Europe. As reported by Fanfani (2019), the first idea for a protected agricultural area in the southern region of the Milan metropolitan territory originated in the 70s, with an inter-municipal planning initiative. This action was

¹³⁷ In the Milanese metropolitan area, there are five Agricultural Districts, which aim to integrate and coordinate the economic activities present in the territory.

Source: <https://www.comune.milano.it/aree-tematiche/verde/milano-metropoli-rurale/i-distretti-agricoli-di-milano> - visited on 29th April 2021.

¹³⁸ Source: <https://www.milanometropolirurale.regione.lombardia.it/wps/portal/site/milanometropolirurale> - visited on 29th April 2021.

¹³⁹ Source: <http://www.forumct.it/wp-content/uploads/2014/07/Scheda-Rurbance.pdf> - visited on 29th April 2021.

¹⁴⁰ Source: <https://www.milanometropolirurale.regione.lombardia.it/wps/wcm/connect/529eb120-0b22-4618-b16b-499dc5454069/Piano+di+Azione+dell%27AQST+%28aggiornamento+giugno+2020%29+%281%29.pdf?MOD=AJPERES&CACHEID=ROOTWORKSPACE-529eb120-0b22-4618-b16b-499dc5454069-nhTteP9> - visited on 29th April 2021.

progressively fed by the commitment of provincial and regional authorities, the involvement of citizens and by the proposition of a popular initiative laws for the Agricultural Park in 1987. The final adoption of a Regional Law¹⁴¹, that was issued in 1990, allowed finally the institution of the *Parco Agricolo Sud Milano*. It has a complex territory, which covers an area of about 47,000 hectares, managed by the Metropolitan City of Milan, corresponding to 30% of the total area of the metropolitan territory, of which more than 35,000 hectares are used for agriculture. It involves 61 municipalities and within it there are about 900 farms. The purpose of the park, according to what is stated by the Regional Law 24/1990, is to protect agricultural activities; respecting the ecological balance of the metropolitan system; enhancing the rural areas within the metropolitan green systems; guaranteeing their connection with urban systems; and providing them with recreational functions for citizens. The Park has been active for years in the promotion and enhancement of local agriculture and in its numerous projects it involves not only local administrations, but above all the local population. The Park contains a wide range of environmental, cultural, historical and agricultural features, and plays a key role in terms of both ecological connection and ecosystem services delivered to the southern sector of the metropolitan area. It has demonstrated a progressive shift towards organic food production and short supply chain practices aimed at feeding the city as well as park visitors. Therefore, agriculture remains the main theme, accompanied by complementary activities such as agritourism, with forms of catering, hospitality or direct sale of agricultural products. These project paths are flanked by those dedicated to the conservation and redevelopment of the naturalistic areas of environmental relevance, such as wetlands and woodlands, protected at European level under the Habitats Directive as Sites of Community Importance. There are also projects and initiatives aimed at environmental education, also in view of developing a network dedicated to rural tourism. In this regard, the *Parco Agricolo Sud di Milano* has its own quality label for its products and promotes various projects to support agricultural production and the use by citizens of the agricultural landscape, such as the Let Landscape Expo Tour¹⁴² project, designed to enhance the agricultural landscape by connecting it to other local resources through pedestrian paths.

The model of the Agricultural Park, as highlighted by Laviscio et al. (2016), guides the policies of the metropolitan area. Hence, in addition to the *Parco Agricolo Sud Milano*, other Agricultural Parks have been established in recent years as a result, in most cases, of a bottom-up approach in which citizens and farmers work together for their training and management: this is the case of the *Parco delle Risaie*¹⁴³ or the *Parco Agricolo del Ticinello*¹⁴⁴. In particular, the *Parco delle Risaie*, which covers an agricultural area of 650 hectares completely surrounded by the urban fabric in the south-west of the city of Milan, is considered a pilot experiment. The project was born in 2008 from the homonymous association of farmers and citizens in order to preserve agricultural production and the landscape of the rice fields. The latter, belonging to the

¹⁴¹ Regione Lombardia, *Legge Regionale 23 aprile 1990, n. 24 "Istituzione del parco regionale di cintura metropolitana Parco Agricolo Sud Milano"*.

¹⁴² Source: <https://www.let-milano.com/it/> - visited on 29th April 2021.

¹⁴³ Source: <https://www.parcodellerisaie.it/it/> - visited on 29th April 2021.

¹⁴⁴ Source: <http://www.parcoticinello.it/> - visited on 29th April 2021.

Milanese culture for centuries, are perceived as important factors for the local identity and the quality of environment. The project envisages a strategic scenario to be built over time that allows visitors to use and appreciate this landscape without interfering with agricultural activities. Thus, the bottom-up proposal was later supported by private foundations and local administrations and its implementation has started.

To conclude, the Metropolitan City of Milan does not seem to be particularly involved in projects aimed specifically at promoting Urban Agriculture practices. As already mentioned, most of the internal agricultural policies at the metropolitan level concern the reality of the Agricultural Park. However, the Metropolitan City is particularly active in projects for the promotion of Nature Based Solutions to address contemporary challenges to environmental, social and economic level in the urban realm. Among them, it is involved in the European project Nature4cities¹⁴⁵, as well as in the LIFE METRO ADAPT - Climate Change Adaptation¹⁴⁶ project, which focuses more on the climatic challenges faced in metropolitan areas, within which the metropolitan area of Milan could also benefit in terms of promoting UA practices.

Planning Instruments at Metropolitan City level

With regard to the planning instruments currently in force in the Metropolitan City of Milan, the Provincial Territorial Coordination¹⁴⁷ (*PTCP*) is one of the tools currently in force. This document was approved in 2013 with the intention of promoting a vision for the Milanese urban region capable of making it a unitary, articulated and polycentric territorial system, consisting of urban settlements characterized by a dense network of infrastructures but held together by a continuous of green spaces. The basic strategy that guides the *PTCP* is to strengthen the polycentrism of the Milanese metropolitan area, to reduce and qualify land consumption, paying particular attention to the qualification of the urban, agricultural and naturalistic environment and landscape, safeguarding the open spaces between the various urban nodes, for the creation of an environmental connective tissue capable of guaranteeing ecosystem balance through the development of a provincial ecological network. Given the significant and extensive agricultural vocation of the metropolitan territory, with regard to the agricultural dimension, the *PTCP* identifies four territorial systems to which the various implementation rules and provisions of the plan are to be applied, including the "Areas intended for Agricultural Activity of Strategic Interest". Agricultural areas are recognized as a fundamental physical and economic resource to be protected and enhanced, recalling the productive and multi-functional role of agriculture, as well as its landscape-environmental and territorial protection value. From the specific objectives of the *PTCP* in terms of rural space, guidelines have been declined for the enhancement, use and protection of agricultural areas, as part of the plan's implementation rules. These are aimed at strengthening the multi-functional role of agriculture, with particular regard to the development of the ecological network, the

¹⁴⁵ Source: www.nature4cities.eu - visited on 27th April 2021.

¹⁴⁶ Source: <http://www.lifemetroadapt.eu/it/il-progetto/> - visited on 27th April 2021.

¹⁴⁷ Provincia di Milano. (2013). *Piano Territoriale di Coordinamento Provinciale*. Source: http://allegati.cittametropolitana.mi.it/pianificazione/allegati/piano_territoriale/PTCP_vigente_2014/Relazione_generale.pdf - visited on 27th April 2021.

encouragement of organic farming of certified quality of typical products. Finally, among the territorial projects envisaged by the *PTCP*, the *Parco della Terra* project is envisaged, which is linked to the Urban Belt Plans initiative, concerning peri-urban green and agricultural areas, promoted by the public entities of *Parco Agricolo Sud Milano* for the agricultural territories of the metropolitan belt. The *PTCP* provides for the creation of a large *Parco della Terra*, which due to its intermediate location between the urbanized and agricultural areas of the metropolitan belt constitute a precious connection between the city and countryside. The creation of transition areas and the re-composition of urban-rural margins is identified as the main issue to be addressed.

With the establishment of the Metropolitan City of Milan in 2014, the new territorial body had to equip itself with new strategic planning tools. The three-year Metropolitan Strategic Plan¹⁴⁸ (*PSM*), for the period 2019-2021, aims to place the Metropolitan City body as promoter of sustainable forms of strategic development of the territory, within the objectives of the 2030 Agenda for Sustainable Development. The Metropolitan Strategic Plan identifies 10 strategic projects, 8 territorial agendas and 24 operational projects. In terms of environmental sustainability, the *PSM* recognizes that one of today's main challenges is to harmonize economic and urban development with the quality of life, through the protection and enhancement of the environment. Also in this context, the Metropolitan City of Milan recognizes that, thanks to the *Parco Agricolo Sud Milano*, it is able to ensure and promote a new dialogue between city and countryside through the continuity of the landscape; on slow mobility solutions; on the agri-food short supply chain; and landscape-environmental protection. In general, the *PSM* makes no direct reference to actions intended to promote Urban Agriculture. However, among the operational projects that could interest UA practices, the intention of the Metropolitan City to adopt its own Regulation on collaboration between citizens and administrations for the care, regeneration and shared management of common goods should be mentioned. This because it could open up the possibility of managing urban areas for the promotion of activities, including horticultural ones, by the citizens themselves.

To conclude, in 2020 the Metropolitan Territorial Plan¹⁴⁹ (*PTM*) was adopted, the new metropolitan spatial planning tool that would replace and integrate the *PTCP* forecasts. The *PTM* was developed according to the principles of protection of non-renewable resources, including soil. With regard to the theme of UA, it sets as objectives the strengthening of the metropolitan ecological network, also protecting and diversifying agricultural production. In particular, in line with the *PTCP*, it is reiterated that the *PTM* identifies the "Areas intended for Agricultural Activity of Strategic Interest", with prescriptive effectiveness to enhance the role of metropolitan and peri-urban agriculture. The plan intends to create the conditions to maintain

¹⁴⁸ Città Metropolitana di Milano. (2019). *Milano Metropolitana al Futuro. Piano Strategico Triennale del Territorio Metropolitano*. Source: https://www.cittametropolitana.mi.it/export/sites/default/Piano_Strategico_2019_2021/doc/PS_approvato.pdf - visited on 27th April 2021.

¹⁴⁹ Città Metropolitana di Milano. (2020). *Piano Territoriale Metropolitano*. Source: https://www.cittametropolitana.mi.it/export/sites/default/PTM/iter/documenti/adozione/allegati_illustrativi/Relazione_generale.pdf - visited on 27th April 2021.

the functionality of farms established in the territory, also as a barrier to further urban expansion and a safeguard for the balance between environmental and settlement aspects. The plan intends to promote agricultural multi-functionality and the expansion of ecosystem services that can be provided by farms for the landscape; for resilience to climate change; for increasing biodiversity; for protection of water quality; and for the public use of agricultural land. To conclude, it is interesting to highlight that the *PTM* explicitly mentions urban gardens, as part of strategies for reducing heat islands and improving urban resilience.

4.2.2 Regulations on Urban Food Gardening

With regard to the Urban Food Gardening regulation, the administration of the traditional municipal Allotment Gardens in Milan is in charge of three different managing bodies. The gardens provided in *Parco Boscoincittà* and *Parco Nord* are respectively managed by *Centro di Forestazione Urbana (CFU)*, the former, and the latter by the Park Authority itself. The administration of remaining Allotment Gardens is based on decentralization, entrusted to the Councils of each *Municipio*. Regardless of who the managing body is, the nature of the tool adopted for their management is the same, deriving from the model experimented in the late 80s by *Italia Nostra*. Thus, the gardens are assigned through public tenders on the basis of a ranking; then are given in concession, onerous, through the stipulation of a loan for use contract between individual citizens and the managing body of the garden. Since in the 80s Allotment Gardens were designed as a public facility for social integration, their assignment is still based on a ranking that takes into account the applicant's income, age and health condition; therefore in rare occasions the call is extended to associations. Hence, the privileged assignee is the elderly, or people in a precarious economic of working situation, and this implies also that the whole bureaucratic process for the assignment a slow and cumbersome procedure.

Going into details of the regulations for Allotment Gardens, three different regulations are in force, according to the different management bodies. The purpose declared is similar in all cases; it is to encourage forms of aggregation between citizens, provide opportunities for the use of free time and improve and revitalize urban areas. In any case, the sale or commercial exploitation of garden products, which must be intended exclusively for personal consumption, is prohibited. The regulations also rigidly defines the internal organization methods for each garden, which vary slightly between the three types of management bodies but usually share a mechanism that is the same for all. In fact, the election of a Management Committee consisting of some gardeners is envisaged, which takes care of coordination tasks between assignees and the managing body; routine maintenance; conflict management; and reporting of non-compliance with the regulations. In some cases, the regulations also recently provided for the destination of some parcels to third sector activities, to be assigned free of charge.

In detail, the gardens located in *Parco Boscoincittà* are subject to the Regulation¹⁵⁰ for the management of the park's urban gardens, adopted in 2016. *Boscoincittà* offers individual plots for cultivation, and common areas for sharing with other users of the park. The regulation identifies in the CFU the body in charge of managing and supervising the horticultural areas and that the gardens are granted with a loan for use contract. This contract specifies that the borrower undertakes to pay the *Italia Nostra* - CFU association a variable annual rent, as a partial contribution to the expenses incurred for the organization and management of the urban vegetable gardens initiative. The regulation also specifies that a portion of the gardens, up to a maximum of 10%, can be used for special projects involving UA for therapeutic, rehabilitative or didactic purposes, which are out of the competition.

The gardeners of the *Parco Nord* refer to the “Gardens Regulation”¹⁵¹, adopted in 2018 by the Park Authority. The Regulation intends to promote participation and aggregation in the park through the development of UA practices. It governs the assignment, management and supervision of the gardens inside the park, each of about 25 square meters. The allocation of the gardens in the *Parco Nord* takes place directly towards private citizens, or through agreements for the allocation of gardens with institutions that have initiated educational or rehabilitative courses. There is also the possibility of assigning gardens to community cultivation projects, through a specific call for proposals. Requests are handled online on the institution's website and a registration fee is required in the ranking as well as a contribution fee to the overheads to be paid by the tenants of the vegetable plot of € 30.

The remaining Allotment Gardens managed by the Municipality of Milan through each decentralized district, are subject to regulations drawn up by each local Council, which define in full autonomy the allocation criteria and methods of use of the plots. Therefore, there is not a single regulation applicable to the whole municipal territory. In fact, the institutional site of each *Municipio* has an online section dedicated to the urban gardens service, where the conditions for assigning the horticultural areas and the respective notices and rankings to activate the concessions are published, as well as the regulatory references. The concession of the land provides for the payment of an annual fee and the payment of a lump sum for the use of water. In general, the fixed annual fee is € 1 per square meter of urban garden, as well as a fixed contribution of € 15 per year for expenses related to water and electricity consumption.

Another tool that is worth to be deepened, is the *Giardini Condivisi*, already mentioned in the previous section. This tool has been introduced in the Milanese context for some years, to allow collective management of public spaces, with the Resolution of the Municipal Council

¹⁵⁰ Boscoincittà. (2016). *Regolamento per la gestione degli orti urbani costituente parte integrante del contratto di comodato*. Source: <http://www.boscoincitta.it/wp/wp-content/uploads/2018/11/REGOLAMENTO-2018.pdf> - visited on 30th April 2021.

¹⁵¹ Parco Nord Milano. (2018). *Il regolamento degli orti*. Source: <https://parconord.milano.it/il-regolamento-degli-orti/> - visited on 30th April 2021.

1143/2012¹⁵², which has not been followed by any specific regulation. It represents an innovative method for the recovery and management of public areas for which no direct and immediate intervention by the municipal administration is required. Thanks to this initiative, all citizens, formed in non-profit associations, can request the assignment of an area owned by the municipality for the construction of a shared *giardino condiviso*, by submitting a request to the office of the town hall where the area is located. By resorting to this tool, citizens are entitled to an agreement with a minimum duration of 1 year and a maximum of 3 years, from which the municipality can request to withdraw in the event that the proposing association does not respect the commitments undertaken in the agreement. With regard to the management of the horticultural areas created with the tool of *Giardini Condivisi*, the rules established by the Municipality of Milan specify that each horticultural cultivation must be carried out in raised boxes. Moreover, the cultivation must be consistent with the ecological profile of the project providing the use of organic, biodynamic practices and permaculture; careful management of the water resource is also recommended; and the creation of collective cultivation areas is made mandatory to promote socialization and social cohesion. It also emphasizes the ban on creating fences that close the garden to the community. Finally, any commercial or advertising activity within the garden is prohibited. The associations proposing the projects are required to ensure appropriate insurance coverage during the duration of the agreement; to actively involve citizens; and to periodically submit a report on the activities carried out at the town hall. At the moment, there are 15 shared gardens created with the *Giardini Condivisi* tool in the various district of the city of Milan. Compared with the previous *ColtivaMi* call, launched by the municipality still in 2012, *Giardini Condivisi* provides for the possibility of greater dialogue between citizens and the administration. The design of the urban agriculture project takes place in collaboration with the municipality, which offers its technical skills for economic forecasts, simplifying the process and lowering the level of technical skills required for the project. Therefore, the access threshold to the tender is also open to minor or newly born associations, which often set up specifically for the achievement of the agreement with the public administration. In 2015, an addition to the *Giardini Condivisi* Resolution has further strengthened the experience, providing greater institutional support both economically and for collaboration in the design and implementation of the project. Thus, this initiative acted as a device capable of stimulating new projects that allowed local communities to take action in the care of underused green spaces in direct agreement with the Municipality.

Also in the municipality of Milan, following the example of the city of Bologna which had inaugurated this prospect in 2014, in 2018 the Pacts on Mutual Cooperation has been introduced as a tool for the shared management of urban common goods, through which active citizens; groups of volunteers; informal groups; legally recognized associations; educational institutions and foundations can collaborate with the public administration in the implementation of projects for the management, maintenance, improvement and activation of urban commons, including green areas, also dedicated to the practice of Urban Agriculture. The

¹⁵² Comune di Milano, *Deliberazione della giunta comunale 25 maggio 2012, n. 1143 "Linee d'indirizzo per il convenzionamento con associazioni senza scopo i lucro per la realizzazione di giardini condivisi su aree di proprietà comunale"*.

City of Milan recognizes that active citizens generate civil energies, which in part are not expressed through the traditional third sector channel. Then, in 2019 the “Municipal Regulation for the participation of active citizens in the care, shared management and regeneration of urban commons”¹⁵³ was adopted. For the moment, an experimentation phase is underway and several city spaces have been identified for the application of Pacts on Mutual Cooperation for the management of common goods. However, most of the initiatives undertaken so far mainly concern redevelopment and revitalization of pedestrian areas, management of spaces for sports, or open urban spaces such as streets and squares through socio-cultural animation. There are also experiments related to the care and revitalization of gardens but still no Cooperation Pact related to UA practices¹⁵⁴.

Finally, the theme of Urban Food Gardening is also considered within the “Regulations for the use and protection of public and private green”¹⁵⁵ of the city of Milan, adopted in 2017. The document states that in addition to urban parks, also urban gardens, as well as community gardens and agricultural areas are subject to the regulation. In particular, Article 7 officially recognizes that urban gardens are one typology of public green that the municipal administration is committed to implement to address community building; moreover, Community Gardens are recognised as tools for promoting the enhancement of degraded public areas. It is also interesting to note that the regulation on urban greenery also dedicates a specific article (Art. 57) to the green areas of the metropolitan belt, specifying protection rules for agriculturally run areas. It recognizes all peri-urban green areas and strategic agricultural areas, identified by the *PTCP*, providing for the stipulation of agricultural contracts for their management between the municipal administration and land tenants, also addressed to horticultural crops.

4.2.3 Urban Planning tools in force

The urban planning tool currently in force in the municipality of Milan is the Territorial Governance Plan¹⁵⁶ (*PGT*), titled *Milano 2030*, which became effective from 2020. The *PGT* is the new urban planning tool introduced in Lombardy by the Regional Law 12/2005¹⁵⁷ on Urban Planning, which replaced the previous General Regulatory Plan (*PRG*) as the urban planning tool at the municipal level with a more strategic and less binding instrument, whose execution

¹⁵³ Comune di Milano. (2019). *Disciplina per la partecipazione dei cittadini attivi alla cura, alla gestione condivisa e alla rigenerazione dei beni comuni urbani*.

Source:

<https://www.comune.milano.it/documents/20126/200092257/Regolamento+Disciplina+Beni+Comuni.pdf/e429814f-20bd-b311-a542-802979673b66?t=1565365393504> - visited on 30th April 2021.

¹⁵⁴ Source: <https://www.comune.milano.it/aree-tematiche/partecipazione/patti-di-collaborazione-per-la-gestione-dei-beni-comuni> - visited on 30th April 2021.

¹⁵⁵ Comune di Milano. (2017). *Regolamento d’uso e tutela del verde pubblico e privato*. Source:

<https://www.comune.milano.it/documents/20126/1003516/Regolamento+d%27uso+e+tutela+del+verde+pubblico+e+privato.pdf/686eb7d4-f765-4c8e-a9d3-ce59e034181a?t=1551271304040> - visited on 30th April 2021.

¹⁵⁶ Comune di Milano. Assessorato Urbanistica, Verde e Agricoltura. (2019). *Piano di Governo del Territorio. Milano 2030*. Source: http://allegati.comune.milano.it/territorio/PGT_BURL/1_DP/1_DP_Relazione_generale.pdf - visited on 20th April 2021.

¹⁵⁷ Regione Lombardia, *Legge Regionale 16 marzo 2005, n. 12 “Legge per il governo del territorio”*.

and application became effective throughout Implementation Plans and any Programming Acts. The *PGT* is divided into a series of complementary documents which are the Plan Document (*DpP*), the Public Facilities Plan (*PdS*) and the Rules Plan (*PdR*).

The Plan Document defines the cognitive framework of the territory, and the consequent planning and programming reference for the economic and social development of the Municipality. It identifies the development, improvement and conservation objectives with strategic value for the territorial and urban policy. It is therefore configured as a long-term strategic tool as it does not contain forecasts that produce direct effects on the legal regime of soils rights. Also through graphic elaborations, it identifies areas in which to initiate territorial regeneration processes as well as areas where the so-called “Great Urban Functions” should be established, which are governed by the annexed Implementation Rules and by the parallel Rules Plan. The *DdP* consists of an Explanatory Report, the Implementation Rules and a series of three graphic tables relating to the “Plan Projects”; the “Landscape Map”; and the “Municipal Ecological Network Scheme”.

The Public Facilities Plan must instead guarantee the global endowment of areas for public equipment, including the various public facilities such as areas for public social housing, green spaces, ecological corridors, also in terms of their connection with the rural and built-up area. It is composed of its own Implementation Rules and a series of three graphic tables relating to “Public Facilities”; the “Green system and mobility infrastructures”; and the “Green and Blue infrastructures” as part of the municipal ecological network.

Finally, the Rules Plan identifies and regulates the different territorial situations, defining the land-use destination of the areas of the municipal territory as it happened in the old General Regulatory Plan. However, it does not adopt a functional zoning, but classifies the territory by distinguishing between: areas of the consolidated urban fabric; areas of regeneration; areas for agriculture; infrastructures for mobility; and urban green. It defines the methods of urban planning interventions allowed and which are the ineligible land-use destinations. This instrument contains binding indications with direct effects on the land rights regime. The *PdR* is accompanied by its own Implementation Rules and by a series of ten graphic tables, including a specific one about the “Urban Planning Designation”.

With regard to the interaction between the Urban Planning tools and Urban Agriculture practices, the *PGT Milano 2030* is configured as a very broad strategic tool, which declines the urban development of Milan in the years to come according to various visions, including to which the creation of a green, liveable and resilient city. The plan defines among its strategies various interventions for soil and water preservation, as well as a design of new sustainability standards in an ecological way, for which the promotion of UA could represent a strategy to be pursued. The theme of agriculture is declined above all in terms of peri-urban activities, in relation to the *Parco Agricolo Sud Milano*, as well as the *Parco Agricolo del Ticinello* and the *Parco delle Risaie*, which are also mentioned in view of being integrated in the construction of a large Metropolitan Park. It is interesting to notice how the *PGT* aims to dialogue with a plurality of urban policies and projects regarding public works, mobility and the environment, strategically defining interventions on the urban spaces of Milan 2030 through the presentation of an Atlas.

The latter presents a series of mainly small urban interventions, widespread in the consolidated fabric of the city. It is worth to note how, in the graphic representations of the tables relating to the interventions planned in the city, there is a specific symbolism for the areas intended for agriculture and how these are declined, for example, also in relation to urban gardens, as in the case of Table 11, which refers to the proposed extension of the *Parco Agricolo Sud Milano* along the *Ticinello* canal. Although explicit recourse to Urban Food Gardening is not recognized as a functional land-use destination, they are recognized within the planning projects.

In any case, urban gardens are recognized as a type of urban green within the Implementation Rules of the Public Facilities Plan, in Article 8. There is no specific section dedicated to them, but the Implementation Rules specify that part of the newly identified green areas planned in the Table 2 “Green system and mobility infrastructures”, attached to the *PdS*, can be used for urban gardens and shared gardens, without further specification. A final regulatory reference to urban gardens in relation to town planning regulations can also be found in the Implementation Rules of the Rules Plan, in Article 25, which however is relating to the regulation of areas specifically intended for agriculture, which remain for the most part identified in peri-urban areas of the city, where “horticulture” is also recognized among the eligible land-use destinations and activities.

4.3 Case studies of Urban Food Gardening in Milan

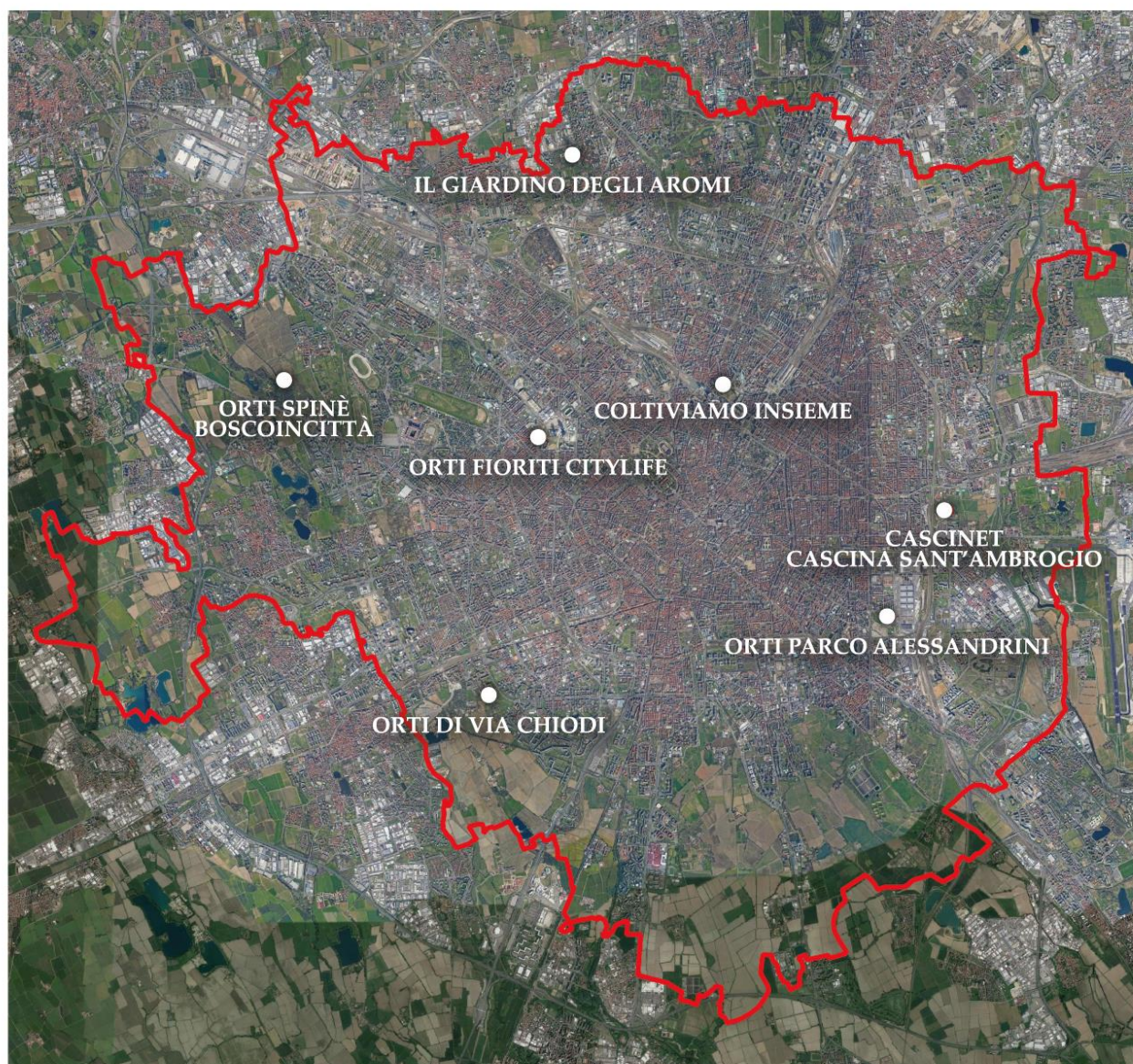


Figure 11 - Case studies of Urban Food Gardening selected in Milan. *Personal Elaboration.*

4.3.1 Orti Spinè, Parco Boscoincittà



Agricultural Area.

Figure 12 - Aerial view of Orti Spinè. *Personal Elaboration.*

Source: Google Satellite. <https://mt1.google.com/vt/lyrs=s&x={x}&y={y}&z={z}> - visited on 20th August 2021.

Typology:	Allotment Gardens.
Land property:	Public.
Location:	Peri-Urban.
Timeframe:	Since 1987.
Dimension:	About 4,000 m ² .
Stakeholders:	<i>Comune di Milano, Italia Nostra - Centro Forestazione Urbana.</i>
Main Source:	http://www.boscoincitta.it/orti-urbani-gli-orti-del-parco/ - visited on 18 th April 2021.

Table 7 - Information summary about Orti Spinè. *Personal elaboration.*

The context

The Orti Spinè are located in a peri-urban location, within *Parco Boscoincittà*, an urban public park on the western outskirts of the city of Milan, part of *Municipio 7*. In 1974 the municipal land on which the *Parco Boscoincittà* stands was given in concession to *Italia Nostra* association. *Italia Nostra*, through its operational body *Centro Forestazione Urbana* (CFU), launched within the park the first Italian urban reforestation project, involving local actors such as schools, associations and voluntary organizations. Over the years, the extension of the area

granted under concession expanded to the current 120 hectares that make up the entire park¹⁵⁸. The extensions have always corresponded to an increase in project proposals and implementation, up to the creation of the first urban gardens. The *Orti Spinè*, realized in 1987, were the first gardens created in the park, and are located near the *San Romano* farmhouse. They are the result of the research initiative promoted by *Italia Nostra* in 1982 called *Orti Urbani: una risorsa*¹⁵⁹, which theorizes a city model capable of offering citizens opportunities and resources, including the possibility of spaces for the cultivation and direct consumption of fruit and vegetables (Cognetti et al., 2012). In 1988, following a detailed plan for the construction of the area, the citizens who obtained the assignment of the vegetable garden lots, began the self-construction on the advice and supervision of a site foreman of the park. Thanks to the careful implementation of the project, the *Orti Spinè* are characterized by an orderly and structured design and landscape. All the structures were designed so that direct self-construction by the gardeners was possible. The area consists of 30 vegetable plots, 9 water pumps, 3 common areas, each equipped with a wooden shed for storing tools, a pergola, a barbecue, a bike rack, benches and tables. From the experience of these first 30 vegetable plots, now in the *Parco Boscoincittà* there are more than 400 plots of urban gardens, distributed in 4 areas: *Spinè*, *Maiera*, *Viola* and *San Romanello*¹⁶⁰. The intent to transform urban agriculture experiences from a spontaneous phenomenon to a recognized important activity integrated in the public green system continues.

With regard to the management aspects, the *Boscoincittà* urban gardens are realized on public land and are entrusted to management through a concession to the *Centro Forestazione Urbana*¹⁶¹, based in *San Romano* farmhouse, within the same park. The CFU is also entrusted with the maintenance and enhancement of the whole park and the promotion of educational and research activities. The *Orti Spinè* have been considered as Allotment Gardens, since they are implemented on public land which, although not directly by the municipal administration, are made available to residents by a public managing body. They are assigned to applicants through public tenders, issued by the municipal administration of Milan, and subsequent loan contracts subject to a regulation of conduct. They are subject to the Regulation for the management of urban gardens drawn up by the Park Authority in 2016. The regulation, which is an integral part of the loan for use contract stipulated with the borrowers of the vegetable plots, governs the cultivation of individual plots, as well as the construction, care, maintenance and use of the common parts, which oblige the borrowers to actively collaborate. It also regulates the social activities that take place in the horticultural areas and the relationships with the other users of the Park, as well as any kind of collaboration activities with the CFU for the overall maintenance of the park. The regulation specifies that a share of vegetable gardens, up to a maximum of 10%, can be used for special projects out of competition for the assignment of the lots, which may concern collective management projects; cultivation projects conducted

¹⁵⁸ Source: <http://www.boscoincitta.it/2018/11/22/boscoincitta-il-racconto-delle-origini/> - visited on 18th April 2021.

¹⁵⁹ Source: <https://urly.it/3dmtg> - visited on 18th April 2021.

¹⁶⁰ Source: <http://www.boscoincitta.it/orti-urbani-gli-orti-del-parco/> - visited on 18th April 2021.

¹⁶¹ Source: <http://www.cfu.it/> - visited on 18th April 2021.

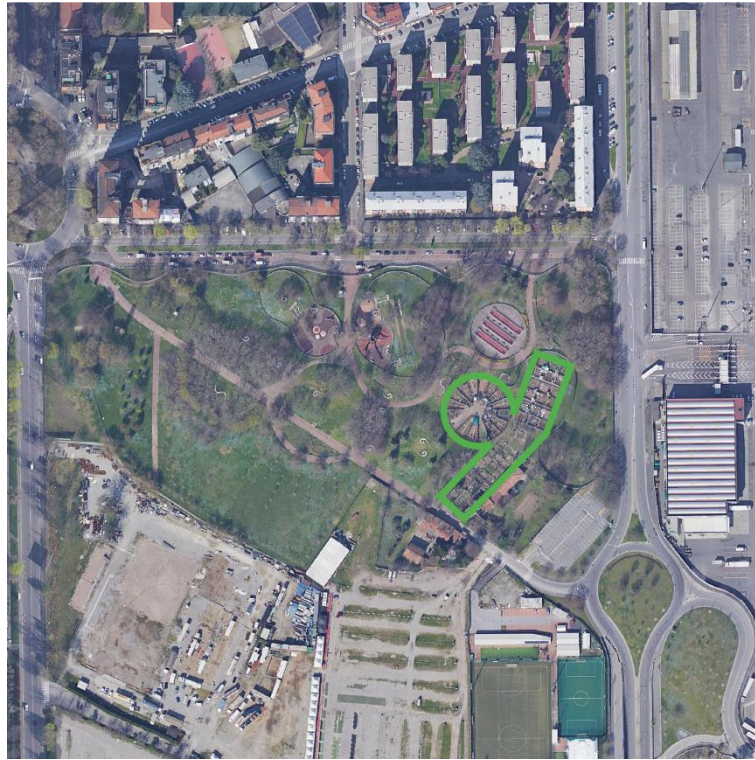
with particular techniques; projects that provide for cultivation for therapeutic purposes, rehabilitation or teaching. The loan for use contract also specifies that the borrower undertakes to pay the *Italia Nostra* - CFU association a variable annual sum, as a partial contribution to the expenses incurred for the organization and management of the urban vegetable garden initiative.

Land Use Designation

The area occupied by *Orti Spinè* is identified, according to the PGT of Milan, as an “Area for Citizens Use”¹⁶² of agricultural landscape, included within the *Parco Agricolo Sud Milano*. As far as it concerns the Rules Plan, the area is classified as “Agricultural Territory of the Metropolitan Belt”, designed by the Metropolitan Territorial Plan, which correspond to protected peri-urban agricultural areas. For this reason, the area is subject to specific plans, named *Piani di Citura Urbana*, and is excluded from urban development. With regards to the Public Facilities Plan, the area is recognized of ecological interest as constituent element of the ecological network at municipal level. Moreover, it is identified as a peri-urban area on which to intervene within the projects envisaged by the administration for the enhancement of the environmental system of western Milan.

¹⁶² In Italian: *Ambito per la Fruizione*.

4.3.2 Orti Parco Alessandrini



Urban Green
Area.

Figure 13 - Aerial view of Orti Parco Alessandrini. *Personal Elaboration.*

Source: Google Satellite. <https://mt1.google.com/vt/lyrs=s&x={x}&y={y}&z={z}> - visited on 20th August 2021.

Typology:	Allotment Gardens.
Land property:	Public.
Location:	Urban.
Timeframe:	Since 2003.
Dimension:	About 4,500 m ² .
Stakeholders:	<i>Comune di Milano, Municipio 4, Comitato Orti Parco Alessandrini.</i>
Main Source:	https://areaortialessandrini.blogspot.com/ - visited on 18 th April 2021.

Table 8 - Information summary about Orti Parco Alessandrini. *Personal elaboration.*

The context

The *Orti Parco Alessandrini*¹⁶³ are located in an urban green area in the south-eastern outskirts of Milan, part of *Municipio 4*. The park was inaugurated in 1980, but during the 1990s the space underwent considerable degradation, thus the municipality decided to intervene with a redevelopment project¹⁶⁴, started in 2000 and ended in 2003 which provided the realization of

¹⁶³ Source:

<https://www.comune.milano.it/aree-tematiche/verde/verde-pubblico/parchi-cittadini/parco-emilio-alessandrini> - visited on 18th April 2021.

¹⁶⁴ Source: <http://www.sergioagapstudio.it/portfolio/parco-alessandrini-mi/> - visited on 18th April 2021.

playground areas, vegetable gardens, dog areas and a bowls. The horticultural parcels are 31 in total, and are located in a special equipped area, with common spaces of different sizes, whose design is arranged partly in a sunburst and partly in a checkerboard pattern. Each garden is fenced, open to the public from 7.00 a.m to 7.00 p.m.; and is equipped with water intakes, a recycled plastic bin for tools and a bin for composting. The area consists of individual plots intended for the private use of each individual assignee, and common parts, consisting of tool storage areas and entrances. The gardeners have formed a very active committee¹⁶⁵, keeping the space alive with the organization of neighbourhood events and initiatives to involve the community. However, the area is also characterized by episodes of vandalism that testify to an intrinsic difficulty in these experiences of allotment gardens in public parks, whose direct control by the municipal administration becomes difficult to manage¹⁶⁶.

The *Orti Parco Alessandrini* are Allotment Gardens located in a public park and made available to citizens by the municipality of Milan; thus falling in the category of traditional municipal urban gardens, directly managed by the local decentralized district, which in this case is *Municipio 4*. With regard to the space management tool applied, since each *Municipio* is in charge of defining the allocation criteria and methods of the use of the gardens through the issuance of its own regulation, this Allotment Gardens are subject to the *Regolamento Orti Municipio 4*. The parcels to be used as vegetable gardens are assigned with an agreement of loan for use, on the basis of rankings appropriately drawn up by the *Municipio 4*, favouring the most vulnerable groups of the population. In particular, the regulation establishes that 80% of the vegetable plots are to be assigned to pensioners and seniors of at least 60 years, and the remaining 20% to disabled or unemployed citizens. Being resident in *Municipio 4* is also a priority requirement for the allocation of gardens. Since these are public Allotment Gardens, the regulation prohibits any marketing of the products, as well as a change of destination of the areas assigned for the cultivation or the possibility of breeding animals. For the purposes of proper collective management of the gardens, the regulation provides that the assignees elect their own internal Control Committee, within which to elect a Coordinator, whose task is to act as an intermediary between the assignees and the public administration. To conclude, the plots are given through land assignment on annual rent for use in horticulture; thus the regulation establishes an annual fee of € 1.00 per square meter for the concession of the gardens, and expenses related to the consumption of water and electricity fixed at a flat rate of € 15.00 per year.

Land Use Designation

The *PGT* identifies the area occupied by *Orti Parco Alessandrini* as existing urban green, therefore as a public facility. As far as it concerns the Rules Plan, the area is excluded from urban development, because located within consolidated urban fabric. With regards to the

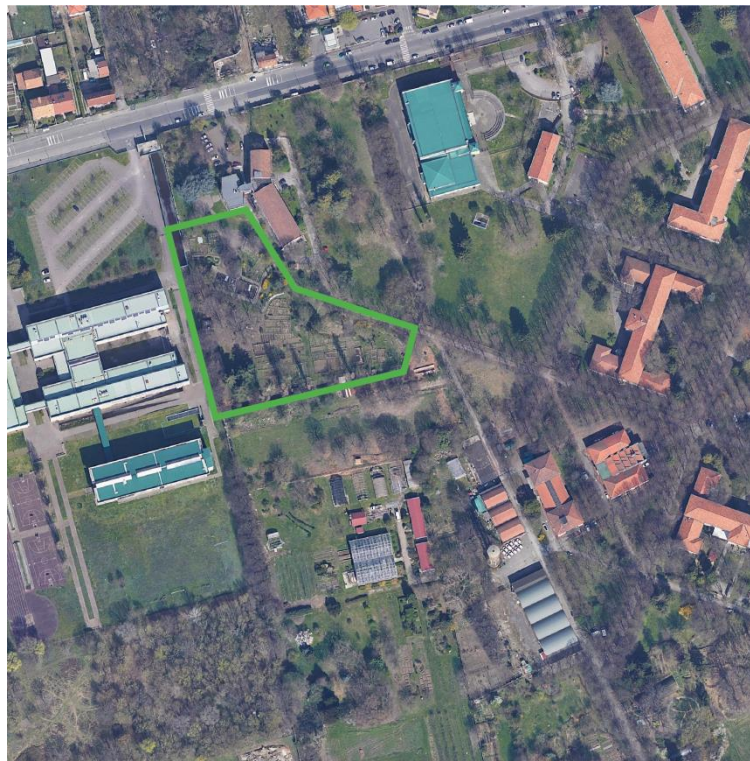
¹⁶⁵ Source:

https://areaortialessandrini.blogspot.com/?fbclid=IwAR1nFcJzBkRCp_tKT-J0VvX97ovKAJ2HYRYqqr61TQVtS_nG8r3T3ONNrgI - visited on 18th April 2021.

¹⁶⁶ Source: <https://areaortialessandrini.blogspot.com/2018/04/ieri-26-aprile-all-orto.html> - visited on 18th April 2021.

Public Facilities Plan, the area is recognized of ecological interest as constituent element of the ecological network at municipal level. Moreover, it is identified as an area subject to intervention envisaged by the administration within the project for the enhancement of *Parco Alessandrini*.

4.3.3 Il Giardino degli Aromi



Urban Green Area.

Figure 14 - Aerial view of *Il Giardino degli Aromi*. *Personal Elaboration*.

Source: Google Satellite. <https://mt1.google.com/vt/lyrs=s&x={x}&y={y}&z={z}> - visited on 20th August 2021.

Typology:	Community Gardens, Therapeutic Gardens.
Land property:	Public.
Location:	Urban.
Timeframe:	Since 2005.
Dimension:	About 7,000 m ² .
Stakeholders:	<i>Città Metropolitana di Milano, Il Giardino degli Aromi Onlus, Azienda Sanitaria Locale, Cooperativa Sociale Olinda.</i>
Main Source:	http://www.ilgiardinodegliaromi.org/ - visited on 18 th April 2021.

Table 9 - Information summary about *Il Giardino degli Aromi*. *Personal elaboration*.

The context

The urban garden *Il Giardino degli Aromi* is located in the northern outskirts of Milan, in the large park in which the buildings of the former *Paolo Pini* psychiatric hospital are located, part of *Municipio 9*. The experience of this urban garden began in 2003, when a group of women with experience in the cultivation and harvesting of aromatic and medicinal plants constitutes the *Il Giardino degli Aromi*¹⁶⁷ association with social purposes, which found its own headquarters in the park of the former *Paolo Pini* Hospital. After the disposal of the Psychiatric Hospital, the

¹⁶⁷ Source: <http://www.ilgiardinodegliaromi.org/> - visited on 18th April 2021.

large urban green area of *Paolo Pini*, isolated for years, turned out to be a potential metropolitan hub for the development of collective spaces and facilities (Cognetti et al., 2012). In fact, already in 2004, a group of middle school children living in the area began to cultivate some vegetable beds with the help of the *Il Giardino degli Aromi* association, in an abandoned area owned by the previous province, today the Metropolitan City, at that time reduced almost to landfill¹⁶⁸. The experience of these pioneering urban gardens was therefore born as a spontaneous and unregulated bottom-up initiative on public land. But the idea of the gardens was immediately received positively by the inhabitants of the neighbourhood and by the volunteers who had been collaborating in the association's activities for years. A group of citizens thus began to clean up the area and implement the current design of the urban gardens, initially without any agreement with the province, owner of the land. The first gardens in the park were officially created in 2005, the year in which the association obtained an agreement with the former province for the use of the land (Cucchi and Longo, 2018). The association thus committed itself to promoting a community experience of Urban Agriculture by creating a Community Garden which was implemented in 2010 together with other complementary structures. In fact, the area nowadays also hosts a greenhouse, animal enclosures, feeders and nests for birdlife and structures for a playground, made with natural materials.

The horticultural area occupies about 5,000 square meters is divided into two large areas: the *Mandala delle Erbe* and the *Libero Orto*, which is properly the Community Garden (Lupia and Pulighe, 2015). The *Mandala delle Erbe* is the oldest part of the urban garden, a place of great harmony dedicated to the cultivation of aromatic and medicinal plants, whose essences are processed and transformed into preparations and products for well-being, which can be purchased at the shop located in the garden itself. *Libero Orto* is a large Community Garden where, alongside the plots assigned individually to those taking part in the initiative, there are a series of areas used collectively. Over the years this reality has expanded to involve about 200 active members, who are committed to the promotion of various activities, including the offer of training courses, internships and horticultural therapy for social reintegration, also in collaboration with the Local Health Authority. A portion of the park and its facilities are managed by the Social Cooperative *Olinda*, a voluntary association that promotes the social integration of people with mental health problems, which is managing the former space of *Paolo Pini* psychiatric hospital, transformed into a place for social, cultural and participatory life. Thanks to the social and civic commitment of the association, in 2010 *Il Giardino degli Aromi* was awarded as a good practice within the Community Gardens category of the national competition "Civic Agriculture Award", promoted by the Italian Agency for Responsible and Ethical Agriculture¹⁶⁹ (AICARE).

As far as it concerns the strong commitment of local citizens and neighbourhood committee in the preservation of this Urban Food Garden experience from urbanization pressure, it is worth to mention the fact that in 2013 the area, considered buildable by the then

¹⁶⁸ Source: <https://sinergieperlorto.wordpress.com/2014/02/05/il-giardino-degli-aromi/> - visited on 18th April 2021.

¹⁶⁹ Source: <https://www.aicare.it/> - visited on 18th April 2021.

PGT, was identified for a social housing project promoted by the Metropolitan City of Milan¹⁷⁰. The agreement to carry on the UA activity was maintained only thanks to a strong bottom-up mobilization, also supported by the Municipality of Milan, which led to the collection of 23,000 signatures for the revocation of the project and the modification of the *PGT* in order to protect the green area. After this experience, the area is now involved in the *RiconnettiMi*¹⁷¹ project, presented in response to the 2014 call for proposals by *Carpilo* Foundation regarding ecological connections projects in Milan. In fact, the area represents a node of the ecological network of the city, for which the *RiconnettiMi* project intends to respond to environmental threats, in an urban context characterized by high population density, where further urbanization was also planned.

To conclude, as regards spatial management tools adopted, *Il Giardino degli Aromi* is an urban garden on public land, managed by a third sector association. The Metropolitan City of Milan owns the entire green area, which includes the two lots of 12,500 square meters intended as a vegetable garden; the association is required to pay an annual fee of € 250 to the Metropolitan City for the rent of the agricultural land¹⁷². Since the horticultural area, is mainly aimed at the conduction of a Community Garden, it is managed directly by the Association, through the free and active commitment of its volunteers, so there is no specific mechanism envisaged for the assignment of horticultural plots. However, the assignments of the plots are subordinated to the active participation to the care of the common areas and in the association's meetings, in which the shared rules of the garden are approved and the cultivation methods are discussed. In particular, the space dedicated to the *Libero Orto* initiative is subject to an internal regulation for the management of the Community Garden¹⁷³. Therapeutic activities and training courses for social reintegration are also organized. Therefore, the economic stability depends on the shares of the association's members; any contributions from public bodies or private foundations; or even from the direct sale of products obtained from aromatic, medicinal and ornamental plants, cultivated in the *Mandala delle Erbe* garden.

Land Use Designation

The area occupied by *Il Giardino degli Aromi* is identified, according to the *PGT*, as newly planned urban green within a context of urban renewal. As far as it concerns the Rules Plan, the area is excluded from urban development being within consolidated urban fabric, and it specifies again that this is a project area for urban greenery supply. With regards to the Public Facilities Plan, the site, being object of future intervention, is recognized to be part of the project *RiconnettiMi* for the enhancement of the ecological network and urban green system of the city.

¹⁷⁰ Source: <https://ricerca.repubblica.it/repubblica/archivio/repubblica/2013/05/16/un-quartiere-low-cost-allex-pini-seicento.html> - visited on 18th April 2021.

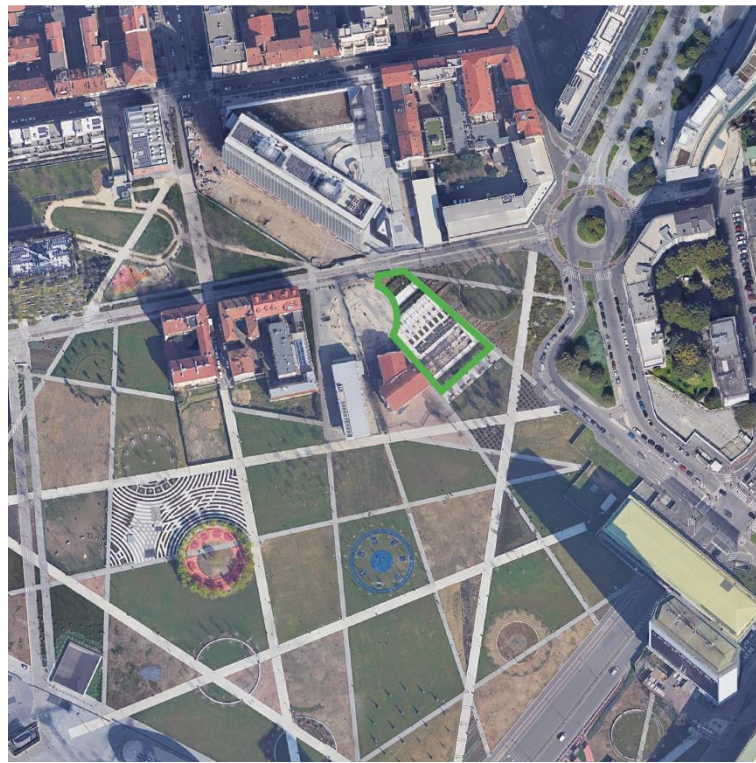
¹⁷¹ Source: <http://www.osservatorioresilienza.it/eventi/forum-pratiche-di-resilienza/pratiche-2016/riconnettimi.pdf> - visited on 18th April 2021.

¹⁷² Source:

https://www.cittametropolitana.mi.it/export/sites/default/portale/amministrazione-trasparente/beni_immobili_gestione_patrimonio/doc_immobili/Det_Dir_2765_2018.pdf - visited on 18th April 2021.

¹⁷³ Source: <https://www.ilgiardinodegliaromi.org/luoghi/orto-comunitario> - visited on 18th April 2021.

4.3.4 Coltiviamo Insieme



Urban Green Area.

Figure 15 - Aerial view of *Coltiviamo Insieme*. *Personal Elaboration*.

Source: Google Satellite. <https://mt1.google.com/vt/lyrs=s&x={x}&y={y}&z={z}> - visited on 20th August 2021.

Typology:	Educational Gardens.
Land property:	Public.
Location:	Urban.
Timeframe:	Since 2015.
Dimension:	About 1,300 m ² .
Stakeholders:	<i>Fondazione Riccardo Catella, Confagricoltura.</i>
Main Source:	https://bam.milano.it/eventi/coltiviamo-insieme/2020-07-01/ - visited on 18th April 2021.

Table 10 - Information summary about *Coltiviamo Insieme*. *Personal elaboration*.

The context

Coltiviamo Insieme is a 4,500 square meter space dedicated to an Educational Garden, inserted in the public garden of *Via Gaetano De Castilia*, within the context of *Porta Nuova* project, north to the city center of Milan, part of *Municipio 9*. This urban garden is an initiative of *MiColtivo The Green Circle*¹⁷⁴, a cultural project promoted by the *Riccardo Catella* Foundation, which is entrusted with the management and maintenance of the public garden in *Via De Castilia* since 2007, in collaboration with *Confagricoltura*. The project was launched in 2015, in the

¹⁷⁴ Source: <https://www.agricolturanews.it/il-percorso-dedicato-allagricoltura-urbana/> - visited on 18th April 2021.

context of the EXPO initiatives, together with the construction of an extensive wheat field, the environmental art-work “Wheatfield”, realized by Agnes Denes. About 50,000 square meters of fields were dedicated to the temporary cultivation of wheat in the centre of *Porta Nuova* district, which was undergoing urban transformation, in the area where the current *Biblioteca degli Alberi* park was later built. The Educational Garden *Coltiviamo Insieme* was designed to be inserted in support of the artist's work. It was supported with a program of educational activities and workshops based on cultivation and food education purposes, especially dedicated to children and families, which were inspired by the *MiColtivo Orto a Scuola*¹⁷⁵ program, that the *Riccardo Catella* Foundation had been promoting since 2012 in city public schools. This project envisaged the development of an educational model capable of being permanently rooted in school programming through the concrete experience of Educational Gardens installed in school courtyards. In the period between 2016 and 2017, the space used as a vegetable urban garden was also promoted within the *Porta Nuova Smart Community*¹⁷⁶ program, with a schedule of initiatives to actively participate in the construction of the *Biblioteca degli Alberi* park.

The example of this experience of Urban Food Gardening, however, is placed in a context of urban regeneration that involved the *Isola* district of Milan, as part of the realization of the *Porta Nuova* project, which after the privatization of large spaces remained without green areas for collective use. The *Coltiviamo Insieme* project, as part of the *Porta Nuova Smart Community* initiatives, was promoted with the contribution of companies of considerable weight, such as Samsung or Lancôme, players of a certain level in front of which the voice of the inhabitants has faded into the background, given the large investment for the redevelopment of the area. As part of the general redevelopment project, the *Riccardo Catella* Foundation's garden project is aimed at user niches such as schools and private groups, and its design was entrusted to experienced figures, such as agronomists, farms or international artists. The addressee of the project had no voice in its constitution, thus the experience is reduced to a facility provided by third parties, often external to the local context and community, reducing the role of common goods that these Urban Agricultural spaces should represent in the city.

In light of this, *Coltiviamo Insieme* presents itself as a project sponsored by the Municipality of Milan and managed by the Foundation and *Confagricoltura*. In line with this research purposes, it has been considered as an Educational Garden, considered as a public facility, bringing out the social function of agricultural activity, but confined and linked to individual projects, directed to specific groups of users. The garden is developed over public land, in the context of the garden in *Via De Castilia*, next to the headquarters of the Foundation. Thanks to an agreement with the Municipality of Milan, the Foundation manages, maintains and takes care of the public garden, which is not subject to any specific regulation.

¹⁷⁵ Source: <https://www.fondazionericcardocatella.org/it/attivita/micoltivo-orto-a-scuola/> - visited on 18th April 2021.

¹⁷⁶ Source: <https://www.fondazionericcardocatella.org/it/progetti/porta-nuova-smart-community/> - visited on 18th April 2021.

Land Use Designation

The area where the Educational Garden is located is considered by the *PGT* as *Parchi Locali di Interesse Sovracomunale (PLIS)*, which means “Urban Green Areas of Supra-Municipal Interest”. Thus, it is classified as a public facility in a recently formed urban fabric. As far as it concerns the Rules Plan, the area is excluded from urban development and is included in the area subject to the project of urban renewal *Garibaldi-Repubblica*, under implementation. With regards to the Public Facilities Plan, being the urban gardens annexed to the *Riccardo Catella* Foundation headquarter, they are identified as a space for socio-cultural services.

4.3.5 CasciNet



Agricultural Area.

Figure 16 - Aerial view of CasciNet. *Personal Elaboration.*

Source: Google Satellite. <https://mt1.google.com/vt/lyrs=s&x={x}&y={y}&z={z}> - visited on 20th August 2021.

Typology:	Community Gardens. + Urban Farming.
Land property:	Public.
Location:	Peri-Urban.
Timeframe:	Since 2014.
Dimension:	About 9,000 m ² .
Stakeholders:	<i>Comune di Milano, Associazione CasciNet, CasciNet Società Agricola Impresa Sociale, Associazione Art.9, University of Milan.</i>
Main Source:	https://cascinet.it/ - visited on 18 th March 2021.

Table 11 - Information summary about CasciNet. *Personal elaboration.*

The context

CasciNet is an Urban Agriculture initiative that has been developed in the context of a former convent dating back to the 12th century, nowadays transformed into an agricultural farmhouse: the *Cascina Sant' Ambrogio*. It is located within *Gorlanini* urban park in a peri-urban area on the eastern outskirts of the city of the *Ortica-Forlanini* neighbourhood, part of *Municipio 4*. The *Cascina Sant' Ambrogio*¹⁷⁷, consisting of a group of buildings and land of historical, cultural

¹⁷⁷ Source: <https://www.comune.milano.it/aree-tematiche/verde/milano-metropoli-rurale/cascine-a-milano/cascine-agricole-visitabili/cascina-sant-ambrogio> - visited on 18th April 2021.

and agricultural interest, is property of the Municipality of Milan. Today, the farmhouse is granted in concession to the *CasciNet* project for a duration of thirty years, in the context of the so called *Bando Cascine*, a public tender which has initiated a series of experiences of Community Gardens implemented within municipal farmhouses, launched by the municipality in 2013 and aimed at third sector subjects for the establishment of public functions.

The farmhouse, never completely abandoned, at the beginning of the 2000s saw agricultural activities stop and progress towards a state of neglect. Then, in 2012, a group of young Milanese citizens began to clean up and open the farmhouse spaces to the public. The group founded the *CasciNet* social promotion association in the same year, starting to plan the future of the place with a participatory approach. For more than a year the project grew thanks to the commitment of several volunteers eager to revive the farmhouse and its deep historical roots. The project led to a formal document of expression of interest, addressed to the Municipality of Milan, which in 2014 gave a three-year concession to the association for the management of the area. The project continued to be developed, further expanding its agricultural vocation by setting up an agricultural social company, which in 2016 signed a new thirty-year concession contract for the management of the farmhouse, thus starting a long project path based on participatory planning¹⁷⁸. Hence, the *CasciNet Beni Aperti*¹⁷⁹ redevelopment and restoration project was born, from the partnership of *CasciNet* association and agricultural social company, *Art 9* association, and the University of Milan, with the aim of redeveloping the spaces of *Cascina Sant'Ambrogio*. The project was funded in 2019 by the *Cariplo* Foundation and involved the implementation of four main actions. The restoration of the 12th century historical apse, which is part of the farmhouse complex; the structural recovery of the internal spaces of the farmhouse, in line with the concession contract with the Municipality of Milan; the activation of a catering project with the construction of the *Agriristoro* restaurant that would allow the economic and financial sustainability of the project; and finally the construction of a thermocompost heating system, an experimental non-polluting ecological system.

In the context of the *Cascina Sant'Ambrogio* has been implemented a Community Garden, named *Terra Chiama Milano*¹⁸⁰, which since 2013 has been created for the enhancement of the spaces outside the farmhouse to be dedicated to community Urban Food Gardening experiences. *Terra Chiama Milano* is the first Urban Agriculture facility born in *CasciNet* context, and its main purpose is to promote environmental education projects, socio-educational and cultural activities. These are spaces created to give life to a permanent laboratory of sustainable agriculture, active citizenship and social cohesion. The *Terra Chiama Milano* project also promotes permaculture, in order to create a flourishing, bio-diverse, resistant and flexible productive ecosystem. In addition to this experience, with the establishment of *CasciNet* Agricultural Company, this case study is also an example of Urban Farming activities, since the company is dedicated to the cultivation of over 9 hectares of land in the *Vettabbia* Park and in

¹⁷⁸ Source: <https://cascinet.it/la-storia/> - visited on 18th April 2021.

¹⁷⁹ Source: <https://cascinet.it/progetti/> - visited on 18th April 2021.

¹⁸⁰ Source: <https://cascinet.it/services/terra-chiama-milano/> - visited on 18th April 2021.

the areas bordering the farmhouse. The aim is of generating an agro-ecological pole that reconnects the city of Milan with its countryside, exploiting its peri-urban location. In addition to the areas dedicated to cultivation, the *CasciNet* space hosts the restaurant *Agriristoro T'Imo*, which uses only the products grown in the farmhouse estate; the Food Forest, which is an ecosystem of permaculture trees, with edible crops in an area that was a former landfill in 2015; a space dedicated to *ApiNet*, a project of urban beekeeping; a space for art and craft; and finally a social guesthouse.

As far as it concerns the maintenance of the spaces and the management tools adopted, the context of *CasciNet* is particularly articulated, since it host several initiative and activities. In general, the project is implemented in a public property thanks a concession and a land lease contract between the Municipality of Milan and the association, which was entrusted in the recovery and redevelopment of the whole historical farmhouse. Born as a non-profit initiative, the management of the vegetable gardens and green spaces that occupy the external open spaces of the farmhouse relies exclusively on voluntary activities. The economic sustainability of the project is supported by the complementary activities of the agricultural company in addition to the *Agriristoro T'Imo* restaurant; as well as by organizing paid courses or by fundraising. With regard to the space dedicated to the Community Garden, they are developed on public land, given in concession to *CasciNet* by the Municipality of Milan through an agricultural lease contract stipulated in 2016, but they are not subject to any specific internal regulation.

Land Use Designation

The *PGT* identifies the area managed by *CasciNet* as an “Area for Citizens Use”¹⁸¹ part of agricultural landscape, included within the *Parco Agricolo Sud Milano*. As far as it concerns the Rules Plan, it is classified as “Agricultural Territory of the Metropolitan Belt”, designed by the Metropolitan Territorial Plan, which correspond to protected peri-urban agricultural areas. For this reason, the area is subject to specific plans, named *Piani di Citura Urbana*, and is excluded from urban development. With regards to the Public Facilities Plan, the area is recognized of ecological interest as constituent element of the ecological network at municipal level. Moreover, it is identified as a peri-urban area on which to intervene within the project envisaged by the administration for the enhancement of the environmental system of the *Lambro* River ecological corridor.

¹⁸¹ In Italian: *Ambito per la Fruizione*.

4.3.6 Orti Fioriti, CityLife



Mixed-use
Built-up
Area.

Figure 17 - Aerial view of Orti Fioriti. *Personal Elaboration.*

Source: Google Satellite. <https://mt1.google.com/vt/lyrs=s&x={x}&y={y}&z={z}> - visited on 20th August 2021.

Typology:	Community Gardens.
Land property:	Private.
Location:	Urban.
Timeframe:	Since 2015.
Dimension:	About 3,000 m ² .
Stakeholders:	<i>CityLife, Cooperativa del Sole di Corbetta, Orticola di Lombardia.</i>
Main Source:	https://www.city-life.it/ - visited on 18th April 2021.

Table 12 - Information summary about Orti Fioriti. *Personal elaboration.*

The context

The *Orti Fioriti* are urban gardens created within the public park realized in the CityLife district, north-west of the city centre of Milan, part of *Municipio 8*. CityLife is a residential and commercial complex built in the *Portello* neighbourhood in Milan since 2007, as part of the urban redevelopment project concerning *Fiera di Milano* district¹⁸². The *Orti Fioriti* were born on the initiative of CityLife Company, that managed the entire urban redevelopment project. It had the foresight to create a unique urban vegetable garden project, created in collaboration with

¹⁸² Source: <https://www.city-life.it/en/project> - visited on 18th April 2021.

*Orticola di Lombardia*¹⁸³. CityLife has decided to allocate to Urban Agriculture not a cut-out portion of land such as fragmented remnant, but a piece of land initially destined to be built, that was perfectly integrated into the park of the new district, designed in 2010. Initially conceived to be temporary and small in size, the urban garden has shown a strong attractive power on the inhabitants, becoming a distinctive and appreciated feature of the area. This has prompted the Property to increase the surface area destined to Urban Food Gardening and to allocate a good portion of funding to its maintenance, also putting the expertise of the professionals involved in the project in the first place, including the expert gardeners who take care of the horticultural area. The first vegetable gardens were designed in 2015, and initially covered an area of about 3,000 square meters which, thanks to their great success, have been doubled, through the expansion project that created an Italian garden with a contemporary design. It consists of large flower beds arranged to compose a broken, almost labyrinthine path, where horticultural crops and ornamental plantations alternate, arranged according to a 45 ° inclination. The horticultural area is open to the public for participation to free courses, workshops and events, hosting activities dedicated to families and children, educational visits, experiential workshops and a zero-kilometre vegetable market. The whole space is managed by the *Cooperativa del Sole di Corbetta*¹⁸⁴, a cooperative which is dedicated to the maintenance of greenery in various aspects. What is grown and produced in the *Orti Fioriti* is then offered for free to the inhabitants of CityLife district. The staff in charge of the horticultural area gradually shows the availability of fresh vegetables at the moment, indicating what and when to harvest, in order to manage production in a balanced way. In 2019, another green patch was added to the CityLife area. The same *Cooperativa del Sole* takes care also of a vineyard, replanted in the CityLife district, which was part of the temporary urban garden installed in *Piazza della Scala* on the occasion of the Milan Fashion Weekend 2019¹⁸⁵. The 170 vines were arranged in five rows and occupy an area of over 1,500 square meters at the entrance of *via Ortese*.

For the purposes of the research, the *Orti Fioriti* have been classified as Community Gardens, however their maintenance and care is entrusted to experienced professional gardeners. Therefore, it can be considered more than a shared community garden, it is a garden with a demonstrative vocation, more similar to a botanical one, although dedicated to the cultivation of vegetables and open to the public every day. Therefore, this Urban Food Gardening initiative does not actually directly involve the community in its maintenance and cultivation. Furthermore, since these are gardens built on private land intended to be built as part of the urban renewal project, they are a private initiative, but open to the public, not subject to any type of regulation or space management tool. In this regard, this case study can be interpreted in every aspect as an example of the private offer of spaces for public use.

¹⁸³ Source: <https://www.orticola.org/?p=9947> - visited on 18th April 2021.

¹⁸⁴ Source: http://www.cooperativadelsole.it/?page_id=7 - visited on 18th April 2021.

¹⁸⁵ Source: <https://www.milanotoday.it/zone/certosa/portello-citylife/vigna-fashion-week.html> - visited on 18th April 2021.

Land Use Designation

The area occupied by *Orti Fioriti* is identified by the *PGT*, as an area of recent development, with no specific functional destination. As far as it concerns the Rules Plan, the area is classified as building land, affected by adopted on-going project through the CityLife Programme Agreement, at the time implemented in part. With regards to the Public Facilities Plan, the area is not recognised as intended for public structures, nor for public green areas.

4.3.7 Orti di Via Chiodi



Agricultural
Area.

Figure 18 - Aerial view of Orti di Via Chiodi. *Personal Elaboration.*

Source: Google Satellite. <https://mt1.google.com/vt/lyrs=s&x={x}&y={y}&z={z}> - visited on 20th August 2021.

Typology:	Community Gardens/Family Gardens.
Land property:	Private.
Location:	Peri-Urban.
Timeframe:	Since 2010.
Dimension:	About 16,000 m ² .
Stakeholders:	<i>Associazione Angoli di Terra.</i>
Main Source:	http://www.angoliditerra.org - visited on 18th April 2021.

Table 13 - Information summary about Orti di Via Chiodi. *Personal elaboration.*

The context

The Orti di Via Chiodi are located on a private land in *via Cesare Chiodi*, in a peri-urban area on the south-western outskirts of the city of Milan, part of *Municipio 6*. The area interested by this Urban Food Gardening experience is of about 1.6 hectares, where 180 arable lots of 75 square meters each are leased, within a fenced area equipped with water for irrigation (Cucchi and Longo, 2018). The idea of developing these urban gardens was born from Claudio Cristofani, the owner of the land, who in 2010 decided to invest in the Urban Agriculture sector, in order to define an intended use for the land he owned, considered non-buildable by the municipal master plan and remained unused for years (Cognetti et al., 2012). At the beginning of the initiative, there were only 10 plots dedicated to Urban Food Gardening, which after a

decade have become about 180, and are rented to private citizens at a cost of € 1 per day. From a design point of view, the urban gardens in *via Chiodi* are an open-air laboratory. The three different areas that make up the lot, built incrementally during time, represent a design evolution that has taken into account the positive elements and criticalities identified by the users during their experience of cultivation. This obviously produced a certain lack of homogeneity in the overall appearance of the area, which, added to the presence of umbrellas, gazebos, and furnishings managed individually by the tenants, generates a sense of disorder.

The most interesting feature of the urban gardens in *via Chiodi* is the coexistence of different social groups, which alternate at different times of the day or mix at peak times, and make the horticultural complex very lively. Unlike the other initiatives of public urban Allotment Gardens, that aim at elderly users or disadvantaged sections of the population, this private initiative of Urban Food Gardening is aimed at any kind of citizen, without setting income limits or the obligation to be a pensioner to access the assignment, which instead are both mandatory conditions for the allocation of the cheapest municipal Allotment Gardens. This aspect underlined the emergence of an unsatisfied demand for experiences of Urban Agriculture in the Milanese context not encountered by the public administration offer, in fact there are many families on the waiting list interested in a horticultural parcel to be released.

The *Orti di Via Chiodi* testify to an unprecedented management model, where the private sector guarantees the public offer. From the point of view of space management tools adopted, this example of private Urban Food Gardening leaves several questions open, including regulatory ones. These are, first of all, the lack of adequate legislation concerning the possibility of carrying out horticultural activities on land for agricultural use, as in the case of the area in *via Chiodi*. The latter, in fact, is classified by the planning instruments as a private area that cannot be built on, but addressed only for professional agricultural purposes because it is included in the *Parco Agricolo Sud Milano*. This initiative can be considered an entrepreneurial intervention, given that it is nevertheless of great importance for its extension. However, similar initiatives see their potential blocked as they do not fall into standard categories that allow collaboration with institutions.

For the purpose of this research, the case study of *via Chiodi* can be defined as a mixed example of Community Gardens on a private space and Family Gardens, whose manager is the owner of the area, Claudio Cristofani. Being the initiative of a private citizen, this case study is also characterized by the absence of specific policy and space management tools. In fact, the owner allows the rent of garden plots to single private individuals, but it is not excluded the possibility of a shared management of the horticultural area between those involved. The owner, despite not having explicit authorization from the municipal administration, has set up the *Angoliditerra*¹⁸⁶ association and a dedicated website created together with the vegetable gardens, which hosts all the information necessary for the development of other organized vegetable garden settlements and to give interested parties the opportunity to fill out the form to be included in the waiting list for the assignment of a vegetable plot.

¹⁸⁶ Source: <http://www.angoliditerra.org/> - visited on 18th April 2021.

Land Use Designation

The *PGT* identifies the *Orti di Via Chiodi* as an “Area for Landscape Intervention of the Urban-Urban Fringe”¹⁸⁷, as well as an “Area for Citizens Use”¹⁸⁸, part of agricultural landscape, included within the *Parco Agricolo Sud Milano*. As far as it concerns the Rules Plan, it is classified as “Agricultural Territory of the Metropolitan Belt”, designed by the Metropolitan Territorial Plan, which correspond to protected peri-urban agricultural areas. For this reason, the area is subject to specific plans, named *Piani di Citura Urbana*, and is excluded from urban development. With regards to the Public Facilities Plan, the area is recognized of ecological interest as constituent element of the ecological network at municipal level on which to intervene for ecological strengthening.

¹⁸⁷ In Italian: *Ambito di Ricomposizione Paesaggistica dei Margini Urbani*.

¹⁸⁸ In Italian: *Ambito per la Fruizione*.

CHAPTER 5

Rome

Rome is the capital of the Lazio region and the first most populated city in Italy, with a population of approximately 2,783,809 inhabitants over a geographical area of 1,287 km² ¹⁸⁹. According to the ISTAT survey¹⁹⁰, urban green areas in 2018 occupied almost 4% of the urban territory, for a total amount of 4,227 hectares, resulting in almost 16.5 m² per capita. The survey, which interested only public green areas, shows also that Urban Agriculture in Rome corresponded to 0.07% of the total municipal territory, which means almost 3.5 hectares. Finally, as far as it concerns Protected Natural Areas and possible Agricultural Park, the city of Rome has 415,000,000 square meters of protected territory as Natural Parks, which also include the presence of Agricultural Parks.

For several years Rome, until the autonomy of the municipality of Fiumicino, held the primacy of the largest agricultural city in Europe, thanks to the great extension of its *Agro Romano*. As testified by Lupia et al. (2016), since the post-war period, the territorial structure of the city has allowed the development of various urban and peri-urban agriculture activities, thanks to the presence of large bands of natural zones and agricultural lands which crossed the metropolitan area, determining a gradual transition between the urban and the rural context. Today, about 30% of the areas inside the urban boundaries of the Rome's *Grande Raccordo Anulare* (GRA) ring road are used for agricultural activities. Moreover, the last Agricultural Census data¹⁹¹ provided by ISTAT in 2010 testifies that, in contrast to regional and national trends, the agricultural consistency of the city of Rome increased, compared to 2000, by 16.8% in terms of Utilised Agricultural Area (UAA) and by 40% in terms of active farms in the municipality. With regard to Urban Agriculture practices, Urban Food Gardening represents a complex phenomenon in the city of Rome, many initiatives have become subject of political debate and the demand from citizens is increasing. However, the support from the municipal administration towards UA was delayed, in fact many experiences in Rome was not recognized, supported and regulated until a few years ago.

5.1 The state of Urban Agriculture

Rome represents the largest Italian municipality by territorial extension, at the same time characterized by urban green areas among the most relevant and distributed with capillarity within the urban fabric. The peculiarity of the city of Rome is due to the vast

¹⁸⁹ Data provided by ISTAT updated as of 1st January 2021.

Source: <https://www.tuttitalia.it/citta/popolazione/> - visited on 9th June 2021.

¹⁹⁰ Data provided by ISTAT relating to the Census of Urban Green areas updated to 2018.

Source: <https://www.istat.it/it/archivio/236912> - visited on 2nd June 2021.

¹⁹¹ The 6th Agricultural Census was launched in 2010 and the first definitive results were published in 2012, available online.

Source: <https://www.istat.it/it/censimenti-permanenti/censimenti-precedenti/agricoltura/agricoltura-2010> - visited on 2nd June 2021.

extension of its municipal territory, which includes the presence of vast green areas, partly protected, inside and outside the city, as well as traditional relationships between the city and the neighbouring agricultural territories, which constitute the *Agro Romano*, consisting of the vast rural area that extends around Rome. The Roman context is peculiar since several green natural and semi-natural corridors go very close to the city centre from the periphery, avoiding a clear division between urban and rural areas; this extreme urban-rural proximity has favoured the flourishing of many Urban and Peri-Urban Agriculture activities and today offers unique potential to further develop this sector (Pili et al., 2017). In recent years, there has been a renewed interest in the *Agro Romano*, but various spontaneous initiatives also demonstrate increased demand for UA by a large segment of citizens. In parallel to the agricultural areas with a productive vocation that characterize the territory of Rome, recent surveys have in fact highlighted a complex, but at the same time widespread, reality of Urban Food Gardening activities, which have developed unplanned within the consolidated city, close to the residential fabric, in particular in the green areas adjacent to the built-up area.

But also in the case of Rome, as in other Italian cities, the presence of urban gardens in the city can already be traced in ancient cartographies. The map of the city realized by Giovan Battista Nolli between 1736 and 1744¹⁹², returns the image of a city full of villas, vineyards and gardens that overall occupied two thirds of the area within the walls. With the election of Rome as the capital of Italy in 1871, the so-called season of "building fever" began and in fact large villas, gardens and woods in the city of Rome were destroyed following the construction boom (Ibid.). Cultivation in urban areas started to be strengthened again coinciding with the world wars, when urban gardens returned to populate the city of Rome to ensure food supplies to the most disadvantaged groups. Between the 60s and 80s, spontaneous agricultural activities remain in the Roman context, often carried out in marginal and degraded areas, destined to the poorest segments of the population. Also for this reason, UA tended to be considered an expression of poverty and backwardness, especially when compared with the more modern concept of city gardens and parks. It is only with the first hints of the economic crisis of the 1980s that the negative consideration of such Urban Agricultural practices begins to somehow diminish. Nonetheless, UA remains completely unrecognized, unsupported and unregulated by the Roman public authorities until a few years ago. In fact, the bottom-up initiatives of citizens up to the second half of the 2000s travel on diverging tracks from those of the public administrations, which struggle to recognize the reality of Urban Food Gardening in Rome, so much so that they even reach almost paradoxical situations, in which illegally occupied places are cultivated by citizens with activities financed by public entities, as testified in the Report edited by Lupia and Pulinghe (2015). Also for this reason, Urban Agriculture in Rome still maintains a strong informal character. In particular the 2000s saw the spread of cultivated urban areas thanks to the will of associations, neighbourhood committees, self-organized groups. Urban Food Gardening has developed as bottom-up community practices of a spontaneous nature. In particular, the most recent experiences have mainly concerned the proliferation of unregulated shared Community Gardens or Guerrilla Gardening actions, aimed at developing forms of public green maintenance through the creation of cultivated spaces,

¹⁹² Giovan Battista Nolli, *Nuova Topografia di Roma*, 1748.

even of very small dimensions, with sudden interventions organized by small groups of activists.

Given the absence of public administration initiatives, among the most common types of Urban Food Gardening in Rome, Squatter Gardens are certainly more widespread than Allotment Gardens. Many were created starting from the 1960s by many migrants looking for work, who began to occupy unused land. However, the proliferation of Squatter Gardens in Rome continued also and especially in the 2000s, when, given the lack of interest by the municipal administration towards UA, a series of urban gardens started to develop on private land and entrusted to citizens. The spread of this type of vegetable gardens was due to the fact that several small and medium-sized terrains, once used for agricultural practices, were then candidates for a change of land use designation, from rural to urban building land, by variants of existing urban planning tools. Large rural patches become "waiting ground" in terms of land rent, thus acquiring a strong interest in the construction business, often being completely abandoned while waiting for this passage of land-use zoning, as testified in the Report about the State of Agriculture in Rome¹⁹³. The presence of such piece of land has allowed the development of forms of spontaneous UA practices on private land, often regulated by rental contracts. In general, the cultivation of these spaces makes it possible to enhance them leading to a mutual benefit, both for the tenants, who are offered a space to cultivate whose demand was not satisfied by public actors, and for the owners, who can derive an income from the rent of the gardens (Ibid.). In light of that, despite these experiences could be considered informal or illegal, the hope is that they can trigger a new mechanism for the enhancement and valuation of agricultural land, which turns into a possibility for providing important services to citizens, and which could therefore lead the owners to reconsider the destination of their land in view of the potential in developing multi-functional urban agriculture practices.

Alongside these initiatives, Urban Food Gardening in the Roman context is mainly promoted by the sphere of associations and third sector, which are involved in developing Community Gardens experiences. In this realm, both urban farmers, coming from private experiences, and the informal sphere of citizens, totally unfamiliar with agricultural practices, very often converge (Felici, 2017). The Roman context is characterized by a rich reality of formal and informal associations dedicated to the care of urban and peri-urban green spaces. These consist in self-managed Community Gardens, which appear to be attempts of bottom-up re-appropriation and informal planning of urban spaces, neglected from the public actors. In fact, such activism practices are generating new collective and participatory ways of living the urban context, responding to the crises of public space (Del Monte and Sachsé, 2017). Among the experiences of this type, it can be mentioned *EutOrto* in *via Ardeatina*, where some Community Gardens were created and managed by a group of workers fired by the former *Eutelia* company, an initiative that began as a form of protest and complaint against a disguised dismissal¹⁹⁴. The

¹⁹³ Roma Capitale. Dipartimento Tutela ambientale e del Verde – Protezione Civile. (2011). *Relazione sullo Stato dell'Ambiente. Agricoltura*. Source: <https://pdfslide.net/documents/relazione-sullo-stato-dellambiente-agricoltura-cibo-per-la-citta-13-le-aziende.html> - visited on 5th May 2021.

¹⁹⁴ Source: <http://www.eutorto.altervista.org/> - visited on 27th April 2021.

Community Gardens *Città dell'Utopia*, a social laboratory in *San Paolo-Ostiense* neighbourhood, is another instance, which is the result of the collaboration between the International Civil Service and the Roman association of herbalists of *Monte dei Cocci*, developed with the aim of managing and caring for the green area surrounding *Casale Garibaldi*¹⁹⁵. These experiences all represent active citizenship initiatives, a precious resource for a city with an extended territory as in the case of Rome, which faces many challenges in terms of management and organization of public facilities and spaces. Today, despite the delay of the public administration, even Rome is witnessing a growing interest in the potentiality of citizens involvement in the management of urban commons, which could represent an opportunity for avoiding and reducing the informality that now characterizes most of the bottom-up initiatives of Urban Food Gardening in Rome.

In short, the Roman panorama of Urban Food Gardens is mainly constituted by experiences promoted by local associations, neighbourhood committees, and third sector, demonstrating that Urban Agriculture in Rome is mostly a bottom-up phenomenon, which has remained unregulated for years. Most of UA practices did not depend on the intervention of the public administration, which only in recent years has tried to address the issue, adopting mechanisms for regulating experiences already in progress and promoting new ones. Therefore, it can be argued that in the city of Rome it is difficult to identify examples of horticultural areas falling in the category of Allotment Gardens. This is because most of the projects and horticultural areas are managed through community initiatives, that have seen the intervention of the municipality only after their implementation, although the latter were developed on public land.

When it comes to census attempts of Urban Food Gardens in the municipality of Rome, the first initiative was promoted between 2003 and 2006, as part of the *Censimento degli orti spontanei nel territorio del Comune di Roma dentro il GRA*¹⁹⁶, exclusively focused on surveying informal Squatter Gardens within the GRA ring road. In fact, as already mentioned, Squatter Gardens represents the most widespread way in which UA activities manifest in Rome, given the almost total absence of initiatives by the public administration until a few years ago. Nevertheless, the survey was partial and incomplete, since it was interrupted prematurely due to the lack of allocation of resources and also to the difficulties in finding information and reaching the actors involved in informal urban gardening activities (Roma Capitale, 2011). Despite this, the results obtained from this first census attempt represent an interesting source of information on the distribution and size of informal Urban Agriculture in Rome. The research identified 67 sites with more than 2,300 informal Squatter Gardens covering an area greater than 89 hectares. The cultivated areas, often located in marginal zones, along rivers or train tracks and within green corridors and public parks, were 25% owned by the Capitoline

¹⁹⁵ Source: <http://www.lacittadellutopia.org/> - visited on 27th April 2021.

¹⁹⁶ This census was promoted by the then Operational Unit for the Promotion of Agriculture, as cited in the Report about the environmental status in Rome, edited by Environmental and Green Protection Department of the Capital in 2011, available online. Source: <https://pdfslide.net/documents/relazione-sullo-stato-dellambiente-agricoltura-cibo-per-la-citta-13-le-aziende.html> - visited on 5th May 2021.

Administration and the remainder by the Province, Region or other private entities (Lupia et al., 2016).

A second attempt to survey and study UA in Rome was carried out in 2008 by the Italian Geographic Society as part of the research *Recupero e utilizzazione delle aree marginali e degradate di Roma - mappatura orti urbani*¹⁹⁷. The research was aimed at creating a cartography in order to support possible planning initiatives concerning UA activities carried out in the Capital. The census of the green area was focused on the inventory of cultivated areas and the evaluation of potential dangers associated with them. One of the first objectives was to identify squatter gardens located in areas at risk for possible environmental contamination with toxic agents or due to floods exposure. This attempt would then have made it possible to identify alternative locations, in order to start a process of ordering and securing many existing urban gardens. In addition, the intention was to create economic, for example by moving the vegetable gardens to be regulated near sites identified by the municipality for the location of Farmers Markets, thus facilitating their short-chain sales activity. However, the mapping attempt was only tested in two districts of Rome, and the project remained almost unimplemented, therefore this census initiative did not provided successful data about the state of UA in Rome (Roma Capitale, 2011).

In 2014, the first mapping survey able to provide enough available information was finally promoted developed as part of the project coordinated by the Center for Agricultural Research and Analysis of Agricultural Economics (CREA) titled *Promozione della cultura Contadina*¹⁹⁸. The aim of the project was to develop a spatial mapping of UA in the two cities of Rome and Milan, to fill the gaps of incomplete official information about the issue. Nevertheless, in the case of Rome, given the enormous extension of the municipality, the study was limited to the area delimited by the GRA ring road, covering about 34,000 hectares. Although the area bounded by the GRA ring road is of a purely urban character, with a predominance of artificial surfaces, the agricultural areas occupy about one third of the total extension. As part of this research, the classification of urban cultivated areas was based on the identification of five typologies of urban gardens. Residential Gardens, recognized as plots of land worked by private owners, with production intended for self-consumption; Community Gardens, represented by large complexes often located in municipal parks, public areas or along rivers, managed collectively and generally regulated by municipal regulations; Institutional Gardens, which are vegetable areas managed by institutions such as schools, religious centers, penitentiaries and non-profit organizations; Squatter Gardens; and finally

¹⁹⁷ This research was promoted by the Italian Geographic Society in collaboration with the Municipality of Rome and the University of *Tor Vergata*, as cited in the Report about the environmental status in Rome, edited by Environmental and Green Protection Department of the Capital in 2011, available online. Source: <https://pdfslide.net/documents/relazione-sullo-stato-dellambiente-agricoltura-cibo-per-la-citta-13-le-aziende.html> - visited on 5th May 2021.

¹⁹⁸ It was a project funded by the Ministry of Agricultural, Food and Forestry Policies, aimed at promoting the social and cultural aspects of agriculture, and at acquiring new knowledge about innovative trends in agriculture with particular attention to its multifunctionality; the city-countryside relationships; and the issue of public goods in relation to rural development. Source: <http://antares.crea.gov.it:8080/-/promozione-della-cultura-contadina> - visited on 14th June 2021.

forms of UA that we could define Market-Oriented Urban Farming, identified in cultivated areas annexed to farms, interested by intensive cultivation system with predominance in peri-urban areas. The survey, conducted over the period 2007-2013, albeit limited to the area inside the *GRA* ring road, allows an in-depth evaluation of the UA phenomenon in Rome, both in statistical and geographical terms. Overall, the non-professional UA sites in the municipality of Rome amounted to 3,201 in 2013, occupying about 215 hectares and recording an increase of 12.6% in terms of sites compared to 2007, which translated in agricultural area correspond to a slight increase of 0.5%. With regard to the other typologies of urban gardens typified by the research, Residential Gardens represent the largest category in terms of number of parcels. In 2013 they made up 85% of the experiences surveyed and 48% of the mapped UA in terms of surface, occupying about 102 hectares within the *GRA* ring road, recording also an increase of 12.4%. On the other hand, Community Gardens and Institutional Gardens are in second place in terms of cultivated area, covering in both cases on average half the surface of the residential gardens. Furthermore, both categories recorded an increase in terms of number of sites of about 10%, maybe due to the regularization of several Community Gardens by the city administration. Finally, Squatter Gardens are unexpectedly the category registering the lower number of lots and surface area. They are about 2% of the total Urban Food Gardens surveyed, also showing a strong contraction of the total cultivated area of -30% during the analysed period. As already cited, this phenomenon can be explained with the institutional intervention that has regularized numerous areas devoted to UA in recent years. As we have seen, in fact, until a few years ago Squatter Gardens seemed to represent the most widespread type in Rome, given the total absence on the part of the public administration in recognizing an official role to UA. To conclude, regarding the spatial distribution, the research has shown that most of the cultivation activities tend to concentrate towards the periphery of the city. In detail, as for the Residential Gardens, these are concentrated in marginal areas, where the dispersed settlement allow their realization. The same is true for the location of Market-Oriented Urban Farms, which are annexed to large land, thus locating themselves in areas left free from urbanization. The location of the Institutional Gardens, on the other hand, is mainly determined by their proximity to the structures they belong to, whether they are schools, penitentiaries or monasteries (Lupia and Pulinghe, 2015).

As far as it concerns the phenomenon of UA in terms of Market-Oriented Urban and Peri-Urban Agriculture, therefore falling in the Urban Farming Realm rather than Urban food Gardening, a study conducted by Cavallo et al. (2014) pointed out a peculiarity of the Roman context, concerning the fact that traditional agriculture involves productive realities located also in the urban area, within the *GRA* ring road. Frequently, these Urban Farming realities find place into Protected Natural Areas and are represented by intensive farms, mainly devoted to arable crops, horticulture, including the one in greenhouses, or milk zootechnics; and in some cases, these companies have added forms of distribution linked to short supply chains to traditional channels directed to Rome. In this regard, another study carried out by Di Donato et al. (2016) demonstrates how many of the Roman Urban Farming experiences are included in models of short supply chain in which, through a direct relationship between citizen and farmer, a production of quality is supported. The farms in the municipality base their sales on a network of local markets that have their roots in the search for quality products; thus their

location is characterized by the proximity to the road axes that radiate from the city centre, underlining the centrality of the exchanges that take place with purely urban areas. The research by Cavallo et al. (2014) also highlighted the presence of several multi-functional farms in the Roman area, which usually derive from the cooperative experiences started already in the 70s. These rooted initiatives of Urban Agriculture were mostly promoted, at that time, on land illegally occupied to curb the settlement pressure, which today has been recognized as territories of Protected Natural Areas (Ibid.). Nowadays, these multi-functional agricultural cooperatives represent consolidated realities, which play an important role for social aggregation and inclusivity in sensitive areas of the city. The liveliness of these several bottom-up movements, that distinguishes the experiences of UA in Rome, is also reflected in the pioneering experiences of social agriculture diffused in the *Agro Romano*. In fact, in the Capital there are about 32 social farms, to which another 20 in the metropolitan area must be added (Marino et al., 2020). Among the various cases of the *Agro Romano*, the experience of the *Capodarco*¹⁹⁹ agriculture social cooperative of Rome should be mentioned, which still remains a national and European reference point for the capacity of territorial and human regeneration that it has brought.

To conclude, as regards efforts strictly related to mapping the diversity of UA sites in Rome, the most successful spatial mapping initiative was the one carried out from 2010, by the *UAP*²⁰⁰ Architecture and Landscape Studio. It started the mapping of shared green spaces in the Capital with the *Zappata Romana*²⁰¹ project. The map that has been created brings out a rich reality of formal and informal associations dedicated to the care of urban and peri-urban green spaces. The mapping shows a total of 200 green spaces collectively managed in the Roman context, among which 120 are simply gardens, 67 vegetable gardens and 31 “garden spots”, or green areas redeveloped through guerrilla gardening activities. The sites surveyed are managed by citizens, associations and public bodies, and in addition to the vegetable gardens there are also some educational farms, testifying that the range of experiences of Urban Agriculture in Rome comes from bottom-up initiatives, largely linked to the sphere of associations and citizen activism. The mapped spaces of shared Community Gardens demonstrate the existence of different realities where citizens have recovered abandoned green areas in the historic city as well as in the suburbs, to return them to the use of all as a common public space. Moreover, to each site on the map some data and information are related, which are downloadable and open access.

5.2 Policies, strategies, initiatives and regulations related to Urban Agriculture

The Roman context, until the second half of the 2000s, was characterized by few or non-existent public initiatives, in fact up to 2015 there was no regulation on Urban Food Gardens. Most of the experiences of UA were of a bottom-up nature, on the initiative of associations or

¹⁹⁹ Source: <https://www.agricolturacapodarco.it/> - visited on 27th April 2021.

²⁰⁰ Source: <http://www.studiouap.eu/> - visited on 18th June 2021.

²⁰¹ Source: <http://www.zappataromana.net/> - visited on 18th June 2021.

private citizens, who found it very difficult to receive concrete support from public administrations, which has been delayed compared to other Italian contexts. The municipality of Rome has late understood the multiplicity of values and potentials represented by Urban Food Gardening, therefore for years it has developed with an informal character till becoming a very relevant phenomenon. Thus, many initiatives have become subject of political debate, while also the demand from citizens for opportunities to improve the urban environment has increased. For this reason, the public administration, in line with the growing interest in UA, has recently begun to take action aimed at both regularizing existing informal experiences of Urban Food Gardening, and at the creation of new horticultural areas on publicly owned land. One of the advantageous policy speeches, that have encouraged further attention on UA practices, has developed in relation to the growing awareness of the costly maintenance for urban green areas, particularly difficult in Rome due to the great extension of the city. The activation of activities implemented by citizens in public areas, assigned to them directly by the institutions, seemed to be the preferred path for the municipality of Rome from which to benefit.

The municipal administration began to devote itself to the theme of Urban Food Gardening in the early 2000s. At that time, the urban gardens present in the city were mainly private, however their growing diffusion posed a regulatory problem for the administration, especially for aspects related to public health and safety. For these reasons, in 2002 the Municipality gave birth to an Urban Gardens Service, located at the Department of the Environment, and aimed at mapping the existing realities in order to have a knowledge base on which to define common rules for their management. However, the outcomes of the mapping attempt were never made public, while a draft regulation on urban gardens began to be hypothesized, also never officially approved. As supposed by Coletti and Celata (2017), probably at that time, the difficulties and delays in addressing the issue of UA in Rome were due to fears on the part of the municipal administration regarding the risk that a formal recognition of some areas of the city intended for urban gardens would have made more difficult a subsequent change of land-use destination, for example for building purposes. Meanwhile, external conditions began to change, with the continuous proliferation of new types and motivations behind urban gardens, which led to a growing spread of bottom-up community gardens.

Although UA policies in the Roman context finds roots in the experiences of bottom-up initiative of urban gardens, they nevertheless have a recent history. The first example date back to the 2000s, and usually it is normally traced back to the *Orti Urbani Garbatella*²⁰², which will be discussed among the selected case studies. In 2009 a gardeners association was founded with the aim of protecting some green areas from building speculation. This experience demonstrates the will of activist citizens to regain centrality in their territories through practices of re-appropriation of urban spaces, in the attempt to reactivate contexts abandoned by the institutions, but also to fight the risks of building speculation, a particularly critical issue in the city of Rome (Del Monte and Sachsé , 2017). Following the example of the *Orti Urbani Garbatella*,

²⁰² Source: <https://ortiurbanigarbatella.noblogs.org/> - visited on 22th April 2021.

examples of this type have spread enormously in the Roman context. In 2010, the Municipality itself gave birth to the first Allotment Gardens created directly by the public institution, in *via della Consolata*²⁰³. Unexpectedly, the Municipality also dedicated a huge investment to the initiative, if compared with the costs incurred for similar projects when financed by citizens' associations. This experience turned out to be pioneering for the Roman context, opening up a fruitful collaboration between institutions and citizens. The project was undertaken on an experimental basis, delivering for the first time 20 equipped municipal Allotment Gardens in a newly built urban park. The concession of the urban gardens and related infrastructures took place in exchange for the commitment of those who managed them to take care of the entire park. This first experience of urban gardens on communal land represented an example of mediation between the institutions and the informal sphere, passing through the realm of associations. The urban gardens were in fact assigned to the management of the *Fosso di Bavetta*²⁰⁴ association, set up already in 1996 by a group of citizens who used to cultivate an abandoned area intended to be a park, which had recovered from degradation on their own. The urban gardens in *via della Consolata*, promoted instead by the public administration, has sanctioned the integration between the public function of greenery and urban horticulture activities in Rome, to pursue environmental, social, recreational and cultural purposes. The aim was also the recovery and enhancement of land in degraded conditions, leveraging the reality of spontaneous Squatter Gardens, already present in the Capital for many years.

In the meantime, the Municipality of Rome has been involved in a series of European projects on the theme of Urban Agriculture, which offered an important opportunity for opening a policy dialogue between the Municipality and the citizens on the subject of Urban Food Gardening. Various associations of gardeners have begun to cooperate with the administration in order to start defining shared rules for the management of urban gardens, to respond to the practical need of creating a vegetable garden on regular and legal basis. With these objectives, eleven horticultural associations founded the informal Network of urban gardens *Rete degli Orti Urbani di Roma Capitale*, to jointly write a draft proposal to be submitted to the Municipality of Rome. In 2014 they produced and signed guidelines for the management of community gardens in Rome, which were discussed in the same year in the City Council, in order to remove the administrative, economic and social obstacles that prevented the development of Community Gardens in the city of Rome. Thus, in 2015, the Municipality of Rome officially approved the first Regulations on Urban Food Gardening, which represents a first step for the dissemination of experiences of UA, finally officially recognized and regulated. Given the circumstances of the context in which this regulation was developed, the Roman model of governance of urban gardens is based on the fact that the responsibility for offering UA experiences does not fall only on the municipal administration, but it is shared with management associations; experts promoting the issue; and the gardeners themselves.

²⁰³ Source: <http://www.alternativasostenibile.it/articolo/roma-primo-parco-a-orti-urbani-2207.html> - visited on 22th April 2021.

²⁰⁴ Source: <https://vymaps.com/IT/Associazione-Fosso-Bravetta-657237057670076/> - visited on 22th April 2021.

On the wave of a renewed attention by the citizens to UA, with regard to urban policies aimed at promoting Urban Agriculture, the city of Rome promoted the program *Roma da Coltivare*²⁰⁵ in 2014. It was an experimental project to revive the *Agro Romano*, through the allocation of public land to young farmers, and the implementation of UA projects aimed at productive and landscape recovery through the development of multi-functional farms. The municipality banned 4 plots of publicly owned land, all included in Protected Natural Areas, within an intervention framework aimed at the enhancement of public real estate assets. Thus, the project was intended to pursue landscape recovery of the *Agro* based on multi-functional agriculture, proposing a new city-countryside relationship based on strengthening the natural capital of the urban area.

As far as it concerns European projects addressed to UA, which have acted as a lever for the development of political debate on Urban Food Gardening, it should be cited the Sidig-Med - Urban and Periurban Agriculture²⁰⁶ project. The Municipality of Rome has been involved in the project from 2013 to 2016, with the aim of promoting UA to tackle the problem of social exclusion and poverty; supporting the redevelopment of abandoned and degraded urban areas; limiting land use; and developing a new model of urban governance. Following the community approach, three pilot urban gardens were implemented in the Capital, in the same period in which the municipal administration was discussing the draft of the regulation on urban gardens. The project involved thousands of citizens, local groups and non-profit associations, leading to the establishment of specific committees to monitor and encourage the spread of other urban gardens in *Municipio*²⁰⁷ II, IV and IX, where the Sidig-Med projects were implemented. The committees thus formed, together with the Network *Rete degli Orti Urbani di Roma Capitale*, took action to write in a participatory way the proposal of guidelines for the management of urban gardens, and also proposed to establish an official municipal consultation body devoted to urban gardens in each decentralized administrative district. On this occasion, in 2013 *ORTOpanoramica*²⁰⁸ was organized, a sort of States General of the Community Gardens in Rome, during which the Network was more structured by starting a real process for obtaining formal recognition and a legal assignment of areas where the existing urban gardens were located. Thanks to this experience, Rome has become a Good Practice City in Europe in the context of the URBACT Transfer Network Program²⁰⁹, which aims to transfer and share the know-how and experience of the Good Practice City in other contexts of the European Union, in order to promote integrated and sustainable urban development. This second phase of the URBACT European Program has materialized in the RU:RBAN²¹⁰ project, which is bringing Rome to the fore internationally for its activation and its commitment to enhancing its rural heritage and human capital. The RU:RBAN network aims to encourage the creation of ecological and civic tools for the use of urban and rural land within cities, and the city of Rome is the lead partner of the network. The latter provides for the creation of a local

²⁰⁵ Source: <https://paesaggiorigenerazioneperiferie.it/agro-romano/> - visited on 23th April 2021.

²⁰⁶ Source: <https://www.risorseperroma.it/25anni/sidigmed.html> - visited on 23th April 2021.

²⁰⁷ The city of Rome is divided into *Municipi*, the administrative decentralizations of the Municipal body.

²⁰⁸ Source: <https://comune-info.net/ortopanoramica/> - visited on 23th April 2021.

²⁰⁹ Source: <https://urbact.eu/tags/transfer-network> - visited on 23th April 2021.

²¹⁰ Source: <https://urbact.eu/rurban> - visited on 23th April 2021.

action plan, with the participation of the municipality and local stakeholders, aimed at implementing a public policy for addressing social inclusion and urban regeneration activities, with particular attention to what concerns the agriculture in the city. The Good Practice of the case of Rome that will be transferred through the RU:RBAN network is characterized by three components: the capacity building of local communities in the development processes of Urban Agriculture practices; the training of a professional figure defined as the “Gardeniser”, word derived from “gardener” and “organizers”; and finally, aspects relating to governance and regulation for the management of local UA. The debate concerning UA in the political discourse and urban agenda of Rome was also fuelled by the synergies developed with another European project, Gardeniser, which evolved into GARDENISER PRO²¹¹, conducted from 2017-2020. The main aim of the project was to create and test an innovative European training program promoting the development of a new professional role: the urban/community garden's coordinator/organizer, that can be called "gardeniser". The objective was to pave the way for their recognition in the educational and professional training systems, both at a regional and national level, thus fostering their employability. This project is also linked to the results from a previous one, the EU'GO - European Urban Gardens Othessa²¹², implemented between 2012 and 2013, with the aim to explore the experiences of Urban Agriculture in partner countries. To conclude, among other European projects in the field of UA and food policies, Rome is actually involved in FUSILLI - Fostering the Urban food System Transformation through Innovative Living Labs Implementation²¹³, which involves 12 cities in knowledge sharing and learning network to address challenges of the food system transformation. The project is the natural continuation of the initiatives developed within RU:URBAN on Urban Food Gardening, and has as its main objective the construction of urban policies in line with the four Food Priorities stated in the 2030 Agenda for Sustainable Development.

Among the actors involved in the RU:URBAN network as a facilitator in stakeholders relations, there is LabGov - LABoratory for the GOVERNance of the city as a common good²¹⁴. It is an experimental and applied research project, founded in 2011 at *Luiss Guido Carli* University, which intends to promote civic collaboration in methodologies and governance tools for common goods, developing a CO-cities and CO-territories methodological protocol to make it possible. The project is active in various Italian contexts, for example it has contributed to Bologna in drafting the first Italian regulation on urban commons, and has also activated the CO-Roma project in Rome to design and test a governance strategy of common goods, experimenting civic collaboration initiatives, such as temporary reuse, micro-regeneration and civic maintenance of peripheral city spaces. In light of that, LabGov is active in the recognition of urban gardens as common goods of the city of Rome. In this regard, since 2014, the students of the EDULabGov urban lab, have made a decisive contribution to the creation of the first University Community Garden. Many projects were born in the garden and then disseminated

²¹¹ Source: <https://www.replaynet.eu/it/gardeniser/landingpage> - visited on 23th April 2021.

²¹² Source: <http://www.cemea.eu/eugo/> - visited on 23th April 2021.

²¹³ Source: <https://cordis.europa.eu/project/id/101000717> - visited on 23th April 2021.

²¹⁴ Source: http://co-roma.it/?page_id=2988 - visited on 23th April 2021.

and replicated in the neighbourhoods of the city of Rome as satellite urban gardens, created in collaboration with the public administration and other associations, including *Zappata Romana*.

Zappata Romana, already mentioned in the previous section in relation to mapping initiative of Urban Food Gardening in Rome, is an association committed to promote experiences and skills of urban horticulture, aimed at supporting anyone wishing to create a Community Garden. *Zappata Romana* emphasizes that the diffusion of spontaneous Community Gardens in the Roman context should not be interpreted as initiatives in contrast to formal planning. They are not to be interpreted just as illegal activities, where the private appropriates public spaces for its own interests; on the contrary, the intervention of the private sector has the opposite purpose, that is to a well-kept and liveable area restore to the community. Nevertheless, there is still a need for the public administration to re-appropriate its role, indicating objectives and establishing a framework that inserts urban gardens into a broader public policy, assuming in this way the role of regulator of citizens' action. In this regard, *Zappata Romana* organized a workshop in 2019, during which participants discussed how Urban Food Gardening can influence transversal public policies to transform abandoned areas into shared community spaces. From this experience, the association presented the project *Un orto urbano per quartiere: coltiviamo la città*²¹⁵ to the *Bilancio Partecipativo di Roma Capitale 2019*, aimed at the recovery of abandoned areas and parks to create opportunities for sociability and re-appropriation of urban spaces. The theme of the project is to promote the realization of an urban garden per district, with the creation of at least 100 gardens throughout Rome, in vacant areas and abandoned green spaces. The project provides for the direct involvement of citizens, in fact the public administration is expected to launch tenders on the basis of which associations, committees and schools can present proposals, and then allocate funds for their implementation.

The context described so far has brought out, on the one hand, the centrality of agriculture for the Roman territorial system and the liveliness of some bottom-up movements linked to experiences of urban gardens and social agriculture. But the Roman context is also characterized by a foodscape that is particularly rich in experiences, productions and practices related to innovation in the agri-food field. However, these appear unrelated to each other; the trends in the agri-food panorama are poorly interconnected and above all exposed to the risks of an agro-industrial market that reduces space for small producers and directs agricultural production (Marino et al., 2020). Nevertheless, there is a vibrant debate around the issues of food and agriculture, which could lead to an institutionalization of a Food Policy for Rome, which is also a signatory of the Milan Food Policy Pact. On this issue, there is an interesting mix of bottom-up and top-down initiatives. On the one hand, the activities promoted by the *Rete degli Orti Urbani di Roma Capitale*, together with individuals or groups of farmers, often opinion leaders in the dissemination of certain innovations; on the other hand, projects supported by the administration such as the program for the reduction of food waste or the allocation of public lands. Rome is characterized by a variety of experiences related to sustainable food chain, but at

²¹⁵ Source: http://www.hortusurbis.it/wp-content/uploads/2020/03/Bilancio-Roma-Orti-2020_.pdf - visited on 2th April 2021.

the political level there is still no definite vision and strategic direction. On this basis, in 2019, the document *Una Food Policy per Roma. Perché alla Capitale d'Italia serve una politica del cibo.*²¹⁶, developed through a long participatory process, was officially presented to the public administration in order to promote the definition of an integrated Food Policy. After that, in 2020, the drafting of the Strategic Agri-food Plan²¹⁷ also began. The focus is on agri-food, identified as a key element for the systemic development of the Roman territory. The plan is aimed at enhancing the entire supply chain of the sector, from the cultivation and breeding phases to those of production, transformation, distribution and marketing, and in fact runs parallel to the definition of a Food Policy for Rome.

To conclude the overview on the policies pursued by the city of Rome on UA, despite the variety of initiatives and potential described so far, the Roman context continues to be characterized by criticalities connected to an urban development trend that creates significant pressures on agricultural land and related economies, in particular as regards the *Agro Romano*. In this respect, the city of Rome has decided to adopt the paradigm of the Agricultural Park as a tool for promoting agriculture in urban policies. The planning tools of the city identifies three areas destined for Agricultural Parks: *Casal del Marmo*, *Arrone Galeria* and *Rocca Cencia*, defined as rural areas, other than protected natural ones, attributable to a unitary system of naturalistic, landscape, historical-archaeological interest, to be protected and enhanced. Hence, the objectives to be pursued are connected to the preservation and strengthening of agricultural activities, also through local marketing of products, organic and biodynamic agriculture (Di Donato et al., 2016). However, to date there are no developments regarding the construction of the Agricultural Parks envisaged, with the exception of *Casal del Marmo*²¹⁸, whose park committee for its implementation was set up in 2012. It is located in the north-west area of the municipality of Rome, close to the GRA ring road, extending over approximately 500 hectares of *Agro Romano*. Inside the Park there are numerous elements of historical and archaeological interest, it is characterized by a strong agricultural vocation, with a complex agro-ecosystem in which natural and anthropogenic factors blend. About 30% of the territory, corresponding to 120 hectares, belongs to the Metropolitan Area of Rome. Half of them are entrusted to the multi-functional agricultural cooperative *CoBraGor*²¹⁹; the remaining public part of the Park is instead characterized by widespread unregulated horticultural activities. These are about 200 small lots, used for the cultivation of urban gardens and with adjoining buildings of various sizes. The portion of private property of the Park has about double the extension of the public one, and is currently used for arable land and meadow-pasture (Pellegrino and Marino, 2016).

²¹⁶ Source: <http://www.terraonlus.it/wp-content/uploads/2017/03/Food-Policy-Roma.pdf> - visited on 28th April 2021.

²¹⁷ Source: <https://www.comune.roma.it/web/it/notizia/piano-strategico-agroalimentare-al-via-la-stesura.page> - visited on 28th April 2021.

²¹⁸ Source: <https://parcoagricolocdmarmo.wordpress.com/> - visited on 29th April 2021.

²¹⁹ Source: <http://www.cobragor.org/> - visited on 29th April 2021.

5.2.1 The influence of the Metropolitan City of Milan on Urban and Peri-Urban Agriculture policies

The context

Despite the historic and still substantial presence of agriculture, Rome is faced with the need to manage an urban expansion that is jeopardizing the ability of large agricultural areas to continue to provide certain environmental, social and food services, since the pace of land taking and soil sealing in progress in the municipality continues to be very intense. At the same time, the social and economic importance of the *Agro Romano* has progressively decreased over the course of the 20th century. The relationship between the city and the agricultural system of Roman was characterized by a substantial balance until the 1950s, when an unprecedented urban expansion began. Two thirds of the city of Rome, in fact, have developed from the post-war period to today. The progressive land consumption of the outermost and marginal areas, which led to the gradual functional specializations of the urban countryside at varying densities, has been consolidating since the Second World War, during which there has been a progressive dissolution of the organic unity of Roman countryside, characterized by an exceptional heritage of environmental assets. The urban expansion of Rome, from the mid-60s to the mid-80s, determined the confused growth of the city, largely abusive, allowed by the low incisiveness of public intervention in terms of urban and territorial planning. Until the end of the 1980s, urban expansion marched at a rate of over a thousand hectares a year. Large parts of agricultural land have thus become subject to “waiting” for transformations linked to land rent, pending changes in the urban planning tools that would allow them to be built (Montebelli, 2018). Currently, the Metropolitan City of Rome continues to record the highest land consumption rates in Italy. The spatial integrity of the Roman countryside has been reduced to interstitial spaces composed of rural areas in a fragmentation that produces degradation and vulnerability. Thus, the agricultural landscape of the Metropolitan City of Rome is very fragmented along the urban fringes due to the sprawl, in fact agricultural and semi-natural areas are concentrated in the spaces left free by urbanization (Cavallo et al., 2014).

With regards to the agricultural activities in the Roman metropolitan area, it is characterized by a vast diversification of experiences. The primary sector has undergone profound transformations that have highlighted the adaptive capacity of the agri-food system to new economic, social and environmental challenges in the name of sustainability. The peculiarity of Roman agriculture is its peri-urban character, and its richness in structures and territorial relations make it particularly adherent to a renewed model of rural development. From a research conducted by the Athenaeum Center for the Study of Rome of the University of *Roma Tre*, it emerges that the agricultural sector of the metropolitan area is driven by a growing interest on the part of the Roman citizens towards the theme of multi-functionality, which translates into a growing number of activities that complement the primary food production: from Urban Food Gardening, to the various forms of direct sales, to the growing agritourism offer, and to various forms of social agriculture (Monni et al., 2013). In the panorama of the Metropolitan City of Rome, there is also an increase in non-market-oriented UA activities, such as that of Community Gardens or multi-functional farms. These activities present themselves as

an opportunity to incentivize the maintenance of the territory and its protection through a new model of rural development, no longer based only on the intensification of production of agricultural soils, but developed around the recognition of new and different functions entrusted to agriculture, now perceived as fundamental by contemporary society.

Policies, strategies and initiatives

The metropolitan area of Rome is marked by problems related to the development of low-density human settlements, the abandonment of large previously semi-natural areas and the consequent loss of environmental functions. To respond to these tensions, the Metropolitan City of Rome intends to direct its public action on urban and peri-urban agriculture, focusing on the promotion of Agricultural Parks, Protected Natural Areas and Archaeological Parks to protect the *Agro Romano* as an essential part of the environmental and agricultural system of the metropolitan area, with particular attention to the creation of an urban and provincial ecological network. Public action appears to be oriented at rethinking the function of agriculture, both in terms of incentivising the productive function and ecological reconversion of the territory, preserving biodiversity and enhancing the landscape. In fact, the orientation of the strategies of the Metropolitan City of Rome expressly recognizes that the valorisation of green areas cannot be separated from the promotion of eco-compatible cultivation techniques linked to the short chain, from the improvement and restoration of rural infrastructure. Nevertheless, there is a need for a more solid and coherent legislative framework and public action with regard to Urban and Peri-Urban Agriculture policies, as well as for a more robust financial and institutional support. In fact, the evidence shows that, even at the metropolitan level, the policy debate is fuelled by bottom-up initiatives.

In this regard, the promotion of Peri-Urban Agriculture is the central political theme of the program promoted by the *Agricoltura Nuova*²²⁰ cooperative, the legacy of a bottom-up experience that began in the 70s, when a large group of unemployed, students and peasants occupied about 3000 hectares in the metropolitan area of Rome, in order to cultivate these lands, leading to the birth of the first large social agricultural cooperatives in Rome. It was a phenomenon of great importance that testified to the commitment of those groups to protect the Roman agricultural land subject to building speculation. Among the cooperatives that were born in those years there are also *Coraggio*, *Capodarco*, or even *CoBraGor*, all involved in a network that led to the birth of the *RomAgricola*²²¹ association. The latter is committed to the protection and enhancement of the *Agro Romano*, which for some years has been at the core of the urban planning debate around Rome, for economic and productive as well as economic-environmental or even landscape and cultural aspects, linked also to the naturalistic and archaeological heritage that characterize it. To pursue these purposes, *RomAgricola* has mobilized through a manifesto and an appeal to public institutions. The group believes that Peri-Urban Agriculture in the Roman context can represent a reference point for rethinking the entire settlement structure of the city, integrating various policies: from issues of territorial and

²²⁰ Source: <http://www.agricolturanuova.it/> - visited on 24th April 2021.

²²¹ Source: <https://www.romagricola.it/il-progetto/> - visited on 24th April 2021.

environmental liveability; to the quality of life; to social solidarity; integration of migrants; as well as the creation of new jobs. However, the commitment of *RomaAgricola* continues to be a bottom-up initiative, which awaits real support from part of public institutions.

Among the successful experiences promoted by this network of cooperatives active in the Roman territory, it should be mentioned the *Coordinamento Romano Accesso alla Terra*²²². It is an experience promoted by groups of farmers, historical agricultural cooperatives, trade unions and environmental associations, which in 2011 met in a common dispute, in order to request the use of public land for the establishment of agricultural activities conducted by young farmers. The request was expressed through a document submitted to the administrations called *Vertenza per la Salvaguardia dell'Agro Romano - Terre pubbliche ai giovani agricoltori*, intended to make public institutions provide for the concession of unused or underutilized public land through a metropolitan tender, developing credit access and support policies for multi-functional agricultural proposals. It is within this initiative that *CO.R.AG.GIO - Cooperativa Romana Agricoltura Giovani*²²³ was formed, with the aim of developing a pilot project for managing a state-owned area for agricultural use, requesting a concession from local authorities. This initiative led, in 2014, to the issuing of two calls for the allocation of public lands, called *Terre ai Giovani*, promoted by the Lazio Region and the aforementioned *Roma da Coltivare* by the Municipality of Rome.

The protection and enhancement of the *Agro Romano Antico* is also the main policy subject of several initiatives and projects actively promoted by the Metropolitan City of Rome in the field of peri-Urban Agriculture. The eastern side of the great plain that surrounds Rome is called *Agro Tiburtino-Prenestino* or *Agro Romano Antico*; it is characterized by a strong presence of naturalistic and historical-archaeological resources, currently not valorised enough, and by a territorial structure that has favoured a natural "isolation". Unlike other peri-urban areas that surround the city of Rome, where illegal and intensive construction have compromised the territory, this territory still retains many of its landscape values. This "isolation" has thus favoured the preservation of many testimonies of its past; this led to the integration of several land uses that have developed over time, still strongly visible in the relations between natural and man-made environments, such as the case of Roman aqueducts or suburban historical Roman villas. The *Agro Tiburtino-Prenestino* is subject to an Operational Plan²²⁴, born from a bottom-up proposal started in 2004, very contextualized and rooted in the municipal administrations concerned. The Plan, adopted by the former province in 2009, identified different lines of action centred on two main objectives. The first regards the promotion of the historic Roman aqueducts, which represent a characterizing element of the countryside landscape in this area; the second is aimed at defining a Quality Label of the *Agro Prenestino-Tiburtino*, able to guarantee competitiveness in a complex panorama like the Roman metropolitan area. In general, the presence of an important heritage of local agricultural

²²² Source: <http://accessoallaterra.blogspot.com/> - visited on 24th April 2021.

²²³ Source: <https://www.coop-coraggio.it/la-cooperativa/la-storia/> - visited on 24th April 2021.

²²⁴ Source: <https://www.cittametropolitanaroma.it/homepage/aree-tematiche/ambiente/aree-protette-tutela-della-flora-della-biodiversita/i-progetti/tutela-valorizzazione-dellagro-romano-antico/> - visited on 24th April 2021.

traditions and productions represents for the plan a resource to be exploited for the integrated enhancement of the territory, offering also parallel activities, such as the promotion of typical quality products or agritourism activities.

The implementation of the Operational Plan for the valorisation of the *Agro* has been carried out by the Metropolitan City through various Integrated Territorial Projects²²⁵ (*PIT*), mainly focused on interventions addressed to market-oriented agriculture, promoting quality of life in rural areas and diversification of economic activities. Among the *PIT* implemented by the Metropolitan City, the one addressed to the *Agro Tiburtino-Prenestino* had as main objective to develop tourist, recreational, social and cultural attractiveness within the *Agro*, through the development of multi-functional agricultural activities and tourist accommodation; the increase of the quality of agricultural products to be made more accessible on the market; the strengthening of the production system; and the protection of the landscape. The program led to the creation of a network of naturalistic and cultural paths, to recover the historical tracks that belong to the memory of the local community. Another example was the *PIT Agrosviluppo Tevere*, which involved the natural reserve of *Monte Soratte*, managed by the Metropolitan City. Also in this case the program had as its main objective the strengthening of the network of naturalistic and cultural itineraries with the provision of equipped areas, therefore limiting itself to interventions aimed to enhance accessibility, without implementing real policies or strategies specifically aimed at the agricultural sector.

Finally, as part of the most recent Rural Development Program of the Lazio Region for the period 2014-2020, the project AGaRIC - Urban Agriculture for a Resilient and Inclusive Metropolitan City²²⁶ should be mentioned. The project aims to create a network of companies in the protected areas of Rome for maximizing the public functions and services provided by agriculture. The intent is to develop an integrated innovation project that involves the network of agricultural companies to identify new and more competitive agri-food productions and models based on sustainable processes; new criteria for the design and management of urban and peri-urban cultivated spaces; as well as new forms of organization and management for the distribution of agricultural products from companies in the protected areas of Rome.

In this regard, it is worth to notice that the relationship between agriculture and natural parks in municipal as well as metropolitan policies has consolidated over time, since the metropolitan area of Rome is characterized by the fact that many rural areas of historical or landscape interest fall into Protected Natural Areas or parks. Another peculiar aspect is the one concerning the relationship between agriculture and archaeological areas, and how to experiment with forms of multi-functional agriculture in farms that insist on areas of archaeological interest. In this context, possibilities are being tested to insert new market opportunities for the agricultural sector through the sales network of the archaeological area; up

²²⁵ Source: <https://www.cittametropolitanaroma.it/homepage/aree-tematiche/ambiente/aree-protette-tutela-della-flora-della-biodiversita/i-progetti/la-progettazione-integrata-territoriale-pit-nellambito-del-psr-lazio-2007-2013/> - visited on 24th April 2021.

²²⁶ Source: <http://www.cursa.it/home-page/ricerca-e-progetti/servizi-ecosistemici-e-pianificazione-territoriale/progetto-agaric-2020-2021/> - visited on 24th April 2021.

to the point of actively involving agricultural entrepreneurs in the maintenance of the archaeological sites. Another feasible strategy are forms of rural and cultural tourism incentives, to create school farms, agro-environmental and naturalistic educational activities in the context of archaeological parks. In this sense, it is worth mentioning the case of the *Gabii-Castiglione*²²⁷ Archaeological Park, where a pilot project to integrate agriculture and archaeology was promoted by the former province, pursuing objectives of conservation, redevelopment and enhancement of the landscape of the Roman countryside.

To conclude, the Metropolitan City of Rome does not seem to be particularly involved in projects aimed specifically at promoting Urban Agriculture practices. It participates as partner in several European projects on environmental issues, but mainly addressed to energy efficiency issues or on consumption and production of waste. Other projects in which the Metropolitan City of Rome is active also concern contributions on sustainable measures to be adopted to improve transport policies in metropolitan areas; or the preservation of biodiversity in the protected areas and natural reserves. Among the European projects that could have an impact in terms of Peri-Urban Agriculture, *RI.CO.PR.I. - Ripristino e Conservazione Praterie aride dell'Italia centrale e meridionale*²²⁸ was aimed at the conservation of habitats related to arid prairie, in progressive regression following the abandonment and mismanagement of pastoral activity. In the Metropolitan City of Rome, the project activities took place within two Sites of Community Importance, where the prairie habitat has been subject to protection and conservation, with attention to the relationship with local communities for the protection and grassland management.

Planning Instruments at Metropolitan City level

With regard to the planning instruments adopted by the Metropolitan City of Rome, the Provincial Territorial General Plan²²⁹ (*PTPG*) is one of the tools currently in force. This document was approved in 2010 with the intent of directing the metropolitan functioning of the territory towards sustainable and polycentric development, aimed at protecting the environmental, historical and archaeological resources that characterize the metropolitan area of Rome. In light of that, the *PTPG* places emphasis on productive rural land and rural landscapes. The enhancement of the provincial rural territory is developed with the double attention to the productive activities and to the characteristics of the rural territory, to be enhanced as rooted in the cultural diversity, identity and memory produced by anthropic action over time. The plan identifies, in the extra-urban metropolitan territory, 12 types of rural areas with homogeneous landscape and agronomic characteristics, providing for specific agro-economic directives and programmatic recommendations. The promotion of the multi-

²²⁷ Source: https://www.soprintendenzaspecialeroma.it/schede/area-archeologica-di-gabii_3005/ - visited on 24th April 2021.

²²⁸ Source: <https://www.cittametropolitanaroma.it/homepage/aree-tematiche/ambiente/aree-protette-tutela-della-flora-della-biodiversita/i-progetti/progetto-life-ri-co-pr/> - visited on 24th April 2021.

²²⁹ Provincia di Roma. (2010). *Piano Territoriale Provinciale Generale*. Source: http://ptpg.cittametropolitanaroma.it/UploadDocs/2010/relazione_piano/RelazionePiano.pdf - visited on 26th April 2021.

functional dimension of farms and agricultural companies is pursued, together with the protection of the landscape and natural and cultural resources, and the formulation of an urban regulatory framework favourable to productive vocations. In addition, the plan provides for an enhancement of the rural territory from a tourist and cultural point of view, for which it requires a specific Provincial Directive on cultural and environmental assets disseminated in the rural space, also calling for the adoption of further specific public support policies. The Agricultural Park is promoted as a planning tool for territorial development, not to be intended as a new type of constraint, but as a tool for the enhancement of agricultural activities, products and service functions; for promoting environmental education; for the maintenance of archaeological areas; and for fostering agri- and rural-tourism. In this regard, the *PTPG* cartographically indicates some areas of supra-municipal interest for the realization of Agricultural Parks, where to promote Integrated Territorial Projects through public-private partnerships, however none of them have been implemented to date. Finally, the *PTPG* also identifies a complex of agricultural areas to be subjected to particular protection, about 80,000 hectares, constituting the so-called metropolitan *Nastri Verdi*, tangential to the urban expansion of Rome and characterized by discontinuity with respect to the contiguous urban fabric, essential elements for the connection of the provincial ecological network. It is precisely for these *Nastri Verdi* that the *PTPG* proposes the priority experimental activation of a Network of Agricultural Parks, which will integrate with the three provided for by the municipal master plan of the city of Rome.

With the establishment of the Metropolitan City of Rome in 2014, the new territorial body had to adopt new strategic tools. Alongside the *PTPG*, the Preliminary Document of the three-year Metropolitan Strategic Plan (*PSM*) was presented in 2020. The promotion of the natural and cultural capital of the Metropolitan City is one of the various programmatic macro-objectives, that are identified in the Guiding Document²³⁰ of the Metropolitan Strategic Plan. In this sense, it gives particular importance to rural areas that have not undergone identity transformation pressures, on which to base the promotion of tourist activities that favours the enhancement of this heritage. The Metropolitan City of Rome intends to create thematic poles starting from the specific vocations linked to a typical local economy, to develop the excellence of its rural places also through a multidimensional approach to the value of its cultural heritage. In particular, the *PSM* intends to define an ecological-territorial, where the rural areas are identified to address synergies with green infrastructures, to prevent the abandonment and fragmentation of agricultural land, encouraging quality productive investments and recovery of the rural heritage. Among the guidelines set out for the drafting of the *PSM*, the Metropolitan City intends to invest in strengthening the productive and social links between city and countryside, through the economic, social and environmental revitalization of the urban-rural fringe, working in particular on the diversification of agricultural activities and the improvement of services. Among the priorities to be addressed, the Metropolitan City of Rome pays attention also on the issue of a better use of abandoned agricultural surfaces, whether they

²³⁰ Città Metropolitana di Roma Capitale. *Documento di indirizzo del Piano Strategico della Città Metropolitana di Roma Capitale*. Source: https://osservatorio.urbanit.it/wp-content/uploads/2016/05/documento_indirizzo.pdf - visited on 26th April 2021.

are public or private. In addition, it is recognized that the presence of the relevant market represented by the city of Rome opens up the possibility to further incentivize distribution forms based on the shortening of supply chains, acknowledged by the PSM as an important opportunity for economic growth for the metropolitan area. Finally, the agricultural system is also intended as an element of ecological connection. Therefore, the Metropolitan City intends to intervene on the connection areas between the urban fabric of Rome external to the GRA ring road and the municipalities of the first belt, where major changes in land use have occurred with greater losses of agricultural areas. In addition, it is also proposed to define a new agricultural land-use designation for state-owned rural areas, to encourage the growth of new agricultural entrepreneurs with no access to land.

5.2.2 Regulations on Urban Food Gardening

As discussed previously, the city of Rome did not have a regulation on Urban Food Gardening until 2015. The resolution for the approval of the regulation²³¹ for the management and use of urban gardens comes at the end of a long debate between the public administration and different actors involved in the issue of Urban Food Gardening. Through the regulation, the administration of Rome explicitly recognizes the spontaneous experiences of UA developed in the Capital under their social and inclusion profile, as well as the potential in ensuring maintenance and redevelopment of urban areas otherwise not used. The administration recognizes urban gardens as a form of active protection of greenery, which must be properly regulated in order to ensure their promotion. The purposes that the municipality of Rome intends to pursue with the promotion of UA are the redevelopment of the urban context; the enhancement of green and agricultural heritage; and the protection of biodiversity in Rome; offering citizens the opportunity to produce part of their own daily need for food, in an ecologically and socially sustainable way. At the time of the approval of the regulation, over 150 urban gardens on public land were already existing, which the Municipality has undertaken to recognize as a model to be institutionalized and supported. Thus, the regulation sets criteria for assigning green areas owned by the municipality for the implementation of urban gardens through loan for use contracts, specifying that the assignment is exclusively for non-profit associations or group of citizens, in areas which must be identified by the land-use designation provided in the General Regulatory Masterplan (PRG). Furthermore, the regulation specifies that by urban gardens are intended only public owned land, where Community or Educational Gardens can be implemented. To proceed with the assignment of the areas, the regulation provides for several phases, which leverage the spirit of initiative of the associations. The implementation of urban gardens in Rome starts with the proposal of a project by an association at the Municipal Environmental Protection Department, which is required to carry out a feasibility check on the availability of the areas proposed by the associations, and the compatibility with the land-use designation provided by the planning tools in force. The project

²³¹ Comune di Roma Capitale. (2015). *Regolamento per l'affidamento in comodato d'uso e per la gestione di aree a verde di proprietà di Roma Capitale compatibili con la destinazione a orti/giardini urbani*. Source: https://www.comune.roma.it/web-resources/cms/documents/Delib_N_38_17.07.2015.pdf - visited on 28th April 2021.

proposal must be provided with a descriptive report on the reasons for which it is intended to carry out this project, to whom it is addressed, what are the objectives to be achieved and at least one graphic elaboration that clarifies how the area requested is going to be used. Then, each *Municipio* proceeds with the assignment of the area, through the signing of an agreement for free loan for use. Finally, the assignee associations are required to collect the requests of the individual citizens interested in the project and to compose the ranking for the assignment. The web portal of the Municipality of Rome dedicates a specific Office for Urban Garden Service²³², which falls within the competences relating to the issue of urban green and environmental authorizations. The official website of the administration also reports that the establishment of urban gardens is part of the promotion and protection policy of peri-urban and extra-urban areas, through fruit and vegetable cultivation²³³. To conclude, since 2020 the municipality has taken steps to propose a new regulation for urban gardens, which would require the payment of a rent unlike the previous one. Furthermore, the intention is to assign the task of identifying the areas to be cultivated exclusively to the *Municipi*, also imposing stricter space maintenance rules. These innovations have raised discontent and concern, especially since the associations and active citizens perceive this new regulation as an attempt to distort the philosophy of the urban garden, that arises as bottom-up experiences and self-regulates by virtue of the common good²³⁴.

With regard to the effectiveness of this tool, Coletti and Celata (2017) reflect on the critical issue of the regulation represented by the fact that, in art. 5, it is established that the urban gardens can only be implemented in compatible areas according to the intended land use established by the detailed plans of the *PRG*. This criticality is linked to the problem of lack of transparency on land use destinations in the city of Rome. Even if you want to ascertain which lands allow or not to be used as a vegetable garden, such an ascertainment is in fact almost impossible, in a city where building speculation is the most important lobby. The research conducted by the two scholars through direct interviews revealed that, in the perception of many citizens, the information relating to the land register about greenery in the city is off-limits, and that therefore this can nip in the bud and hinder proposals for new urban gardens in public green areas. Furthermore, the problems perceived by the interviewees are further exacerbated by the cultural and landscape constraints that interest a large part of the green Roman city, in addition to the general inefficiencies of the public administration of the Municipality of Rome.

As far as it concerns regulation attempts in the field of shared management of urban common goods, in 2018, a proposal for a draft resolution of citizens' initiative was presented. In 2015, the first draft of the regulation was elaborated, but due to the instability of the municipal administration, it was abandoned. However, this first draft contributed to the implementation

²³² Source: <https://www.comune.roma.it/web/it/dettaglio.page?contentId=UFF29719> - visited on 20th June 2021.

²³³ Source: https://www.comune.roma.it/web/it/scheda-servizi.page?contentId=INF60787&stem=verde_urbano - visited on 20th June 2021.

²³⁴ Source: <https://www.romatoday.it/political/orti-urbani-regolamento-nuovo-giunta-raggi.html> - visited on 20th June 2021.

of the Regional Law 10/2019²³⁵ for promoting the shared management of common goods, the first regional law of this type. A second phase began in 2017, when a group of associations decided not to passively accept a municipal decision that placed restrictive conditions on many associations that took care of public parks, introducing heavy bureaucratic procedures to obtain authorization for the management and maintenance of green spaces. It is from this experience that the Coalition for Common Goods was born in 2018, an informal network of associations whose goal was precisely to obtain the adoption of a regulation by the City Council. After a long process, at the beginning of 2021 the proposal for a citizens' initiative resolution presented by the Coalition in 2018 concerning the adoption of the regulation for the shared administration of common goods was definitively rejected²³⁶. Therefore, the only tool adopted in the city of Rome that governed the management of public green spaces by entrusted bodies and associations, has been for a few years the regulation on Urban Food Gardening discussed so far.

Nevertheless, in addition to this tool, Urban Food Gardening is also considered within the "Regulations on public and private greenery and urban landscape"²³⁷ of the city of Rome, approved in 2021. The process for the approval of this regulation was also long and struggled, with numerous amendments presented by both city councillors and associations. At Article 3, the regulation explicitly recognizes urban gardens among the types of urban green areas, as well as the *Agro Romano* subject to protection. At the same time, it specifies that gardens and nurseries are excluded from the application of the regulation; despite this exclusion is not really clear, it could be hypothesized that it refers to cases of private Family Gardens that are not public and not even accessible by other citizens, aimed at self-production. In any case, the same regulation states that the municipal administration promotes the creation of urban vegetable gardens, favouring the development of sustainable and resilient environmental practices, and raising awareness among citizens on the need to redevelop the territory and encourage food security without profit.

5.2.3 Urban Planning tools in force

The urban planning tool currently in force in the municipality of Rome is the General Regulatory Plan²³⁸ (PRG) adopted in 2008. The Regional Law 38/1999²³⁹ on Urban Planning defines as the general urban planning tool at the municipal level in the *Piano Urbanistico Comunale Generale* (PUCG) which, despite distinguishing between structural and programmatic provisions, essentially maintains the contents of the old General Regulatory Plan of a binding

²³⁵ Regione Lazio, *Legge Regionale* 26 giugno 2019, n. 10 "Promozione dell'amministrazione condivisa dei beni comuni".

²³⁶ Source: <https://www.labsus.org/2021/02/la-storia-del-regolamento-per-i-beni-comuni-a-roma-seconda-puntata/> - visited on 20th June 2021.

²³⁷ Comune di Roma Capitale. (2021). *Regolamento del verde pubblico e privato e del paesaggio urbano di Roma Capitale*. Source: <https://www.carteinregola.it/wp-content/uploads/2021/01/REGOLAM.-VERDE-testo-coordinato-12-01-21.pdf> - visited on 28th April 2021.

²³⁸ Comune di Roma. Dipartimento VI | Politiche della programmazione e Pianificazione del Territorio. (2008). *Il Nuovo Piano Regolatore. Relazione*. Source: http://www.urbanistica.comune.roma.it/images/uo_urban/prg_adottato/D1.pdf - visited on 28th April 2021.

²³⁹ Regione Lazio, *Legge Regionale* 22 dicembre 1999, n. 38 "Norme sul governo del territorio".

type. Therefore, the *PUCG* contains the structural provisions aimed at outlining the urban development of the municipal territory and its long-term strategic transformations. The *PUCG* of Rome adopted in 2008 remained with its old name of General Regulatory Plan (*PRG*), and determines the great invariants of the organization of the city to which to link the widespread policies of redevelopment of the urban fabrics for which it dictates rules and procedures.

The *PRG* of Rome consists of the Explanatory Report, Technical Implementation Rules (*NTA*), the Guidelines for the quality of the interventions, and a series of cartographic drawings. These documents are distinguished according to their prescriptive, managerial, descriptive, and indicative value, or whether they are aimed at communicating the plan choices to the public. The Explanatory Report explains the inspiring principles, the methodological approach and the strategic choices of the plan. The Technical Implementation Rules are prescriptive documents and define the rights and duties of real estate property according to the building and urban transformations envisaged for the city. Among the other prescriptive documents, directly aimed at the attribution of rights for building and town planning transformations, there is the "Systems and Rules" group of graphic tables. In these maps, the municipal area is organized into three systems: the Settlement System; the Environmental System; and the Public Facilities System. The Settlement System is regulated by a territorial articulation for typologies of urban fabrics, not for functional zoning. In fact, the *PRG* of the city of Rome abandons the mono-functional zoning typical of more traditional binding planning tools, articulating the municipal territory by urban fabrics typologies and areas. Each urban fabric typology corresponds to specific indications and prescriptions reported in the Technical Implementation Rules. Therefore, graphical tables dedicated to "Systems and Rules" classify the Settlement System as: Historic City; Consolidated City; City to be Restored; City of Transformation; and Areas for Structuring Projects. The Environmental System is rather classified into: Waters; Parks and *Agro Romano*, as a separate use destination. Finally, the Public Facilities System related to public and infrastructures is graphically identified for the provision of urban planning standards. Another graphic elaborate of prescriptive value is the table dedicated to the "Ecological Network", aimed at protecting the environment by identifying the primary, secondary and completion components of the municipal ecological network. Finally, the document entitled "Guidelines for the quality of the interventions", on the other hand, provides indications and guidelines for recovery interventions, which are not bindings.

As for the interaction between the Urban Planning tool and Urban Agriculture practices, the Technical Implementation Rules, at Article 70, set forth Agricultural Parks, recognized as rural areas, other than Protected Natural Areas, to be designated and enhanced. The *PRG* of Rome also identifies three areas for the development and implementation of Agricultural Parks, which are designated within the prescriptive graphical table "Ecological Network". The objectives to be pursued in these parks are aimed at the preservation and strengthening of agricultural activities, also through the local marketing of products and the promotion of organic and bio-dynamic cultivation techniques; enhancing the naturalistic, environmental and landscape heritage of these areas, by improving their accessibility and receptive, recreational, service or sports uses.

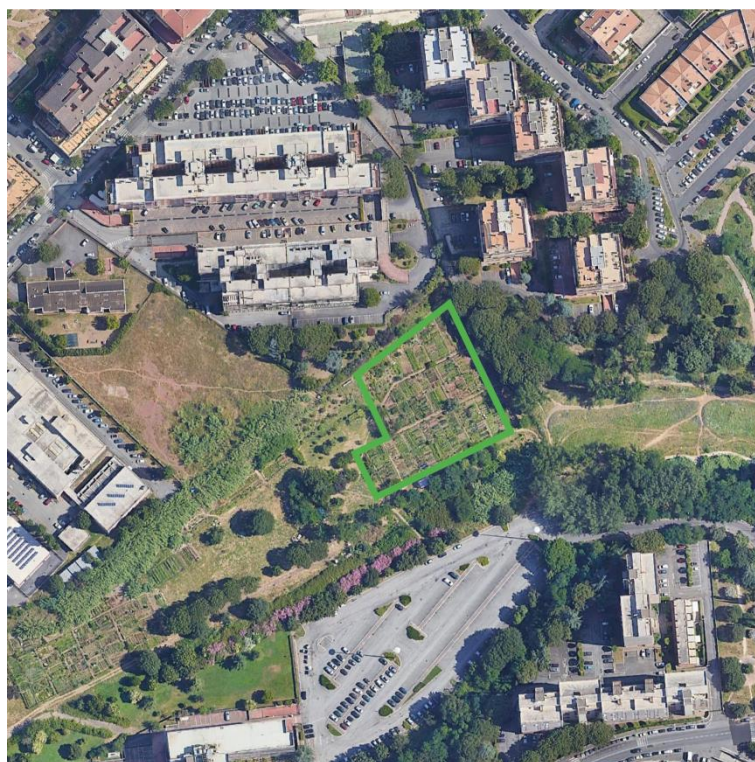
Furthermore, given the importance of the presence of the *Agro Romano* in the municipal territory of Rome, the Chapter II of the Technical Implementation Rules is entirely dedicated to the guidelines and directives to be applied. In particular, Article 75 defines the discipline of land uses allowed in the *Agro*; among these, the “recreational-social urban vegetable gardens” are officially recognized and mentioned, obtained in agricultural areas of public property and assigned to private subjects, bodies or associations in order to improve the most degraded agricultural areas for social and educational purposes, to be subjected to a specific regulation. The definition of these social urban gardens is also taken up in Article 85 of the same Technical Implementation Rules, in relation to the types of green spaces and local public facilities that can be created in the areas intended for this function, designed and identified in the “Systems and Rules” graphic tables; the article specifies that social urban gardens can be built to an extent not exceeding 5%, so in a certain way they are recognized as intended land-use within the public facilities provisions of the city.

5.3 Case studies of Urban Food Gardening in Rome



Figure 19 - Case studies of Urban Food Gardening selected in Rome. *Personal Elaboration.*

5.3.1 Orti Tre Fontane



Urban Green
Area.

Figure 20 - Aerial view of Orti Tre Fontane. *Personal Elaboration.*

Source: Google Satellite. <https://mt1.google.com/vt/lyrs=s&x={x}&y={y}&z={z}> - visited on 20th August 2021.

Typology:	Community Gardens, Educational Gardens.
Land property:	Public.
Location:	Urban.
Timeframe:	Since 2012.
Dimension:	About 6,000 m ² .
Stakeholders:	<i>Municipio VIII, Associazione Orti Urbani Tre Fontane.</i>
Main Source:	https://ortiurbanitrefontane.it/ - visited on 19 th April 2021.

Table 14 - Information summary about Orti Tre Fontane. *Personal elaboration.*

The context

The *Orti Tre Fontane* are located in a public park, in between the districts of *EUR*, *Grotta Perfetta* and *Tor Marancia*, an area on the southern outskirts of the city of Rome in *Municipio VIII*, part of the consolidated expansion of the city and characterized by a varied social composition. The urban gardens, located at the core of a highly urbanized metropolitan fabric, extend for about 6,000 square meters in a green area surrounded by offices and residential buildings, on the public park *Parco delle Tre Fontane*. The gardens were created in 2012, on the initiative of a group of residents who decided to bring to public attention the decaying situation which characterized the land on which the gardens currently stand. The group also initiated a process of dialogue with local institutions, founding the association that currently manages the gardens

in 2013. The negotiation process undertaken led in 2014 to the official assignment of the area by the *Municipio VIII* to the *Orti Urbani Tre Fontane*²⁴⁰ association. Even in the phase preceding the formal regularization by the Municipal Council, the gardens activists reported that they have always received substantial informal recognition, obtained thanks to the support shown by the residents of the neighbourhood to the initiative. The urban food garden consists nowadays in 60 horticultural plots of about 50 square meters surface with shared crops, and over time, other facilities have been added for the establishment of an Educational Garden, an apiary, an experimental seedbed and an earthworm²⁴¹. The garden was built entirely on the initiative of the *Orti Urbani Tre Fontane* association, which with over 200 members, has provided for the reclamation of tons of waste which were in the area that now houses the garden. The intent from which this case study was born was in fact to recover this part of the territory from improper use, mainly due to discharges of building materials. The area was affected by a very large illegal landfill. In the 80s, when most of the neighbourhood was built, the project of urban expansion provided the realization of a public park in the same context, as a compensation work for the construction companies that had built the buildings. This has never been achieved and the space has been abandoned for a long time, with the nefarious effects of decay (Del Monte and Sachsé, 2017).

The area, on public land, is assigned through an agreement of free loan for use²⁴² to the *Orti Urbani Tre Fontane* association, on which individual garden plots have been created for horticultural crops, sharing their management with local actors. All the initiatives carried out by the association pursue aims of social inclusion, socialization, environmental protection and sustainability. The crops concern fruit plants, vegetables, aromatic herbs and flowers intended to satisfy the personal, family or association's needs. As far as it concerns spatial management tools, the gardens are subject to the municipal regulation and to the association's internal regulation²⁴³, dated back to 2016, which establishes the methods of cultivation and management principles of the areas. The regulations mainly insist on the social purposes of the experience and there is also a tendency to encourage active participation in the management of common spaces and an approach to community work. For the private citizens interested in participating in the gardens activities, an application for the assignment of a plot of land must be made to the Management Committee, which is responsible for facilitating the implementation and application of the issues that arise in terms of management. As regards the allocation of parcels, it appears in part top-down; those who are assignees may in fact have the assignment revoked if the Committee decides that they are no longer suitable to take part in the experience. To obtain a plot to cultivate it is necessary to be an official member of the association and to show a particular interest in the active management of common spaces dedicated to conviviality. The internal regulation also explicitly provides that 15% of the gardens should be addressed for

²⁴⁰ Source: <https://ortiurbanitrefontane.it/> - visited on 19th April 2021.

²⁴¹ Source: <http://co-roma.it/?ait-item=orti-tre-fontane> - visited on 19th April 2021.

²⁴² Source: <https://www.comune.roma.it/web/it/attivita-e-progetti.page?contentId=PRG42311> - visited on 19th April 2021.

²⁴³ Associazione Orti Urbani Tre Fontane. (2016). *Regolamento Interno*. Source: <https://ortiurbanitrefontane.it/wp-content/uploads/2018/09/Regolamento-Interno-30-settembre-2016.pdf> - visited on 19th April 2021.

teaching and social purposes, while the remainder are assigned to individual citizens, after becoming members of the association. In order to meet the management costs, the internal regulation establishes also an annual concession fee for each fixed garden of € 50.

In light of this, to the purpose of this research the *Orti Tre Fontane* have been considered as Community Gardens including an Educational Garden; however, since this kind of initiative is carried out on public land with the recognition by the public administration and allow for the assignment of individual plots, this case study could be also be interpreted as an Allotment Gardens. Nevertheless, as already stated, in the case of Rome it can be argued that it is difficult to identify examples of horticultural areas falling in the category of Allotment Gardens, since most of the projects have been implemented and are managed through community initiatives, that have seen the intervention of the municipality only after their implementation, although the latter were developed on public land. In fact, even in the case of *Orti Tre Fontane*, the role of the intermediary management body, represented by the association, is relevant, while the role of the public administration remains in the background.

Land Use Designation

The area occupied by *Orti Tre Fontane* is identified, according to the non-functional zoning envisaged by *PRG*, as part of the Settlement System as an area dedicated to Structuring Project. Within the Public Facilities System, the area is classified as a public green area. Finally, in terms of Ecological Network, it is defined as a completion element on which to intervene.

5.3.2 Orti Garbatella



Urban Green Area.

Figure 21 - Aerial view of Orti Garbatella. *Personal Elaboration.*

Source: Google Satellite. <https://mt1.google.com/vt/lyrs=s&x={x}&y={y}&z={z}> - visited on 20th August 2021.

Typology:	Community Gardens, Educational Gardens.
Land property:	Public.
Location:	Urban.
Timeframe:	Since 2008.
Dimension:	About 1,300 m ² .
Stakeholders:	<i>Municipio XI, Associazione Orti di Garbatella, Legambiente Garbatella, Action Le casette, Casetta Rossa La Città dell'Utopia, Controchiave.</i>
Main Source:	https://ortiurbanigarbatella.noblogs.org/ - visited on 19 th April 2021.

Table 15 - Information summary about Orti Garbatella. *Personal elaboration.*

The context

The *Orti Garbatella* are located in the district of the same name, near the *Tor Marancia* district, an area of the southern outskirts of the city of Rome, part of the consolidated expansion of the city and characterized by a middle and lower-middle class population. The urban gardens are located near the building where the Lazio Region is based, in *Municipio XI*. According to the activists involved in the experience, these are the first community urban gardens to arise within the *GRA* ring road of the city, whose history begins in the Nineties. The *Orti Garbatella*, as the result of a long path of opposition to overbuilding and building speculation, confirm the political character of some forms of urban agriculture in the city of

Rome (Del Monte and Sachsé, 2017). The idea behind the claims of the inhabitants involved in the gardens project was to expose the administration to the need to maintain the green area subject to the Urban Food Gardening initiative, to be preserved as a common good, with attempts to put a limit to building speculation that have affected the surrounding areas for decades. The area on which the gardens are located had previously been used as a parking lot and later as an illegal landfill. Thus, although it did not have a specific land-use destination according to the planning tools in force at that time, it risked being easy prey to building speculation and economic interests. Despite the substantial abandonment by the institutions, the inhabitants of the neighbourhood continued to implement collective actions aimed at protecting the area, planting trees and trying to stem its neglect. In 1996, a struggle began on the part of activists and inhabitants of the neighbourhood, which led to the collection of signatures, initiatives and occupations. The activists decided to find a use that would show their continued presence on that territory. In 2008, when the land had become one of the most neglected places in Rome, the idea of creating a collective Community Garden was born. From 2010 onwards, the project of these self-managed urban gardens was launched, therefore a proper association was born, with the help of a very small funding obtained following the victory of a tender promoted by the Province of Rome²⁴⁴. In 2011, the Municipality of Rome implemented an agreement to confer the management of the area to the *Orti Garbatella*²⁴⁵ association. The next step in the recovery of the area was the creation of an Educational Gardens in the area, thus a collaboration was started with the neighbourhood schools, adding a formative dimension to the experience. The gardens nowadays consist of 15 lots of about 40 square meters each.

All residents of the *Municipio XI* of the municipality of Rome have the right to assign the gardens. Two of the 15 gardens present in the initial phase were assigned respectively to the *Casetta Rossa* Association and to *Legambiente Garbatella*, which is also part of the Garbatella Urban Gardens Coordination²⁴⁶, for purposes related to the implementation of the project itself, which included the creation of a space for Educational Gardens, and an help desk dedicated to promoting education in critical food consumption. As far as it concerns space management tools in force, the association adopted an internal regulation²⁴⁷, that establishes the methods of cultivation and management of the areas. The regulation specifies that the project is aimed at the participation of citizens, the promotion of environmental sustainability models and the raising of the quality of life. The initiative is in fact aimed at the self-production of organic food and non-profit self-consumption. The *Orti Garbatella* association has a Management Committee that is responsible for managing an information desk in order to collect allotment requests for the gardens. It also deals with the correct application of the regulation and the care and maintenance of the common parts, as well as administering the funds acquired from the annual rent of the assignees for the management and maintenance costs of the gardens. This fee is set at € 50 per year, to be paid to the Management Committee. The gardens are assigned to resident

²⁴⁴ Source: <http://www.legambientegarbatella.org/gli-orti-urbani-garbatella/> - visited on 19th April 2021.

²⁴⁵ Source: <https://ortiurbanigarbatella.noblogs.org/> - visited on 19th April 2021.

²⁴⁶ Source: <https://sites.google.com/site/ortigarbatelli/home/associazioni-proponenti> - visited on 19th April 2021.

²⁴⁷ Orti Urbani Garbatella. *Regolamento per l'assegnazione e la gestione degli orti urbani nell' XI Municipio del Comune di Roma*. Source: <https://sites.google.com/site/ortigarbatelli/home/regolamento-per-l-assegnazione> - visited on 19th April 2021.

citizens on loan for use, after submitting an application. The Management Committee may revoke the assignments in the event of violation of the regulation, therefore the allocation of parcels could be intended as a top-down approach.

In light of this, to the purpose of this research, the *Orti Garbatella* have been considered as Community Gardens with a space for Educational Gardens; however, since this kind of initiative is carried out on public land with the recognition by the public administration and allow for the assignment of individual plots, this case study could be also be interpreted as a case of Allotment Gardens, similar to the previous case study of *Orti Tre Fontane*. Nevertheless, even in this context the management body play a more relevant role rather than the public administration, which remains in the background, only as a subjects that grants public lands for the gardens implementation.

Land Use Designation

The *PRG* identifies the area occupied by *Orti Garbatella* within the non-functional zoning of the Settlement System as a Transformation Area dedicated to urban interventions through detailed plan. Being identified as Transformation Area, in this case the municipality of Rome provided also a provisional detailed functional zoning, which provided for the area where the urban gardens are located the realization of public facilities intended for sport activity. Nevertheless, within the Public Facility System, the area is classified as public green. This area is also part of the global Urban Project *Ostiense-Marconi*, envisaged by the public administration in 1995 and partially started in 2010-2013 with the preliminary feasibility studies. Finally, in terms of Ecological Network, it is defined as a completion element on which to intervene.

5.3.3 Ortolino



Urban Green Area.

Figure 22 - Aerial view of Ortolino. *Personal Elaboration.*

Source: Google Satellite. <https://mt1.google.com/vt/lyrs=s&x={x}&y={y}&z={z}> - visited on 20th August 2021.

Typology:	Community Gardens, Educational Gardens.
Land property:	Public.
Location:	Urban.
Timeframe:	Since 2015.
Dimension:	About 11,600 m ² .
Stakeholders:	<i>Municipio VIII, Associazione Ortolino, Associazione Sezione Roma INBAR.</i>
Main Source:	https://ortolino.it/ - visited on 19 th April 2021.

Table 16 - Information summary about Ortolino. *Personal elaboration.*

The context

Ortolino is an urban garden located along *viale del Tintoretto*, in the south-eastern outskirts of Rome, part of *Municipio VIII*. It was born from a project presented to the Environment Department of the Municipality of Rome by the National Institute of Bio-Architecture, aimed at the active and democratic participation of citizens and the promotion of models of environmental sustainability. The land of the urban garden in *viale del Titoretto* was granted by the Municipality to the Rome Section Association of the National Institute of Bio-Architecture (INBAR) which, in collaboration with the Department of Architecture of the University *Roma Tre*, coordinated the works for the construction of the gardens. In 2015, the Rome INBAR association obtained an agreement for the assignment of an area of about 8,000

square meters, located at the core of a densely populated area of the *Municipio VIII*²⁴⁸. This area was abandoned, covered with spontaneous vegetation and strongly degraded, as a landfill site for building materials. After delivery, the Association planned and implemented a series of activities that involved the recovery of the area through a deep reclamation work. After that, the delimitation and subdivision of the gardens were implemented, together with the creation of common areas and the preparation of an irrigation system. Everything was achieved by relying exclusively on the work skills, goodwill and financial commitment of the members, without any external contribution. It is in fact the Rome INBAR association which then promoted the constitution of the *Ortolino* association, formed in 2015 for the direct management of the gardens once the project was completed, born from the promoting committee created by the citizens participating in the project since its initial stages, to which the task of dividing and managing the vegetable area to be assigned to the individual citizens was entrusted. The *Ortolino* association²⁴⁹ was therefore born as a non-profit cultural association to pursue objectives of promoting activities aimed at spreading the culture of environmental sustainability.

Currently *Ortolino* is divided into 127 vegetable garden plots of 50 square meters, and each one is cultivated by one or more families. In practice it can be assumed that there are about 300 people who devote themselves assiduously to cultivation, while there is a much larger user base made up of family members and friends who occasionally intervene to contribute to the activities and to participate in the collection of the garden products. In addition, two lots are assigned to the Rome INBAR association, for the construction of an Educational Garden. The access *Ortolino* urban gardens is free for all those who wish to take a walk in the common area of the vegetable gardens and, if they want, can ask to be included in the list for the assignment of a cultivable plot.

As far as it concerns the management aspect of the urban gardens, the latter are assigned to citizens residing in *Municipio VIII* and granted on loan for use. The assignment takes place upon submission of an application to the Board of Directors of the *Ortolino* association. Among the criteria established for the assignment there is a criterion of proximity to the vegetable gardens in terms of residence, in line with a zero-kilometre low environmental impact production principle; another aspect that is considered for the assignments ranking is whether applicants are on pension, unemployed or student conditions. In order to meet the management costs, an annual registration fee of € 120 is set. The Statute²⁵⁰ of the association value as internal regulation of the gardens, which states that each assignee member must contribute to the maintenance of the common parts of the garden, as well as to the success of social initiatives. The Management Committee of the association may revoke the assignments in the event of violation of the regulation, therefore the allocation of parcels could be intended as a top-down approach.

²⁴⁸ Source: <https://ortolino.it/storia/> - visited on 19th April 2021.

²⁴⁹ Source: <https://ortolino.it/> - visited on 19th April 2021.

²⁵⁰ Source: <https://ortolino.it/statuto/> - visited on 19th April 2021.

In light of this, to the purpose of this research, the *Ortolino* urban gardens have been considered as Community Gardens with a space for Educational Gardens. Even if the initiative is carried out on public land with the recognition by the public administration and allow for the assignment of individual plots, this case study has not been interpreted as Allotment Gardens, since the role of the public administration remains totally absent.

Land Use Designation

The non-functional zoning envisaged by the *PRG* identifies the area where *Ortolino* is located as part of the Public Facilities System, in fact the area is classified as a public green area. As far as it concerns urban transformation projects forecasted, the area could be partially interested by the provision of a new mobility infrastructure, included in the *Programma Urbanistico Vigna Murata*²⁵¹. Finally, in terms of Ecological Network, it is defined as a completion element on which to intervene.

²⁵¹ Source: <https://www.archilovers.com/projects/228781/programma-integrato-per-la-riqualificazione-urbana-nella-citta-da-ristrutturare-localita-vigna-murata-roma.html> - visited on 19th April 2021.

5.3.4 Parco Ort9, Casal Brunori



Agricultural Area.

Figure 23 - Aerial view of *Parco Ort9*. *Personal Elaboration*.

Source: Google Satellite. <https://mt1.google.com/vt/lyrs=s&x={x}&y={y}&z={z}> - visited on 20th August 2021.

Typology:	Community Gardens, Educational Gardens.
Land property:	Public.
Location:	Peri-Urban.
Timeframe:	Since 2017.
Dimension:	About 6,000 m ² .
Stakeholders:	<i>Municipio IX, Associazione Vivere In...Onlus, Comitato di Quartiere Casal Brunori.</i>
Main Source:	https://www.viverein.org/sezioni/parco-ort9/ - visited on 19 th April 2021.

Table 17 - Information summary about *Parco Ort9*. *Personal elaboration*.

The context

Parco Ort9 is an urban garden project created in the *Casal Brunori* district, in a peri-urban area south of Rome, part of *Municipio IX*. It has been realized with an allocation of European funds²⁵², thanks to the social and environmental aims of its promoters. An abandoned area, which previously housed an open-air landfill, has been transformed into a place of aggregation and socialization. The implementation of the project dates back to 2017, and was born from a bottom-up initiative, as required by the regulation for the management and use of

²⁵² Source: <https://www.comune.roma.it/web/it/municipio-ix-progetti.page?contentId=PRG36815> - visited on 19th April 2021.

urban gardens in the city of Rome, approved in 2015. The gardens were created as part of the European project SIDig-MED - Social and Intercultural Dialogue through Governance for Local development: Mediterranean Urban and Peri-urban Agriculture²⁵³, which had as objective to tackle with social exclusion and poverty, improving governance processes for local development by promoting social and intercultural dialogue, through the implementation of experimental and concrete actions in favour of sustainable UA in four selected urban context, including Rome. The implementation of *Parco Ort9* was promoted by the *Vivere In...Onlus*²⁵⁴ association, founded in 2006 with the aim of developing an urban gardens project in the *Casal Brunori* district, looking for suitable areas compatible with the urban planning forecasts of the PRG. In 2015, the association, in collaboration with the *Casal Brunori* Neighbourhood Committee and the *Casal Brunori* Consortium, presented the proposal for the urban gardens in the context of the SIDig-MED project.

The experience of *Casal Brunori* Urban Food Gardening was deemed so successful that in 2018 he was the winner of the Rome Best Practice Award²⁵⁵. Furthermore, the *Parco Ort9* has contributed decisively to the recognition of Rome as a European Good Practice City for suburban regeneration through Urban Agriculture. This in turn gave the opportunity to obtain funding with the European project RU:RBAN, of which the *Vivere In...Onlus* association is a stakeholder. As part of the European project, *Casal Brunori*'s UA practice is taken as an example for sharing bottom-up governance experiences with the community of volunteers and institutions involved in the project. *Casal Brunori* has the possibility to export its governance model to Europe as a good practice in the cities involved in the RU:RBAN network²⁵⁶. *Casal Brunori*'s model is based on values of urban regeneration for economic and social development starting from the bottom, with small actions that start from the sharing of agricultural tools, from the introduction of practices borrowed from the circular economy such as the reuse of water from fountains, energy efficiency practices, but also through the promotion of cultural activities. All these aspects have given rise to a shared management model that has helped to root a particular attention to the environment. In addition, *Parco Ort9* also contributed to launch the Fusilli project - Fostering the Urban food System Transformation through Innovative Living Labs Implementation, funded by Horizon 2020 Programme, aimed at implementing actions to improve the food value chain.

With regard to management and maintenance aspects, the land on which *Parco Ort9* stands is a municipal public land, whose maintenance has been entrusted free of charge to the *Vivere In...Onlus* association. In 2017, an agreement was signed with the municipality of Rome through which the area of about 15,000 square meters was entrusted to the association on loan for use. Nowadays, the area, of about 12,000 square meters, includes 107 plots, and directly involves about 700 people, three schools and four associations, indirectly reaching a catchment

²⁵³ Source: <https://www.risorseperroma.it/25anni/sidigmed.html> - visited on 19th April 2021.

²⁵⁴ Source: <https://www.viverein.org/sezioni/parco-ort9/> - visited on 19th April 2021.

²⁵⁵ Source: <https://www.romatoday.it/zone/eur/orti-urbani-casal-brunori-best-practice-award.html> - visited on 19th April 2021.

²⁵⁶ Source: <https://www.romatoday.it/zone/eur/altre/orti-urbani-casal-brunori-modello-europeo-.html> - visited on 19th April 2021.

area of over 3000 residents. The area is equipped with an automated irrigation system, shared mechanical and manual tools, a public toilet, barbecue areas, outdoor and indoor socialization spaces. The care of the public environmental heritage is guaranteed by compliance with elementary environmental and sustainability rules on the use of water resources and the recycling of organic waste from nearby homes. The *Vivere In...Onlus* association has its own internal regulation²⁵⁷ to which the *Parco Ort9* project is subject. In the regulation, the association establishes that among its purposes there is the development of projects for the construction of urban gardens to be assigned to the members of its own Urban Gardens Section, in order to promote social inclusion and improvement of the quality of life in the neighbourhood, fighting poverty in urban areas and favouring, as a priority, people at risk of exclusion. The association is required to publish on its own institutional website the notice of participation in the ranking of assignment of a plot of cultivable urban garden on the area granted by the municipality of Rome. Once the ranking has been established, the association will assign the lot with a deliberative provision. Among the selection criteria, the requisites requested to those who apply refer to their social status as an unemployed, retired or student; the distance of the residence from the area intended for vegetable gardens is taken into consideration to ensure compliance with the zero-kilometre production principle and low environmental impact; as well as the level of active participation of the applicant in the activities of common management of the gardens. The association also determines an annual fee for the management costs to be borne by the assignees of the gardens, the share of which is not specified in the regulation, but is intended as a variable. It is interesting to note that the regulation of *Parco Ort9* gives the possibility to specify, through the assignment application, if someone wants to apply specifically for shared Community Gardens. In this case, the assignee will have to share a horticultural lot with 3 other people; this choice is intended to enhance the purpose of the urban garden, favouring the sharing of resources, socialization and optimization of time. In addition, the regulation provides that Educational Gardens are created in the area aimed at promoting sustainable environmental practices, open to schools and associations. Also in this case, the management of the gardens is top-down and the revocation of the assignment can take place in the event of unsuitable behaviour, in the event of non-payment of the annual fee or even for revocation by the municipality of Rome of the concession for reasons of the public interest.

For the purposes of the research, *Parco Ort9* was considered a Community Garden, given the presence of shared urban gardens, and also as an Educational Garden given the presence of spaces for didactical activities. The initiative has not been considered as Allotment Gardens since the association intends to give priority to the shared maintenance of the spaces dedicated to horticultural activities, rather than to individual cultivation.

Land Use Designation

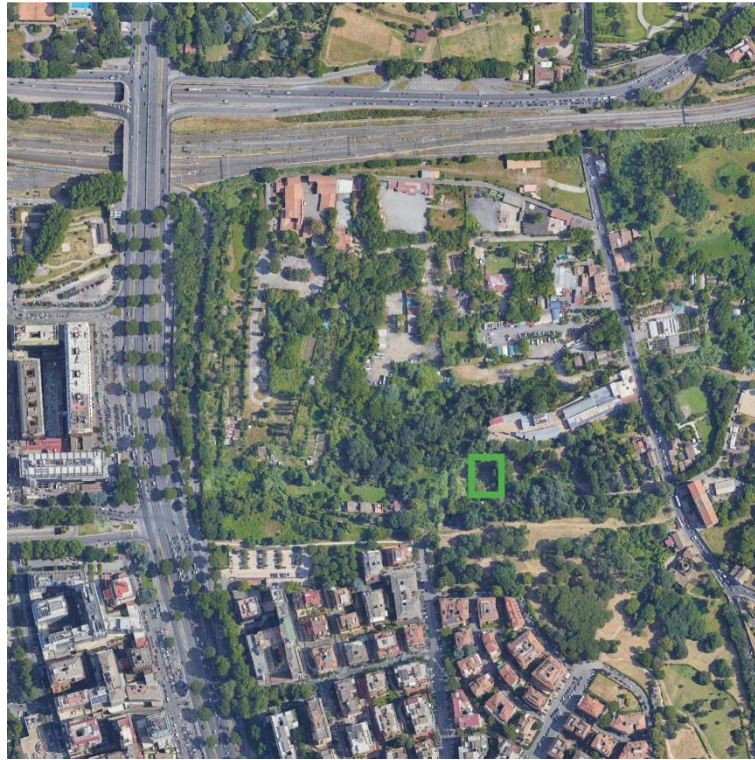
The area on which *Parco Ort9* is implemented is defined by the non-functional zoning envisaged in the *PRG* as part of the Settlement System, within the consolidated urban fabric to

²⁵⁷ Source: <https://www.viverein.org/wp-content/uploads/016.pdf> - visited on 19th April 2021.

be re-planned. The area is in fact included in the *Piano di Zona C8 Casal Brunori*²⁵⁸, approved for the first time by the public administration in 1987 and subject to several variations, the last of which dated to 2013. The detailed functional zoning provided by the plan identifies the area with the urban gardens for public green areas. Within the Public Facilities System, the area is in fact classified as a public green. Finally, in terms of Ecological Network, it is defined as a secondary component.

²⁵⁸ Source: <http://www.urbanistica.comune.roma.it/pdz/elenco/mun-ix/c8-casalbrunori.html> - visited on 19th April 2021.

5.3.5 Hortus Urbis



Urban Green
Area.

Figure 24 - Aerial view of *Parco Ort9*. *Personal Elaboration*.

Source: Google Satellite. <https://mt1.google.com/vt/lyrs=s&x={x}&y={y}&z={z}> - visited on 20th August 2021.

Typology:	Educational Gardens.
Land property:	Public.
Location:	Urban.
Timeframe:	Since 2012.
Dimension:	About 200 m ² .
Stakeholders:	<i>Municipio XI, Parco dell'Appia Antica, Zappata Romana, Eutorto, Orti Urbani Garbatella.</i>
Main Source:	http://www.hortusurbis.it/ - visited on 19 th April 2021.

Table 18 - Information summary about *Hortus Urbis*. *Personal elaboration*.

The context

Hortus Urbis is located within the *Appia Antica* Regional Park that creeps into the south-eastern outskirts of Rome, near the green area of the former *Cartiera Latina*, part of *Municipio VIII*. It is an initiative carried out by *Zappata Romana* since 2012, a project linked to didactic and educational purposes pursued through Urban Agriculture activities. *Zappata Romana* association was contacted by the *Appia Antica* Park Authority to design and implement the project, which

involves the reactivation of an unused green area destined for public space²⁵⁹. It can be considered an unprecedented project not only for the chosen theme, that is the reproduction of an ancient Roman garden, but also for the approaches and methods of implementation that have seen the choral contribution of many actors and realities, which have in common the goal of recovering abandoned areas in Rome, whether they are located in the historic city centre or in the suburbs, in order to return them to the use of all citizens.

The garden consists of 16 plots in forms of flower beds, and occupies an area of about 225 square meters. With the contribution of voluntary workers, in addition to gardening activities, a composter, a clay oven, an insect house, a pergola and an irrigation system were created. The construction of an area for the breeding of earthworms, a shared seedbed, an orchard with ancient fruit trees is also planned. Furthermore, the project involved the construction of an Educational Garden with ancient Roman plants²⁶⁰. Therefore, *Hortus Urbis* is an experimental successful project that has seen an unused green area, in the setting of the *Appia Antica* Park, intended as a shared space and Community Garden with educational purposes, hosting plants used in ancient Roman times, selected from those discovered in the excavations of Pompeii, or cited by ancient historians such as Pliny the Elder, Cato or Virgil. The gardens host recreational and educational activities, which have nature, food and culture as their fulcrum. Educational modules are planned in collaboration with associations and groups active in the area. The garden is in fact carried out with the contribution of associations and volunteers. It hosts workshops for children on weekends, activities for schools during the week and organizes seminars and courses for adults. The *Appia Antica* Park is one of the most significant protected areas in the city due to its inner location in the urban fabric, and the extraordinary historical and environmental potential that it can transmit especially to younger generations.

As far as it concerns the purposes of this research, *Hortus Urbis* has been classified as an Educational Garden, designed for didactical purposes and used to conduct educational courses and events. Given these characteristics, the project is in fact sponsored by the *Municipio XI*, as well as by the Metropolitan City of Rome, the former Province. With regard to its management tools, the space is managed by the *Zappata Romana* association, and is owned by the Regional Park. It is realized in a green space outside the multi-functional complex of the former *Cartiera Latina*, which is subject to specific regulation²⁶¹ by the Park Authority, which however is limited at regulating the organization of events, demonstrations and the possibility of renting concessions of the internal areas of the *Cartiera*, without expressing any rules regarding the presence of the garden.

²⁵⁹ Source: <https://co-roma.it/?ait-item=hortus-urbis> - visited on 19th April 2021.

²⁶⁰ Source: <https://www.labsus.org/2012/03/hortus-urbis-nasce-il-primorto-antico-romano-della-capitale/> - visited on 19th April 2021.

²⁶¹ Source: <https://www.parcoappiaantica.it/home/ente-di-gestione/modulistica> - visited on 19th April 2021.

Land Use Designation

The *Hortus Urbis* is located within the *Appia Antica* Regional Park, identified also by the non-functional zoning envisaged by the *PRG*, thus it is recognized as a protected natural area. In fact, in terms of Ecological Network, it is defined as a primary component.

5.3.6 American Academy in Rome



Mixed-use
Built-up
Area.

Figure 25 - Aerial view of American Academy urban gardens. *Personal Elaboration.*

Source: Google Satellite. <https://mt1.google.com/vt/lyrs=s&x={x}&y={y}&z={z}> - visited on 20th August 2021.

Typology:	Community Gardens.
Land property:	Private.
Location:	Urban.
Timeframe:	Since 2008.
Dimension:	About 260 m ² .
Stakeholders:	<i>American Academy in Rome.</i>
Main Source:	https://www.aarome.org/it/informazioni/roma-progetto-alimentare-sostenibile - visited on 19 th April 2021.

Table 19 - Information summary about American Academy urban gardens. *Personal elaboration.*

The context

The American Academy in Rome is located on top of the Roman *Gianicolo* hill, in an urban area with a long tradition of parks for recreational use, part of *Municipio I*. The properties of the Academy include nearly five hectares of gardens cultivated according to the principles of organic farming, located around the *Villa Aurelia*. In 1986 the Academy's board of directors launched a funding campaign to restore all the gardens to their original splendour. Therefore in 1990, the Academy started the implementation of a Master Plan for the landscape whose

implementation has lasted until today. In this context, in 2008 the Rome Sustainable Food Project²⁶² began, with the assistance of the Academy's gardeners, for cultivating the fifteen flower beds dedicated to cultivation in the Academy's garden, dedicated to Mercedes T. and Sid R. Bass. This was an initiative introduced after 2006, when Alice Waters, the White House consultant for the presidential garden and vice president of Slow Food International, conceived the Rome Sustainable Food Project as an eco-gastronomic commitment that would continue the Academy's values. From 2007, the first phases of the project were undertaken, whose main mission was to nourish and support research and conviviality around the canteen of the Academy community. Therefore, fifteen flower beds have been used for the cultivation of vegetables and herbs. The products of the garden in organic cultivation end up directly in the kitchens of the Academy, which every year hosts hundreds of students of all arts. The garden plays a role in the community of the Academy, the products are used in the canteen and the care of the garden is an opportunity to open up the reality of the Academy to the city, also with the involvement of an Agrarian Institute.

The Rome Sustainable Food Project represents a potential solution and an operational model designed for cultural and academic institutions to manage their internal food chain in a sustainable way. For the purposes of the research, it is a privately owned vegetable garden, which is managed and cared for by expert gardeners, in order to produce organic products to be consumed on site in the Academy canteen. It has been classified as a Community Garden since it involves the reality of the guests of the Academy, as well as providing for an opening to the outside through the involvement of an Agrarian Institute. No particular tools for the management of the horticultural space were detected, as it is a private initiative, small in size and easily manageable within the private institution represented by the Academy. As far as it concerns its maintenance, the Rome Sustainable Food Project dedicates an entire day a week to work in the garden, which involves young cooks, fellows from the Academy and their families, interested in the cultivation of food which can thus find the opportunity to work in the garden with their own hands. There is the possibility of an internship that allows trainees aspiring external chefs to collaborate with the Rome Sustainable Food Project. They can immerse themselves in the daily work of preparing meals for the Academy community. Trainees can work for a period of three to five months in the kitchen and garden, allowing an experience of immersion in the Italian language and gastronomy²⁶³. The Rome Sustainable Food Project intends in this way to promote the future of sustainable gastronomy.

Land Use Designation

The area occupied by the urban gardens of the American Academy in Rome is a private area adjacent to the buildings which host the institution. The PRG identifies the complex as part of the Settlement System of the historic city centre; it is classified as a historical villa with private

²⁶² Source: <https://anamericaninrome.com/wp/2014/06/the-rome-sustainable-food-project/> - visited on 19th April 2021.

²⁶³ Source: <https://www.aarome.org/it/informazioni/roma-progetto-alimentare-sostenibile> - visited on 19th April 2021.

green areas of historical-morphological-environmental value. Finally, in terms of Ecological Network, it is defined as a completion element on which to intervene.

5.3.7 Orti di Veio



Agricultural
Area.

Figure 26 - Aerial view of Orti di Veio. *Personal Elaboration.*

Source: Google Satellite. <https://mt1.google.com/vt/lyrs=s&x={x}&y={y}&z={z}> - visited on 20th August 2021.

Typology:	Family Gardens. + Urban Farming.
Land property:	Private.
Location:	Peri-Urban.
Timeframe:	Since 2013.
Dimension:	About 6,000 m ² .
Stakeholders:	<i>Associazione Orti di Veio.</i>
Main Source:	https://www.ortidiveio.it/ - visited on 19 th April 2021.

Table 20 - Information summary about Orti di Veio. *Personal elaboration.*

The context

The Orti di Veio are located in the Veio Regional Park, in a peri-urban area north-west of Rome, in *via Giustininana*, part of *Municipio XV*. The Orti di Veio²⁶⁴ association have realized these urban gardens on their own private land to offer young people, the elderly, families or groups of friends the opportunity to have an urban garden for rent in Rome, where they can grow whatever they prefer. The idea of developing these urban private gardens comes from a couple who own three hectares of land, on which they have decided to develop cultivable gardens to be made available to anyone interested. Orti di Veio promotes the culture of growing

²⁶⁴ Source: <https://www.ortidiveio.it/> - visited on 19th April 2021.

products with ecological methods that respect natural balance. The goal of their project is to create a small community of people who can enjoy their passion for horticulture, away from the chaos of the city. The urban gardens are accompanied by a large shaded green area, equipped with tables, barbecues, and playgrounds for children to spend free time. The space also includes an area for animal husbandry, from which the idea of an educational farm was born to educate children about the rural reality and the human-animal relationship. The *Orti di Veio* association also promotes the practice of organic beekeeping through its own apiary. Bees improve the yield of gardens thanks to their entanglement work, then the honey collected is processed using traditional and organic techniques and sold on site. Therefore, the location is ideal for school groups and events, in fact the association offers the possibility of organizing activities, parties, as well as educational courses at the vegetable gardens and the adjoining green area. Furthermore, the association also organizes on the estate workshops and events addressed both to adults and children.

This initiative can be considered to all intents and purposes a business model of multi-functional agriculture. The target to which it is addressed is not limited, but demonstrates the evidence of different categories, more and more motivated to participate in Urban Agriculture practices in order to consume healthy and self-produced food. The creation of the *Orti di Veio* is not a public initiative, but responds to the growth of this new demand which needs to be satisfied. As this is a private initiative, there is no specific tool for managing the space of the horticultural area. There is also no transparent indication on the methods and tools applied for the rental management of the horticultural areas, of about 70 square metres each, leased to private citizens. Moreover, despite being located within a Regional Park, no regulation has been found in this regard. To the purpose of this research, the urban gardens have been considered as Family Gardens, since they are realized on private land, which are then rented to private individuals, excluding the possibility of a shared management of the plots. In addition, the case study includes also some aspects classifiable as Urban Farming activities, which are parallel to the Urban Food Gardening offer, which can be recognized as Leisure and Educational farm.

Land Use Designation

The *Orti di Veio* are located within the *Veio* Regional Park, identified also by the non-functional zoning envisaged by the *PRG*, thus it is recognized as a protected natural area. In fact, in terms of Ecological Network, it is defined as a primary component.

CHAPTER 6

Turin

Turin is the capital of the Piedmont region and the fourth most populated city in Italy, with a population of approximately 848,196 inhabitants over a geographical area of 130 km²²⁶⁵. According to the ISTAT survey²⁶⁶, urban green areas in 2018 occupied almost 15% of the urban territory, for a total amount of 1,984 hectares, resulting in 23 m² per capita. The survey, which interested only public green areas, shows also that Urban Agriculture in Turin corresponded to 0.39% of the total municipal territory, which means almost 8 hectares. Finally, as far as it concerns Protected Natural Areas and possible Agricultural Park, the city of Turin has 971 hectares protected as Natural Parks, corresponding to 7.5% of its municipal territory, which also include the presence of Agricultural Park.

In the Turin context, Urban Vegetable Gardens represent the category of urban green that has had the greatest growth in recent times. As pointed out by the Report concerning the Green Infrastructure Strategic Plan²⁶⁷ drafted by the city in 2020, over almost ten years, the surface of areas dedicated to Urban Agriculture for Urban Food Gardening has more than doubled, while in general the public heritage of free areas currently used for agricultural purposes is also important. It amounts to about 190 hectares, and it is the result of a management strategy aimed at protecting the landscape characteristics of the territory through the maintenance of agricultural production activities.

6.1 The state of Urban Agriculture

The history of urban gardens in the city of Turin dates back to ancient times, as in other Italian contexts, and in fact began to develop in 1600 under the reign of *Vittorio Amedeo II*, when precise rules were issued to regulate the food needs of the city, starting from the system of vegetable fields present in the urban blocks and the farmhouses located just outside the walls of the ancient city²⁶⁸. The first official assignment of cultivable land to private citizens then occurred during the First World War, with the establishment of the so-called war gardens to face the difficulties of food supply. In this context, the city of Turin adopted a specific plan to cultivate important city areas. Then, a second wave of Urban Agricultural practices in the Turin urban context occurred with the progressive expansion of the city, following the phenomenon

²⁶⁵ Data provided by ISTAT updated as of 1st January 2021.

Source: <https://www.tuttitalia.it/citta/popolazione/> - visited on 9th June 2021.

²⁶⁶ Data provided by ISTAT relating to the Census of Urban Green areas updated to 2018.

Source: <https://www.istat.it/it/archivio/236912> - visited on 2nd June 2021.

²⁶⁷ Città di Torino, Torino 2030 SOSTENIBILE | RESILIENTE. Assessorato per le Politiche Ambientali e Verde Pubblico. (2020). *Piano strategico dell'infrastruttura verde*.

Source: <http://www.comune.torino.it/verdepubblico/2020/altrenews20/piano-strategico-infrastruttura-verde.shtml> - visited on 5th April 2021.

²⁶⁸ Source: https://atlantedelcibo.it/2017/05/27/i-molteplici-volti-dellorticoltura-a-torino/#_ftnref - visited on 2th April 2021.

of urbanization from the countryside to the industrial working-class city, which started from the 1950s. In this phase the city witnessed the spread of spontaneous vegetable gardens, or Squatter Gardens, developed in marginal agricultural areas, largely on the initiative of workers, very often coming from southern Italy and residing in suburban areas, where these unregulated gardens arose. In the face of this situation, around the 1970s the city of Turin had to provide to tackle the phenomenon of spontaneous Squatter Gardens in order to regulate their location and management. The first act of discipline regarding allocation and management of urban gardens came in 1986 with the Municipal Regulation n. 164. This measure was followed by the adoption of more specific measures by the different decentralized administrative districts²⁶⁹ «and regulations from the peri-urban municipalities, always with the aim of controlling the illegal side of the phenomenon by setting up a system for the allocation of gardens to applicant citizens» (Tecco et al., 2017, p. 73).

Therefore, over years UA has evolved in Turin, adapting to the typical trends of other European realities, with the development of experimental facilities for horticultural areas, alongside the unregulated ones. The attitude from the public institutions remained almost unchanged for the duration of the 1990s and early 2000s and mainly oriented to the didactic and educational aspect of horticulture, indeed the Public Green Service of the municipality started to promote various initiatives on environmental education in primary schools. It was only in 2003 that the first municipal Allotment Gardens were officially created on the initiative of the City of Turin. They were 55 plots, plus an Educational Garden, created inside the *Parco Meisino*²⁷⁰ in the *Borgata Rosa*, where there already was a large group of spontaneous Squatter Gardens. It was the first experience of public gardens created in conjunction with the development of a large peripheral public park, the first of others, such as the gardens of *Parco dell'Arrivore*²⁷¹, *Parco del Sangone*²⁷² or *Parco dei Laghetti di Falchera*²⁷³. Only after 2010, with the manifestation of the effects of the economic crisis and the rise of a new demand from citizens for green spaces, quality of life and food, the municipal administration recognized urban and peri-urban horticulture as a urban strategy to enhance degraded and marginalized areas and improve quality of urban spaces. Urban gardens, as one of the possible forms of Urban Agriculture, took on a radical new significance with the urban green management measures of the city. Thus in less than a decade, the surface area of municipal Allotment Gardens, made available to citizens and managed by the Turin's public administration of each decentralized district, has more than doubled. Therefore, in 2013 a new municipal regulation on Urban Food Gardening was adopted, for the management of public Allotment Gardens which, compared to the previous resolution of 1986, included the possibility for citizens to use public gardens in

²⁶⁹ The city of Turin is divided into *Circoscrizioni*, the administrative decentralizations of the Municipal body.

²⁷⁰ Source: <https://www.ortiurbanitorino.it/atlanter/Orti%20del%20Meisino%20%20Borgata%20Rosa.htm> - visited on 5th April 2021.

²⁷¹ Source: <http://www.comune.torino.it/circ6/cm/pages/ServeBLOB.php/L/IT/IDPagina/4478> - visited on 5th April 2021.

²⁷² Source: <http://www.comune.torino.it/verdepubblico/2020/altrenews20/orti-urbani-bando-circ2.shtml> - visited on 5th April 2021.

²⁷³ Source: <http://www.comune.torino.it/circ6/cm/pages/ServeBLOB.php/L/IT/IDPagina/4974> - visited on 5th April 2021.

different ways, choosing between collective or private family management, also providing the possibility for associations and cooperatives to implement horticultural and educational activities within municipal gardens. Alongside this “pro-urban gardens” disposition of institutional nature, even at an informal level Turin is witnessing a process of Urban Food Gardening mushrooming. Not only are the requests for the assignment of public gardens by new categories and subjects growing, but a whole series of spontaneous bottom-up experiences of individual and collective management are flourishing; existing vegetable gardens are starting to be equipped with supplementary services; and the aims pursued by these experiences are new compared to those that characterized the colonization of gardens in the 70s, thus these new UA practices that are rising can be defined as “second generation” gardens (Tecco et al., 2016).

With regard to the declination in the various typologies of urban horticulture activities in the city of Turin, according to the data elaborated by the municipality as part of the drafting of the Green Infrastructure Strategic Plan adopted in 2020, nowadays the area dedicated to urban horticulture exceeds 400,000 square meters, of which about 330,000 m² represent spontaneous and unregulated Squatter Gardens; while the remainder are in part regulated Allotment Gardens, managed by the municipal districts and called *Orti Circoscrizionali* which are 7 in all; and in part Community Gardens, managed by associations and third parties and defined as *Orti Associativi*, which are 26 in total. The characteristics of the urban fabric of the city of Turin, very dense in the central areas, has determined that most of the cultivated areas where these experiences of Urban Agriculture take place are located in the peripheral zones of the city, and in particular on residual land on the edge of the banks of the *Sangone* and *Stura* Rivers.

As far as it concerns municipal Allotment Gardens, managed by the decentralized districts on municipal land, consist of about 914 plots entrusted to individual citizens individually or in group for self-production. They are the second most common category of gardens in Turin, after the spontaneous Squatter Gardens. However, the experience of the municipal Allotment Gardens is rather late in the Turin panorama, in fact the first public garden of this type was established on the initiative of the municipality only in 2003. Most of the district gardens were created in the context of public parks, mostly peripheral and already characterized by the settlement of illegal Squatter Gardens. In other cases, they were carried out as part of urban redevelopment projects in the Turin suburbs, in public social housing areas. Aligned with Allotment Gardens, the reality of school-run Vegetable Gardens is also particularly widespread, which has come to involve a network of over 70 schools, from kindergarten to secondary schools. Regarding the actors involved in these experiences of Urban Food Gardening in the Turin scenario, currently 3,522 citizens, 45 associations, 38 schools, 10 Local Health Authorities, 9 cooperatives and 10 entities of various kinds are involved, from Ethical Purchasing Groups to restaurants and parishes.

The category of gardens that is witnessing the greater diffusion remains that of associative form, the *Orti Associativi* are currently 26 and distributed in the various neighbourhoods in an uneven way. These are organized in 78 plots, recognizable as Community Gardens managed by third sector associations or cooperatives, in which citizens cultivate together and share the harvest, subjected to different management and regulation

solutions. They are partly the result of efforts by the administration, partly bottom-up initiatives and in most cases are aimed at the regeneration of urban spaces, social and work integration activities, or educational and recreational purposes.

As already mentioned, most of the Urban Food Gardens present in Turin derive from the development of spontaneous Squatter Gardens, which in fact constitute approximately 75% of the total urban area dedicated to horticulture. As in other Italian contexts, this type of spontaneous gardens arises on marginal or residual land, mostly peripheral, often along railway corridors or river banks. Being generally unregulated, they are informally managed by individual private subjects and, due to these circumstances, it is a typology of Urban Agriculture that is difficult to trace and register. In this regard, the municipal administration has interfaced with these illegal gardens on public land in the past, carrying out eviction or expropriation operations in case of environmentally compromised areas. To date, the administration's intention is to proceed with finding arrangements for the occupants to turn the Squatter Gardens into regulated ones.

As far as it concerns issues, opportunities and limits relating to the management practices of the different types of urban gardens in Turin²⁷⁴, starting from the category of the *Orti Circostrizionali*, the economic model adopted is based on public funding. The decentralized districts are in charge of ordinary maintenance of the gardens, in terms of cleaning of common and access areas, as well as providing services such as irrigation and lighting. In addition to public funding, each gardener contributes an assignment fee, which can vary according to the level of income. Regarding the management of the assignment procedures, the bureaucratic process through public tenders is difficult to manage by the administration, as well as the direct control of the conditions of the vegetable areas. In fact, on the web platform of the municipality of Turin, there is no unified portal to access the service of public urban gardens, as is the case in the other cities analysed. The public administration portal for the moment is limited to the publication of public calls, ranking results and useful information relating to the allotment procedures, through the online pages of each district. Instead, as for the *Orti Associativi*, these are generally financed by membership fees; through participation in tenders and fundraising activities; or by contributions received from public and private bodies; the sale of their products; or through the offer of paid courses. It is different for school-run gardens, where activities are often carried out at no cost, thanks to the commitment of volunteers within the school staff. In general, with regard to Urban Agriculture management models, the city of Turin recognizes that partnerships with third parties are particularly valuable for the implementation of urban horticulture. The management of gardens by non-profit associations represents an efficient model already tested in the area which could be an easily extendable solution also to the municipal Allotment Gardens, now directly managed by the districts, thus overcoming some of the difficulties they currently present.

²⁷⁴ Città di Torino, Torino 2030 SOSTENIBILE | RESILIENTE. Assessorato per le Politiche Ambientali e Verde Pubblico. (2020). *Piano strategico dell'infrastruttura verde* (pp. 62-68).

Source: <http://www.comune.torino.it/verdepubblico/2020/altrenews20/piano-strategico-infrastruttura-verde.shtml> - visited on 5th April 2021.

With regard to the attempts of mapping the experiences of Urban Agriculture in the city of Turin, the data elaborated in the context of the Green Infrastructure Strategic Plan, which have been collected in the Annex *Atlante degli Orti Urbani*²⁷⁵, rely on the first effort to map UA in the city of Turin carried out in 2015, as part of the *Piemonte Visual Contest*²⁷⁶ which aimed to promote open culture and the involvement of citizens to improve public policies. During that edition, the *O.U.T. - Orti Urbani Torino*²⁷⁷ project was awarded. The theme of the 2014-2015 edition was in fact to create participatory maps, with the aim of mapping Piedmont to increase the availability of open-access geographic data. In this context, the *Mappathon* competition involved the development of a mapping project based on OpenStreetMap to explore topics of public interest. Among the proposals, the *Brigata Cultura* group participated in the *Mappathon* with a work dedicated to the theme of Urban Agriculture, the *O.U.T.* project. It collected all the different experiences related to the Urban Food Gardening that have arisen in the city of Turin, leading to the creation of an interactive map that indicates the various types of vegetable gardens in Turin, distinguishing between the gardens assigned by the Municipality to private citizens; gardens assigned to associations; and spontaneous Squatter Gardens not yet regularized.

6.2 Policies, strategies, initiatives and regulations related to Urban Agriculture

Since the Nineties, «Turin is reshaping its social and economic identity as a city for tertiary services and tourism» (Cinà and Di Iacovo, 2015, p. 16), following the progressive dismantling of the car sector and the subsequent innovative development policies. In this context, also the food sector has been identified by the administration «as a field of innovation towards a new identity» (Ibid.), thus various initiatives on food and UA have been implemented by public and private actors. For this reason, local public bodies started to explore food issues and their connection to city planning and, as a consequence, Urban Agriculture in Turin has taken on many faces and changed in extent and function following the evolution of the city together with, above all, the needs of its inhabitants. In particular, in the 2000s there has been a general inclination to the development of Urban Agriculture both from the realm of public institutions, and at an informal level. The requests for the assignment of public vegetable gardens have increased also from new categories of subject, in fact, urban horticulture is an activity increasingly requested by different categories of citizens, from young people to discover a relationship with the earth; to adults looking for educational activities with their children; to the elderly in search of sociality. But mainly today the typical gardener is a young person who sees in the activity of Urban Food Gardening a mean of socialization, an opportunity to create

²⁷⁵ Città di Torino, Torino 2030 SOSTENIBILE | RESILIENTE. Assessorato per le Politiche Ambientali e Verde Pubblico. (2020). Piano strategico dell'infrastruttura verde. Allegato #2 | ATLANTE DEGLI ORTI URBANI. Source: <http://www.comune.torino.it/verdepubblico/2020/altrenews20/piano-strategico-infrastruttura-verde.shtml> - visited on 5th April 2021.

²⁷⁶ Source: <http://www.cr.piemonte.it/web/comunicati-stampa/comunicati-stampa-2015/402-novembre-2015/4548-al-via-il-terzo-piemonte-visual-contest> - visited on 28th June 2021.

²⁷⁷ Source: www.ortiurbanitorino.it - visited on 28th June 2021.

community or a tool to pursue a healthier diet. In response to these new requests, needs and requirements, the municipality of Turin is committed to creating spaces for new urban vegetable gardens or expanding existing ones. In addition, the Turin context has also seen the flourishing of various experiences by bottom-up initiative. In fact, there are various examples of both individual and collective management of horticultural areas, given in concession by private subjects and managed by committees of citizens or associations. In general, the urban horticultural experiences carried out in recent years in the Turin context have proved to have positive effects in terms of redevelopment of degraded areas, also impacting in terms of social integration and education of citizens to environmental sustainability, as well as to food safety and fair consumption, which in fact have been recognized by the municipal policies on vegetable gardens as the main objectives to be pursued with the promotion of Urban Food Gardens.

The most glaring example demonstrating the keen interest of the municipality of Turin in relation to the issues of food policy and UA is the *Torino Città da Coltivare*²⁷⁸ (TOCC) project, promoted in 2011 in the framework of Torino Smart City. Its goal was to enhance and develop Urban and Peri-Urban Agriculture in order to increase the overall urban sustainability of Turin, through the promotion of a new model of urban life that would have positive repercussions for all citizens, launching a program aimed at addressing food and ecological issues of the city, also reducing the management costs of the urban green heritage. The project intended to improve the vast heritage made up of peripheral areas used for private agricultural land and public parks, characterized by rural structures in degraded conditions, or artifacts once functional to agriculture and then incorporated into the urban territory, through the introduction of horticultural activities such as Social Gardens or Community Gardens, also envisaging multi-functional urban forestry interventions. To this end, a quite large extent of peri-urban and under-used land was surveyed, and a large amount of data were provided in order to explore the possible use of public land around and within Turin's boundaries for Urban Agriculture. *Torino Città da Coltivare* represented an ambitious plan of analysis, census-taking and upgrading of urban and peri-urban green areas, aimed also to introduce new experimental methods and approaches in terms of management of such spaces. In addition, given that most of the urban area dedicated to horticulture in Turin is represented by unregulated Squatter Gardens, the Public Green Service of the city, in the context of *Torino Città da Coltivare* project, has also implemented a policy of regularization of spontaneous gardens, with particular attention to those along the river banks of the *Sangone* Stream, through their integration with activities already structured in the area (Tecco et al., 2017). One of the results, rooted in the *Miraorti*²⁷⁹ research project, is the *Orti Generali* initiative, which will be further explored among the selected case studies.

²⁷⁸ Source: <https://smartcityweb.net/progetti/tocc-torino-citta-da-coltivare> - visited on 8th April 2021.

²⁷⁹ Source: <https://miraorti.wordpress.com/> - visited on 2nd April 2021.

Also in 2011, the Community School Garden²⁸⁰ project was also launched, promoted by the City of Turin through the Sustainable City Laboratory managed by *ITER - Istituzione Torinese per una Educazione Responsabile*, school catering and Public Green Service in collaboration with *Slow Food Torino Città*. The project was intended to reactivate in a more effective way the experience of school-run vegetable gardens, already practiced for some time, to promote food education and environmental awareness. The Community School Garden project officially ended in 2016, reaching a network of over 70 schools.

Another interesting initiative that testifies to the interest in UA in the Turin context also by private individuals, is *Or.Me. - Orti Metropolitani Torinesi*²⁸¹. It has developed as a bottom-up initiative leading to the creation of a network of gardens, farmhouses, cooperatives, associations and citizens that support horticulture and UA in Turin and its metropolitan area. The idea was born following the meeting "Gardens in the City: an overview of urban horticulture experiences", held at the *Casa dell'Ambiente* in Turin on 2016. The participants, collecting a proposal from the *Compagnia San Paolo*, adopted a declaration of intent to work on the theme of urban horticulture and a programmatic document for the establishment of a network of urban and peri-urban gardens in Turin. Today *Or.Me.* deals with communication activities, promotion and mobilization of resources to develop collaboration between existing realities and external bodies, share knowledge and co-design Urban Food Gardening projects. The Turin panorama relating to UA is in fact characterized by various initiatives carried out on various scales by private stakeholders or third sector companies. These initiatives stand out for their intent to give new value to abandoned land both private or public, involving local communities and groups of citizen. Among these, the initiative *Cavoli Nostri*²⁸² can be cited as an example, it is a farming cooperative established on the land of some properties owned by the religious institution *Cottolengo*, where organic vegetables are cultivated and people with disabilities take part in the agricultural work thus producing positive economic and social benefits. In general, the vitality of the food discourse related to UA in Turin also motivated relevant stakeholders in the agricultural sector to be active in the scene. This is the case of *Coldiretti*, the most important farmers' union in Italy, which has given birth to *Campagna Amica*, a farmers' association that combines educational and economic activities. In the last few years in Turin, *Coldiretti* established many *Campagna Amica* markets in order to meet the demand for local quality food and create new opportunities of income for small farmers. In light of that, UA areas may support the city's resilience by achieving better quality food and providing innovative services, therefore to this end *Coldiretti* implemented a series of initiatives on social farming to provide services for citizens and less empowered people.

In addition to that, in terms of urban policies, Turin has also always been a city rooted in the care of urban greenery, and the dissemination and development of UA has been officially recognized by the municipal administration as an additional tool to promote its environmental

²⁸⁰ Source: <http://www.comune.torino.it/urbanbarriera/news/slow-food.shtml#.YOGQmEzOPIU> - visited on 2nd April 2021.

²⁸¹ Source: <https://ormetorinesi.net/> - visited on 2nd April 2021.

²⁸² Source: <https://www.campagnamica.it/la-nostra-rete/fattorie/cavoli-nostri/> - visited on 5th April 2021.

and social sustainability. Thus, a peculiar aspect of the Turin case study is that the theme relating to Urban Agriculture is closely linked to the urban green sector. In this context, the city of Turin is particularly active, in fact in 2020 it officially adopted the Green Infrastructure Strategic Plan, previously cited. The Plan was drafted after a path that placed Turin among the most active Italian cities in the development of urban green spaces, following the adoption in 2018 of the National Urban Green Strategy. In this regard, the city of Turin had approved the signing of a Memorandum of Understanding between the Committee for the Development of Public Green, the City of Turin itself, the Metropolitan City and the Piedmont Region, with the aim of defining a development and enhancement strategy of green infrastructure, urban forest and related ecosystem services. In this regard, the European project ProGReg - Productive Green Infrastructure for post-industrial urban regeneration²⁸³ represented an opportunity to further stimulate the debate on the issue. The project started in 2018 and was funded by the European Commission for the Horizon 2020 program, to develop and test Nature Based Solutions (NBS) for the urban regeneration of post-industrial areas. In particular, in the case of Turin, the ProGReg Living Labs are organized and hosted in the *Mirafiori* district. In the whole city, seven types of NBS have been tested and put into practice as part of this project; among these, the community-based urban gardens are one of the NBS implemented in the context of *Orti Generali* already cited, where the use of Urban Agriculture practices has improved the quality and safety of the area and social aggregation, allowing also the increase in community productivity.

With regard to future prospects envisaged by the municipal administration on Urban Agriculture in Turin, the intent is to enhance and implement existing areas and experiences of Urban Food Gardening especially in the areas where these activities are consolidated and rooted in the local community, also redesigning them according to new management needs. In addition to intervening on the expansion of the existing municipal Allotment Gardens, for which the Green Infrastructure Strategic Plan provides for a total increase in surface area equal to 11.2 hectares, it is also intended to establish new urban horticulture activities on public properties, given in concession for agricultural use by part of third parties, or in the form of associative gardens, recognized by the administration as an opportunity for expanding UA in the city of Turin. In particular, the Green Infrastructure Strategic Plan identifies what are defined as "Free Public Areas", mostly located near zones of environmental and historical-landscape value, or along the ecological corridors of the main river axes. The municipality intends to exploit them at the service of the community through multi-functional agriculture, promoting sustainable horticultural activities whether they take place on public or private property, addressing ecological-environmental and socio-cultural benefits. The preservation of these "Free Public Areas", of a mostly peri-urban character, is understood by the city as an activity aimed at food production, provision of ecosystem services, as well as the overall improvement of urban quality and soil protection. For their administration, the municipality intends to entrust the management to collective bodies, such as associations, citizens' committees or cooperatives, which act as an intermediary between individual horticulturists and institutions, becoming responsible for an organic management project.

²⁸³ Source: <https://www.torinocitylab.it/it/progireg> - visited on 8th April 2021.

In light of that, it is also useful to cite that the city of Turin have signed in 2015 the Milan Urban Food Policy Pact, the international agreement addressed to making the food system of urban areas more equitable and sustainable. In fact, the city of Turin is also committed to the development of an Urban Food Policy and it is the first Italian municipality to have introduced in its Statute²⁸⁴ the official recognition of the “right to adequate food”, in its Article 2. In recent years, the public administration has undertaken a multilevel approach for a food governance policy of the city, with the involvement of various institutions and actors, initiating an inter-institutional collaboration process for the draft of a Turin Food Policy, based on a “right to food oriented” strategic thinking, as explicitly stated in the document published in 2017 in which the perspectives for a Turin Food Policy are illustrated (Bottiglieri et al., 2017). The process of defining a Food Policy began in 2016, as a legacy of the experiences gained from EXPO 2015 and the subsequent Milan Food Policy Act, in particular within the European project Food Smart Cities For Development²⁸⁵. On that occasion, the aforementioned publication edited by Bottiglieri et al. was produced, with the aim of collecting good practices developed in Turin for the definition of a new food governance and policy, rooted in the participatory processes experienced in Turin in recent years. The city, in fact, is engaged and promotes numerous food initiatives, from educational ones to those relating to territorial planning or local trade, but it does not have a single integrated strategy, thus the Turin Food Policy must still be made explicit and formalized. With regard to the experiences of Urban and Peri-Urban Agriculture, the latter will certainly represent one of the dimensions through which a Food Policy at the municipal level can be developed. In fact, the municipality of Turin intends to expand these practices within its territory, also in order to promote greater awareness on food education among citizens, both in terms of healthy lifestyles and of food waste reduction, also guaranteeing greater access to locally produced food and supporting a food system with a more ethical and less environmental impact. In light of that, it should be mentioned the initiative conducted in collaboration with the Metropolitan City of Turin entitled *Nutrire Torino Metropolitana*²⁸⁶, which represents a process that has tried to collect and integrate the legacy of previous experiences, both local and supra-local, with direct and indirect impacts on the theme of food, aimed at building a shared, participatory and systemic food strategy. Its first objective was the co-design of a Metropolitan Food Agenda, intended as a document of principles and proposals for project guidelines. One of the first experiences implemented in this context, which led in 2019 at the signing of a first Memorandum of Understanding, was the realization of the project relating to the Atlas of Food²⁸⁷, aimed at collecting knowledge on the geography of food and food systems in Turin and in the whole Metropolitan City.

To conclude the overview about the policies in relation to the theme of Urban Agriculture adopted over the years by the city of Turin, a parenthesis on the theme of Agricultural Parks should be opened. On the occasion of the *Torino Città da Coltivare* project, an

²⁸⁴ Città di Torino. (2020). *Statuto della città di Torino*.

Source: http://www.comune.torino.it/amm_com/statuto/statuto.html - visited on 15th April 2021.

²⁸⁵ Source: <http://www.comune.torino.it/cooperazioneinternazionale/fscfd/> - visited on 15th April 2021.

²⁸⁶ Source: <http://www.cittametropolitana.torino.it/cms/agri-mont/politiche-alimentari/nutrire-to-metro> - visited on 15th April 2021.

²⁸⁷ Source: <https://atlantedelcibo.it/> - visited on 15th April 2021.

initiative was established by trying to implement the provision of *Villaretto* Agricultural Park in the municipal General Regulatory Plan (Cinà and Di Iacovo, 2015). As early as the year 2007, there was debate on the development of an Agricultural Park aimed at the urban regeneration of the *Villaretto* township, north of Turin in *Circoscrizione 6*, which was never actually implemented. The theme of the Agricultural Park then re-emerged in 2014, when the construction site for the new Agricultural Park in *Laghetti di Falchera* started, located in the northern suburbs of Turin, always in *Circoscrizione 6*, after a long negotiation process started in 2006. The park project²⁸⁸, approved in 2013, provided for the environmental redevelopment of the *Falchera* lakes, with the construction of an Agricultural Park, with the intent to enhance the naturalistic properties of the area through rehabilitation, forestation works and the creation of equipped public parks, allocating a large part of this peri-urban area to agricultural use, also through the creation of regulated Family and Community Gardens, and the use of agricultural land for educational and naturalistic purposes. Another area of the Turin urban context envisaged for the implementation of an Agricultural Park was the peri-urban area located to the south, along the *Sangone* River. The proposal of the *Sangone* Agricultural Park²⁸⁹ took shape in parallel with the *MiraOrti* project, the result of a research experience launched in 2010 through a participatory planning process of the territory along the *Sangone* Stream, focused on environmental sustainability, on civic agriculture and agricultural production with active citizens involvement. In this context, the idea of the *Sangone* Agricultural Park was conceived to address distinct situations, characterized by multiple uses, different agricultural practices and different subjects, to create a new synergy between the city and the countryside.

6.2.1 The influence of the Metropolitan City of Turin on Urban and Peri-Urban Agriculture policies

The context

The metropolitan area of Turin has suffered, in recent decades, pressures due to settlement models that have promoted a strong dynamic of land consumption and marginalization of agricultural activities, parallel to demographic growth and increasing of infrastructures in the first and second belt. As a consequence, the settlement dispersion has led to an increase in artificial areas which have been accompanied by a significant decrease in forest and cultivated land. As pointed out in a research carried out by Ostellino (2004), in the early 2000s the landscape of the peri-urban green spaces in the metropolitan area of Turin, in particular that of the belts immediately adjacent to the city, presented a rather low level of environmental quality. The peri-urban landscape of the agricultural plain presented several environmental problems, the main cause of which was due to how the city sprawled outwards. The infrastructural network and settlement dispersion produced a high degree of disintegration of the agricultural fabric, with negative consequences on the heritage of its naturalness, history and aesthetic value. The abandonment of rural areas and the most recent changes in land use

²⁸⁸ Source: <http://www.comune.torino.it/verdepubblico/2014/altrenews14/parco-agricolo-laghetti-falchera-il-comune-acquisi.shtml> - visited on 8th April 2021.

²⁸⁹ Source: <https://miraorti.wordpress.com/2011/10/13/mappa-parco-agricolo-del-sangone/> - visited on 8th April 2021.

are therefore to be attributed to the settlement dispersion that characterized the metropolitan territory, which led to the transformation of various areas for productive use into residential, to which the development of infrastructures was added. This phenomenon has gradually triggered a loss of traditional and identity elements, as well as a consequent cultural variation of the agricultural territory and abandonment of rural areas, which can also be traced back to other phenomena closely related to professional aspects of agricultural activities.

In this regard, the current state of agricultural activities conducted in the metropolitan area of Turin has been deepened within a research project promoted by *IREs Piemonte* about UA innovating Turin metropolitan area and conducted by Gottero (2016). The output of the research demonstrates that currently professional agricultural activity in the metropolitan territory of Turin has only partially adopted a business model specifically oriented to the urban market, in fact only 12% of the surveyed companies fall into this case. Therefore, the majority of agricultural activities is classifiable as non-urban oriented farms, which maintain business as usual, with their production addressed to national or international market. Nevertheless, as for agriculture practiced in more urban contexts, and not oriented to the market, there are countless and diversified experiences of Urban Food Gardening scattered throughout the metropolitan area. The results of a research project conducted on the Turin Metropolitan Area and reported by Gottero and Cassatella (2019) demonstrate that this territory is an evolving reality when it comes to urban horticulture. The survey carried showed the presence of 3,809 urban gardens , for a total area of 485 ha, of which 70% are private horticultural areas attached to single residential buildings. However, it remains a residual number if compared to the amount of inhabitants and the growing citizens' demand for new urban spaces to be cultivated for various purposes, from food to social and recreational ones.

Policies, strategies and initiatives

Following the decline of the manufacturing sector, the city of Turin has undertaken a gradual change of identity, from a factory town to a city more oriented towards tertiary services and tourism. As a consequence, also the metropolitan area has oriented its policies towards a general regeneration process focused on the potential of environmental and naturalistic resources as an opportunity for new development. In this regard, the Metropolitan City of Turin, and the province previously, have shown an interest in issues related to agriculture, proving the centrality of the issue in relation to various strategic metropolitan priorities. In fact, since the 2000s there has been a proliferation of plans, sectoral programs and planning initiatives among the governance tools of the Turin metropolitan area.

One of the initiatives that most characterized the Turin metropolitan area was the *Corona Verde*²⁹⁰ project, launched in 1997 which involved the city of Turin and other 92 municipalities of the surrounding belts, based on an integrated strategy for the enhancement of the great historical and cultural resource of the Savoy residences located around the city of Turin, together with a valuable natural heritage made up of parks, Protected Natural Areas and

²⁹⁰ Source: <https://www.coronaverde.it/wp/> - visited on 10th April 2021.

large territories with more purely rural characteristics and used for agricultural purposes. In this regard, agricultural activity is very present within *Corona Verde*, in fact the productive agricultural land for about 40% of the total area. In light of that, since its initial setting, *Corona Verde* project has taken into great consideration the agricultural activity present in the area. Within the Memorandum of Understanding signed by various public and private actors involved in the project in 2010, it can be read that the project aims to defend the territory of agriculture by safeguarding its land use capacity and peri-urban farms. A specific strategic line is in fact dedicated to the redevelopment of peri-urban agriculture, placing emphasis on sustainable production; on the plurality of companies; and on the opportunities to provide concerted management practices between operators and public bodies (Adamo et al., 2014). Therefore, as part of the *Corona Verde* project, Turin's metropolitan agriculture represented an opportunity to invest in. This is the case of the *Stupinigi Fertile*²⁹¹ project, carried out between 2013 and 2015. The project aimed to enhance the rural and agricultural heritage of the territorial system of *Stupinigi*, one of the Savoy residences surrounded by a Natural Park, through the networking of agricultural activities established in the historic farms, also starting social agriculture paths. Within the *Stupinigi* Park, the most suitable land for wheat cultivation was identified, giving rise to the *Stupinigi Wheat Supply Chain*, the first short flour chain in Piedmont.

The Metropolitan City of Turin is now particularly active also in initiatives that contribute to the enhancement of the environmental, social and economic role of urban green. The issue of developing green infrastructures has proved to be of particular interest for the city of Turin and the Metropolitan Body, and it is evidenced by their wide endowment of ecosystem services and green areas. The latter has been promoted through time since the *Corona Verde* project, supported by the parallel *Torino Città D'Acque*²⁹² project, which instead worked on the environmental and territorial redevelopment of the city's river banks closely integrated with the green system. In this context, all urban green areas acquire new relevance in urban policies, thus initiatives taken in this direction by the Metropolitan City of Turin may prove to be a further opportunity in the promotion of Urban and Peri-Urban Agriculture activities. In this regard, the Metropolitan City of Turin signed in 2017 the Bologna Charter for the Environment²⁹³ which sets objectives for the reduction of land consumption; the enhancement of ecosystem services; and the increase of urban greenery as elements for adaptation and mitigation of climate change, which represents all issues in which the promotion of UA and Urban Food Gardening could represent potential strategies to be implemented.

²⁹¹ Source: <https://www.stefanoolivari.it/STUPINIGI-FERTILE> - visited on 10th April 2021.

²⁹² Source:

http://www.provincia.torino.gov.it/ambiente/file-storage/download/ris_idriche/pdf/seminario_zone_perifluviali/Miglietta_12_03_2010.pdf - visited on 10th April 2021.

²⁹³ On the occasion of the G7 Environment Ministers' Meeting held in Bologna, the Metropolitan Cities take active role in environmental protection and promotion of sustainable development signing the Bologna Charter for the Environment, the first protocol of this kind at national level, with which metropolitan cities undertake concrete commitments in eight sectors for the protection of ecosystems. Source: https://www.cittametropolitana.bo.it/storia/Foto_e_video/001/Mostra_fotografica_Provincia_ieri_e_oggi/001/Carta_di_Bologna_per_l_Ambiente - visited on 10th July 2021.

In addition to the policy realm related to urban greenery and green infrastructures, the theme of Urban Agriculture has also been integrated by the Metropolitan City of Turin in redevelopment strategies addressed in peripheral degraded urban contexts. In this regard, the *Top Metro Fa Bene*²⁹⁴ project, launched in 2016 and still being implemented, aimed at experimenting innovative interventions related to food, capable of improving the quality of life of local communities and supporting local economies. In this context, a series of redevelopment strategies of peripheral degraded urban context have been undertaken, having as their pivotal elements local markets and the food supply chains. Among the proposed projects, the promotion of Urban Agriculture as a tool to enhance the urban environment appears to be a key component. The use of UA also becomes a prerequisite for activating social initiatives to stimulate the civic participation of the younger population groups, and activate empowerment processes aimed at job inclusion, and therefore meet the economic needs of the area.

The proliferation of initiatives launched with the aim of improving and strengthening the agricultural landscape in urban and peri-urban areas, proves the centrality of these aspects in the metropolitan panorama and the increased sensitivity of local operators and consumers. In general, with regard to the theme of peri-urban areas, the Metropolitan City is active in many entrepreneurial activities related above all to food, as pointed out in the paper by Dansero et al. (2014). The Metropolitan City of Turin is also part of a rather structured process of Urban Food Planning, in fact there is a wide range of initiatives related to the theme of food and nutrition. An example is the Rururbal²⁹⁵ project, launched by the former Province in 2009 and ended in 2011, aimed at developing successful strategies and models for the preservation and enhancement of peri-urban rural areas focusing on the themes of agri-food and commercial enhancement of the short supply chain, with particular attention also to territorial and urban planning aspects of these areas. With this project, the previous Province, today Metropolitan City of Turin, committed in initiatives related to the enhancement of typical products, local markets, favouring alternative supply chains, especially Ethical Purchasing Groups and Farmer's Market. A series of initiatives have also been promoted to create governance networks around the theme of urban food policies, such as the *Torino Capitale del Cibo* board, organized by the *Torino Strategica* association as part of the work for the development of the third Strategic Plan entitled *Torino Metropoli 2025*²⁹⁶, for the definition of visions and projects for the future of the Turin metropolitan area. The third Strategic Plan pursues the networking and promotion of the multiple dimensions of food, to make it a real vocation for the development of the Metropolitan City.

²⁹⁴ Source: <https://www.topmetrofabene.it> - visited on 10th July 2021.

²⁹⁵ Source: http://www.provincia.torino.gov.it/europa/europa/progetti_europa/prog_territorio/territorio3.html - visited on 10th April 2021.

²⁹⁶ Torino Internazionale. (2015). *Torino Metropoli 2025. Il terzo Piano Strategico dell'area metropolitana di Torino*. Source: http://www.torinostrategica.it/wp-content/uploads/2015/04/Torino_Metropoli_2025_web2.pdf - visited on 18th April 2021.

Planning Instruments at Metropolitan City level

With regard to the planning instruments currently in force in the Metropolitan City of Turin, the Provincial Territorial Coordination Plan²⁹⁷ (*PTCP*), adopted in 2011 and entitled *PTC2*, in one of the tools currently in force. This document calls for the promotion of peri-urban areas, through actions for the preservation and development of agriculture, not only devoted to food production, but also as a mean for the overall improvement of the urban quality and soil conservation. The *PTC2*, explicitly provides for environmental protection and management guidelines for the peri-urban areas. In particular, it systematically identifies the peri-urban agricultural areas adjacent to the built city of poor ecological and agricultural quality, as well as exposed to a strong presence of pressure factors, which become subject of protection strategies also in view of the creation of a provincial ecological network. In detail, the plan also explicitly identifies Urban Food Gardens as one of the possible forms of Urban Agriculture, giving them a new significance with the urban green management measures included in the plan, in particular within the strategy aimed at improving the quality of life in the urban and peri-urban contexts. The plan officially recognizes that the peri-urban rural space plays a substantial role in the improvement of the quality of spaces and life in urban environments, as it reserves semi-natural elements in a densely built context. Therefore, in this sense, the *PTC2* intends to limit the possibility of transforming peri-urban agricultural soils, since it represents a rare resource of naturalistic and landscape value, avoiding sprawl phenomena and in this sense defining criteria for the recomposition of the rural landscape and ecological networks. In detail, the plan also proposes to encourage the revival of agricultural areas within the municipal urban planning tools, and alternative forms of Urban Agriculture aimed at meeting food, social and cultural needs of the urban population.

If we analyse the strategic planning tools adopted with the transition from the former Province to the Metropolitan City of Turin, the three-year Metropolitan Strategic Plan²⁹⁸ (*PSM*) for the period 2018-2020 identified a development vision for the whole territory of the Metropolitan City in the medium-long term, declined in a series of design platforms, strategies, actions and projects. Among the actions, this document also officially recognized the need to adopt a metropolitan Food Policy, with the strategic action *Nutrire Torino Metropolitana*²⁹⁹, referring to the various debates initiated on food policies by the Metropolitan City together with the Municipality of Turin, also previously discussed in the section relating to the process of drafting the Turin Food Policy.

To conclude, the Metropolitan City of Turin is currently involved in the drafting of the new three-year Metropolitan Strategic Plan for the period 2021-2023, entitled *Torino Metropoli*

²⁹⁷ Provincia di Torino. (2011). *Piano Territoriale di Coordinamento Provinciale. PTC2*. Source: http://www.cittametropolitana.torino.it/cms/risorse/territorio/dwd/pianificazione-territoriale/ptc2/PTC2_Rel_ill_dcr121_2011.pdf - visited on 18th April 2021.

²⁹⁸ Città Metropolitana di Torino. (2018). *Piano Strategico Metropolitano 2018-2020*. Source: http://www.cittametropolitana.torino.it/cms/risorse/sviluppo-economico/dwd/psm/PSMTo_doc_triennale_2018_20.pdf - visited on 18th April 2021.

²⁹⁹ Source: <http://www.cittametropolitana.torino.it/cms/agri-mont/politiche-alimentari/nutrire-to-metro> - visited on 15th April 2021.

*Aumentata*³⁰⁰, which is divided into 6 axes that follow the 6 programmatic points envisaged by the Nex Generation Europe program, which may prove to be a further opportunity to promote UA practices as a metropolitan strategy, declined both in terms of food policies and in terms of environmental policies related to green infrastructure.

6.2.2 Regulations on Urban Food Gardening

As far as it concerns Urban Food Gardening regulation, vegetable gardens in Turin are subject to the regulation provided by the Municipality and to any regulation provided by each decentralised administrative district, which can further specify the methods of management and allocation of the gardens in the respective areas of territorial competence. However, these regulations only apply to horticultural areas on public land, classified as municipal Allotment Gardens or *Orti Circoscrizionali*. The new municipal regulation n. 363³⁰¹ on the assignment and management of urban gardens was adopted in 2013. It introduces, compared to the previous one of 1986 became obsolete, the possibility for citizens to use urban gardens in a diversified way, providing for a differentiation between Community and Family Gardens. In particular, the regulation makes explicit that the City of Turin, through a public tender managed by each decentralized administrative district, which are the *Circoscrizioni*, assigns to residents, both individually and as a group, part of municipal land to be used as a vegetable gardens, in sizes ranging between 50 and 100 square metres. The main purposes of the administration in the promotion of Urban Agriculture are to enhance urban spaces by subtracting them from degradation and marginality, allocating them to agricultural production to combat land consumption, protect the environment and improve urban quality. Social and participatory purposes are also pursued by promoting social cohesion. The new regulation also provides for the possibility of using public areas intended for horticulture by associations and cooperatives, without changing their functions for public use based on the land use designations provided for by the urban planning instruments in force. The Regulation also explicitly prohibits that the production derived from horticultural activity may give rise to commercial or for-profit activities. Finally, a maximum range for the application of an annual rent is also established, which is then further defined by each *Circoscrizione* in its local regulation; the rent of municipal Allotment Gardens is differentiated for what are defined Social Gardens, rented between 0.50 and 1 Euro per square meter; and for the so-called Proximity Gardens, with annual rent between 2 and 4 Euros per square meter. The second ones are aimed at citizens who will therefore contribute with higher concession fees than those provided for Social Gardens. In fact, the latter are intended for weaker groups of the population, with greater seniority and with a minimum income set by the municipal regulations.

Among the regulatory tools in force in the city of Turin which could impact the promotion and management of Urban Food Gardens, the “Regulation on collaboration between

³⁰⁰ Source: <http://www.cittametropolitana.torino.it/cms/sviluppo-economico/piano-strategico/> - visited on 18th April 2021.

³⁰¹ Città di Torino | Servizio Centrale Consiglio Comunale. (2013). *Regolamento per l'assegnazione e la gestione degli orti urbani*. N. 363.

Source: <http://www.comune.torino.it/regolamenti/363/363.htm> - visited on 5th April 2021.

citizens and administration for the care, shared management and regeneration of urban commons”³⁰² was adopted by the city in 2016. The collaboration between citizens and the public administration in relation to the urban commons is based on the principles of publicity and transparency, responsibility and mutual trust. The Pact on Mutual Cooperation is the instrument through which the Municipality and active citizens agree on everything that is necessary for the purpose of carrying out interventions of care, shared management and regeneration of common goods. It can foresee different levels of intensity and complexity of the planned actions and interventions that can range from simple occasional care to permanent regeneration. The green areas of the city of Turin are identified as common goods, which therefore allows for the initiation of agreements with active citizens and associations for their shared care and management, in order to improve their collective use, through redevelopment, maintenance, supervision and public use, as well as Urban Food Gardening activities. Therefore, the city’s regulation on urban commons represents a potentially useful tool to support further development of UA Practices, since they can be carried out in public green areas, which can be established, organized and managed collectively as commons, rising a democratic use of public spaces. Co-City³⁰³ is the innovative project to promote the shared management of common goods implemented by the City of Turin thanks to the European Urban Innovative Actions (UIA) program, launched in 2017. The project has led to the signing of numerous Pacts on Mutual Cooperation between the administration and citizens for the redevelopment and care of public green areas in degraded or partially used conditions, promoting active citizenship and combating poverty and degradation in the most fragile areas of the city. In detail, in the context of the regeneration of these green areas, particular attention was also paid to related equipment and facilities for socializing, also intended for Urban Agriculture. In 2020, the municipality of Turin approved a new regulation³⁰⁴ for the governance of urban commons, just four years after the previous one, confirming the active interest and involvement of the public administration with regard to the shared administration of urban spaces. Several innovations have been introduced, mainly aimed at streamlining and simplifying some procedural aspects. Moreover, the new regulation gives great importance to training activities, for the dissemination of the culture of common goods, conceived as a learning process aimed at the involved communities of citizens but also at the city administrators themselves. In detail, a Standing Committee of urban commons is introduced, in charge of managing and promoting public discussion to develop proposals on the social and collective use of public assets. Finally, new legal transactions among citizens and public administration are introduced alongside the Pact on Mutual Cooperation, to match alternative forms of self-government and shared governance of public spaces.

³⁰² Città di Torino | Servizio Centrale Consiglio Comunale. (2016). *Regolamento sulla collaborazione tra cittadini e amministrazione per la cura, la gestione condivisa e la rigenerazione dei beni comuni urbani*. N. 375. Source: http://www.comune.torino.it/benicomuni/bm~doc/regolamento-beni-comuniurbani-n_375.pdf - visited on 5th April 2021.

³⁰³ Source: <http://www.comune.torino.it/benicomuni/co-city/index.shtml> - visited on 5th April 2021.

³⁰⁴ Città di Torino | Servizio Centrale Consiglio Comunale. (2020). *Regolamento per il governo dei beni comuni urbani nella Città di Torino*. N. 391. Source: http://www.comune.torino.it/benicomuni/bm~doc/governo-dei-bcu_391.pdf - visited on 10th April 2021.

Finally, among the municipal regulations that explicitly refer to urban gardens, the “Regulations for public and private green areas of the city of Turin”³⁰⁵, approved in 2006, must also be considered, since among the types of urban green areas, recognized for the application of the regulation, urban gardens are also officially included, as specified at the Article 3. The regulation has as its general objective the protection and promotion of greenery as a qualifying element of the urban context; as a qualifying factor of the quality of life; and as an attractor of economic and tourist initiatives, to be developed with eco-compatible criteria. However, it does not specify any indications for urban gardens, limiting itself to referring to the municipal regulations for the assignment and management of horticultural areas, underlining also that it is the task of the individual *Circoscrizioni* to deal with the entrusting of such horticultural areas under management to individuals.

To conclude, it is worth to point out that in 2021 the Guidelines for the first Urban Gardens Operational Plan³⁰⁶ were also approved by the city council. The programming of the interventions will last two years and will be carried out in concert with the districts, involving the main public green areas in which the main municipal Allotment Gardens are located: *Meisino*, *Arrivore* and *Sangone* parks, together with *Laghetti di Falchera* park and other few areas. The Plan is aimed at protecting public health and guaranteeing the continuity of urban horticulture activities. Therefore, it is expected that the planning and programming activity will also be extended to the category of *Orti Associativi*, with the involvement of the different actors managing them.

6.2.3 Urban Planning tools in force

The General Regulatory Plan³⁰⁷ (*PRG*) is the planning tool in force at the municipal level for the city of Turin, adopted in 1995. This instrument complies with the provisions of the Regional Law 56/1977 on Urban Planning, to which a series of amendments and integrations have followed over the years. Despite the legislative adjustments that have taken place over time, the municipal General Regulatory Plan remains the central instrument as a unitary reference for every building and urban transformation project in the city. This planning tool can be defined as a first generation instrument because, unlike what has happened in other Italian regions that have adopted second generation urban planning laws, it is not declined into two different instrument, one of a structural and strategic nature and one more of an operational nature. Although the amendments to the Regional Law 56/1977 have provided for the possibility of declining the *PRG* in this way, but in practice there is no evidence of this innovation. Therefore, the *PRG* of the city of Turin is the instrument through which the structural interpretation of the territory is defined, determining for each part of the municipal

³⁰⁵ Città di Torino | Servizio Centrale Consiglio Comunale. (2006). *Regolamento del verde pubblico e privato della città di Torino*. N. 317. Source: <http://www.comune.torino.it/regolamenti/317/317.htm#art03> - visited on 10th April 2021.

³⁰⁶ Source: http://www.comune.torino.it/ucstampa/comunicati/article_69.shtml - visited on 19th April 2021.

³⁰⁷ Comune di Torino. Assessorato all’Assetto Urbano. (1995). *Piano Regolatore Generale di Torino*. Source: <http://geoportale.comune.torino.it/web/governo-del-territorio/piano-regolatore-generale> - visited on 18th May 2021.

territory the discipline of protection and use of the land, defining the destinations of permitted land-use, as well as the determination of the areas to be allocated to the construction of public facilities recognized as urban standards.

It is divided into a series of documents that include the Explanatory Report, which presents the objectives and criteria underlying the development of the plan, and a series of Technical Annexes, including the preliminary investigations and analyses for the preparation of the plan. The setting of the Turin *PRG* is based on the provision of a functional zoning, which is determined through the plan graphical tables dedicated to the zoning of the territory. These tables define the “Regulatory Zones” and the “Regulatory Areas” according to the intended land-use designations, as well as the areas for the construction of public facilities and infrastructures of general interest, or for the preservation of buildings of historic value. The “Regulatory Zones” are classified according to the morphological characteristics of the urban fabric and the time of the urban structure; therefore they intend to regulate the parameters of urban and building transformation allowed according to those two aspects of the urban fabric. The “Regulatory Areas”, on the other hand, are defined on the basis of the intended land-use allowed. The *PRG* is supported by the Technical Implementation Rules (*NTA*), containing the general and particular definitions and requirements relating to the intended land-use classes and designations, the types of urban intervention envisaged, and the ways of implementing and managing the general plan.

Regarding the interaction between the Urban Planning tool and Urban Agriculture practices in the city of Turin, explicit reference is never made within the plan's documents to UA practices, although it should be mentioned that Article 21 of the Technical Implementation Rules, dedicated to “Urban and River Parks”, mentions the possibility of resorting to the formation of Agricultural Parks, oriented to multi-functional agriculture practices also on public land through the possibility of stipulating an agreement between private individuals and the Municipality of Turin.

Since it is an outdated instrument, the *PRG* of the Municipality of Turin, given its rigidity as a binding instrument of property rights, has been subject to numerous variations to land-use regulations and town planning. Starting from 2016, the municipality has been engaged in the general revision of the current *PRG*, since after more than twenty years the reference framework of the plan has completely changed, both in terms of economic, social and regulatory conditions, and for the new vision of sustainable development of the territory that the municipal administration intends to adopt. Therefore, the municipality has activated a collaborative and participatory process for the revision of the planning tool in force. In 2020, a Resolution of the City Council approved the Technical Proposal of the Preliminary Project³⁰⁸ (*PTPP*) for the revision of the *PRG*. In particular, among the 7 topics identified on the web-site³⁰⁹

³⁰⁸ Città di Torino. Divisione Urbanistica e Territorio. (2020). *Proposta Tecnica del Progetto Preliminare. Relazione Illustrativa Generale*.

Source: <http://www-portale-coto.territorio.csi.it/web/relazione-illustrativa-generale-e-scheda-quantitativa-dei-dati-urbani> - visited on 25th May 2021.

³⁰⁹ Source: <https://www.torinosiprogetta.it/> - visited on 25th May 2021.

dedicated to information for the citizens interested in the revision process of the current PRG, it would seem that in the context of the topic "Environment as a Resource" the importance of developing new possibilities for UA in the Turin context emerges. Explicit reference is made to agricultural uses as well as urban gardens, in relation to the theme of public green areas at neighbourhood and inter-municipal level, as well as the requalification of river banks. Moreover, the heritage of land for "semi-agricultural" use is recognized as a topic on which the city of Turin intends to focus, in particular in terms of Urban Food Gardening.

It is worth to highlight that the *PTPP*, as part of the new updated Technical Implementation Rules, identifies the "Ecological Agricultural Areas" (*ZAE*) as a new regulatory zone to be introduced in the zoning designation of the city, defined by Article 6 of the cited Rules. The new municipal planning tool would classify as *ZAE* all the cultivated or wooded areas with limited rural construction, to protect and enhance their naturalistic characteristics, also including the areas used for the exercise of agricultural activities integrated with the urban park system. This new land-use designation is introduced with the intention of allowing the agricultural potential of the land to be developed to the maximum, favouring the activity of farmers of those cultivated areas that today are fragmented and physically deconstructed by urban pressure. The objective of these areas will be the re-naturalization and agroforestry of agricultural areas, the pursuit of ecological agricultural practices and the protection of characterizing landscape elements. Nevertheless, the Technical Implementation Rules annexed to the *PTPP* still remain a rigid binding tool, defining rules regarding the building capacity and urban parameters for interventions, strictly related to building aspects within these areas. In fact, no specific strategies or policies are defined for agricultural activity. Moreover, these areas are not strictly intended as Urban Agriculture. However, the intention is to pursue a limitation of soil consumption, in fact the "Ecological Agricultural Areas" are classified as areas with zero land consumption or areas with mandatory soil compensation, where it is possible to carry out interventions only after equivalent environmental compensation, allocating other portions of the territory for ecological, environmental and landscape purposes.

Furthermore, another interesting innovation introduced by the *PTPP* is that it also provides for the possibility of activating Temporary Use projects, on regulatory areas and zones in which the restrictive functional zoning currently makes it difficult to intervene with changes of intended land-use, compared to those prefigured, if not with recourse to quite long procedures for variations. Although the possibility of Temporary Use solutions is intended within buildings, it would be interesting if this designation also translates to free urban areas, which would open up the possibility of implementing Urban Agriculture projects, regardless of the intended use provided by the functional zoning.

To conclude, although the urban planning tool currently in force in the city of Turin is still rooted in a rigid setting of functional zoning that does not officially envisage Urban Agriculture as an intended use of the land, with the adoption of the Green Infrastructure Strategic Plan in 2020, the municipal administration has shown a particular interest in the intention of developing and promoting Urban Food Gardening in the context of interventions on free public areas, as a way to implement and integrate the green infrastructure system of the

territory. Furthermore, it is evident how the new trends in Urban Agriculture in the city of Turin are also impacting on an adaptation of urban planning tools, as will be evidenced also from the discussion about the *Orto Alto Ozanam* case study in the next section. In this regard, a study conducted by De Filippi and Saporito (2017) highlighted how the *Orto Alto Ozanam*, being a rooftop garden, led the Municipality of Turin to modify its Building Regulation at the Article 39, in order to make it easier to create green roofs, and therefore rooftop gardens, discounting the costs to private individuals who intend to transform an inaccessible solar flat roof into green roof, whether it is productive or not.

6.3 Case studies of Urban Food Gardening in Turin

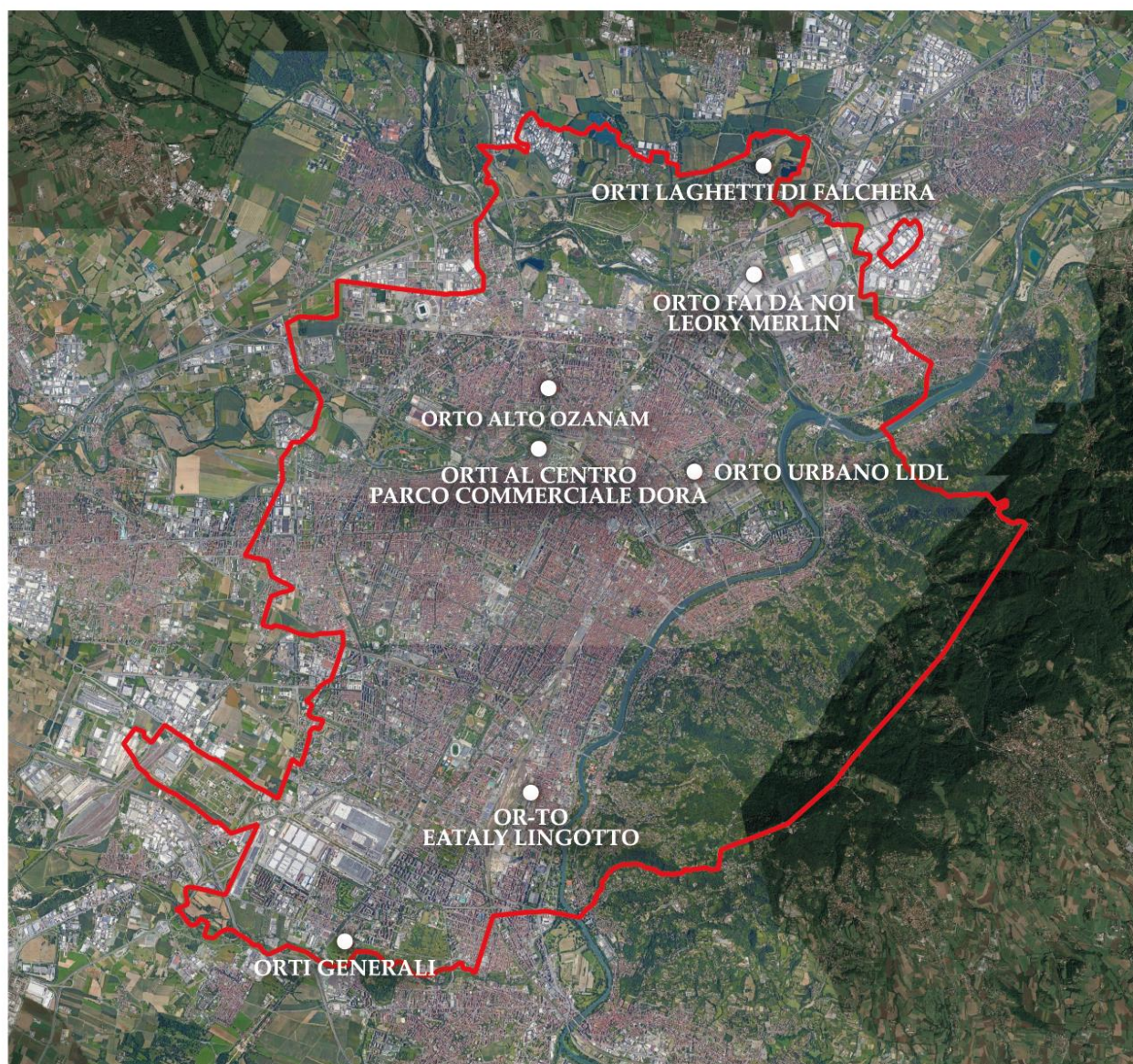


Figure 27 - Case studies of Urban Food Gardening selected in Turin. *Personal Elaboration.*

6.3.1 Orti Laghetti di Falchera



Agricultural Area.

Figure 28 - Aerial view of Orti Laghetti di Falchera. *Personal Elaboration.*

Source: Google Satellite. <https://mt1.google.com/vt/lyrs=s&x={x}&y={y}&z={z}> - visited on 20th August 2021.

Typology:	Allotment Gardens.
Land property:	Public.
Location:	Peri-Urban.
Timeframe:	Since 2018.
Dimension:	About 13,000 m ² .
Stakeholders:	Comune di Torino, Circoscrizione 6, Associazione Comitato per lo sviluppo della Falchera, ASL TO2.
Main Source:	http://www.comune.torino.it/verdepubblico/2018/parchigiardini18/inaugurazione-orti-urbani-parco-laghetti-falchera.shtml - visited on 28 th March 2021.

Table 21 - Information summary about Orti Laghetti di Falchera. *Personal elaboration.*

The context

The Orti Laghetti di Falchera are an example of Orti Circoscrizionali located in the Laghetti di Falchera Agricultural Park, in the northern outskirts of Turin, within the territory of Circoscrizione 6, and represent the most recent municipal Allotment Gardens created by the city of Turin. Initially it was a large settlement of spontaneous Squatter Gardens that developed from the 70s near the residential area, on the edge of some privately owned quarry lakes, surrounded by agricultural areas on the border of the municipality of Turin. After long negotiations due to the complexity of property situation, in 2014, thanks to a national plan for

suburbs redevelopment which procured the necessary funds to start the project for the *Falchera* urban gardens, the redesign phase of the area began³¹⁰. The *Laghetti di Falchera* project involved the recovery and environmental redevelopment of an area degraded by mining activities in the northern outskirts of Turin, which extends over more than 45 hectares; four types of intervention had been planned: the construction of a park on the banks around the lakes, an equipped urban park, an extensive park and an agricultural park, with educational paths, urban gardens and equipped areas³¹¹.

The vegetable gardens are managed by the decentralized administrative district of *Circoscrizione 6*, therefore they are an example of typical Allotment Gardens in the city of Turin. The plots are 136 of about 100 square meters each, and are divided, according to what has been established by the municipality in its regulation, into Proximity Gardens and Social Gardens, whose difference is defined only in terms of annual rent. In fact, the Social Gardens provide for a share of 0.50 euros per square meter per year, while the others require the sum of 2 euros per square meter per year. Therefore, the economic sustainability of the horticultural area is based on the annual allocation fee by each gardener. Since these are municipal Allotment Gardens, the land is owned by the municipality and can be assigned to both citizens and associations. In 2018, the public call for assignments on annual rent of public land was opened³¹². It specifies, among the assignment criteria which are based on income level and age, to give priority for the assignment to older citizens and with greater proximity to the vegetable gardens in terms of residence or place of work.

Finally, in terms of spatial management tools, these gardens are subject to the municipal regulations for the assignment and management of urban gardens. In addition, the *Circoscrizione 6* has also drawn up its own regulation³¹³ for the management of urban gardens through which it is established that the social gardens, granted at lower and controlled concession fees, will account for 80% of the plots. Furthermore, unlike the municipal regulation, the regulation of the district provides, in addition to the two types of vegetable garden identified, also gardens for educational, therapeutic, pedagogical and cultural purposes, underlining the need for specific calls for this type of Urban Food Gardening activities. The district emphasizes the need for specific calls for this typologies of gardens, which must include the presentation of a project by the proposing body which will be appropriately evaluated during the assignment. To conclude, the area is also interested in an expansion perspective with the creation of an UrbanAcquaFarm³¹⁴, funded by the AxTO project *Azioni per le Periferie*

³¹⁰ Source: <http://www.comune.torino.it/verdepubblico/2014/altrenews14/parco-agricolo-laghetti-falchera-il-comune-acquisi.shtml> - visited on 28th March 2021.

³¹¹ Source: <https://atlas.landscapefor.eu/category/luoghi-urbani/poi/6895-quartiere-la-falchera/5787-riqualificazione-dei-laghetti/> - visited on 28th March 2021.

³¹² Source: <http://www.comune.torino.it/verdepubblico/2018/parchigiardini18/inaugurazione-orti-urbani-parco-laghetti-falchera.shtml> - visited on 28th March 2021.

³¹³ Città di Torino | Circoscrizione 6. Regolamento per la gestione degli orti urbani siti in strada dell'Arrivore e in zona "Laghetti Falchera". Source: <http://www.comune.torino.it/circ6/cm/pages/ServeBLOB.php/L/IT/IDPagina/14> - visited on 30th March 2021.

³¹⁴ Source: <https://www.torinocitylab.it/it/urbanaquafarm> - visited on 28th March 2021.

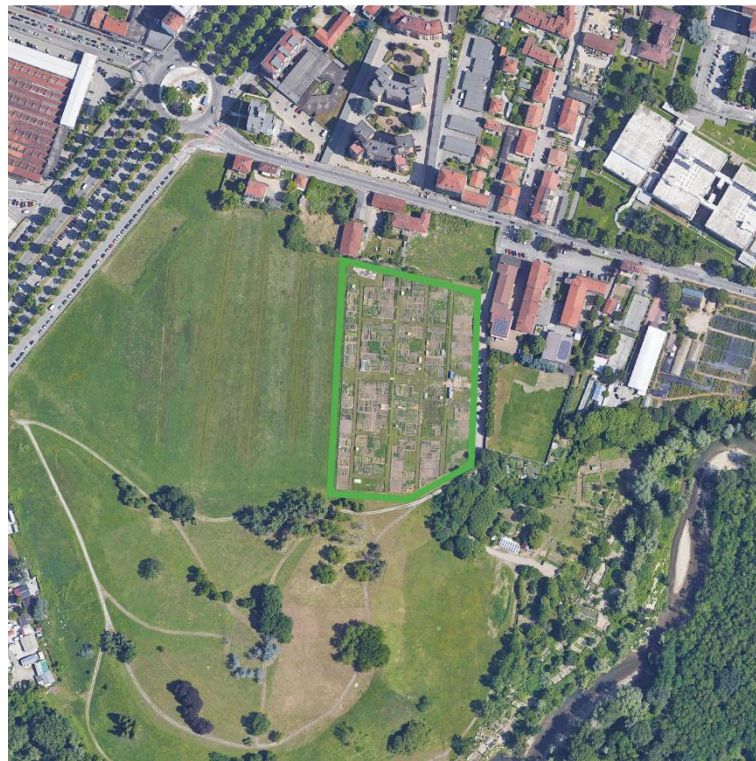
*Torinesi*³¹⁵, which will be an experimental project for developing and testing innovative systems for horticulture.

Land Use Designation

The Allotment Gardens in *Laghetti di Falchera* are classified by the functional zoning envisaged by the *PRG* of Turin as an area intended for public green; recognized as a *Zona Territoriale Omogenea F - zona per impianti e attrezzature collettive*, which means area for collective public facilities, as defined by Ministerial Decree 1444/68 on urban standards. In fact, this is an area intended for an Urban and River Park, falling into the category of public facilities as services and equipment of general interest.

³¹⁵ Source: <http://www.comune.torino.it/rigenerazioneurbana/> - visited on 28th March 2021.

6.3.2 Orti Generali



Urban Green Area.

Figure 29 - Aerial view of Orti Generali. *Personal Elaboration.*

Source: Google Satellite. <https://mt1.google.com/vt/lyrs=s&x={x}&y={y}&z={z}> - visited on 20th August 2021.

Typology:	Community Gardens, Therapeutic Gardens.
Land property:	Public.
Location:	Peri-Urban.
Timeframe:	Since 2019.
Dimension:	About 17,000 m ² .
Stakeholders:	Comune di Torino, Circoscizione 2, Associazione Orti Generali APS, Comunità di Mirafiori ONLUS, Cooperativa Pathanka , ASL Città di Torino, Pro Natura Torino, Locanda nel Parco, Associazione Parco del Nobile.
Main Source:	https://www.ortigenerali.it/ - visited on 28 th March 2021.

Table 22 - Information summary about Orti Generali. *Personal elaboration.*

The context

The *Orti Generali* horticultural area is located in a previously abandoned river park area called *Parco Piemonte*, on the banks of the *Sangone Stream*, in the southern part of the city of Turin, in *Mirafiori Sud* district, part of *Circoscizione 2*. The area where the gardens have been implemented was abandoned for long time, but it has been always characterized by agricultural activities which has now become an official Community urban garden open to citizens ,thanks to a concession of land from the City of Turin. *Orti Generali* was created with the aim of building a social enterprise model for the transformation and management of residual agricultural areas

in the city, and it has been the result of a four-year process of participatory planning that involved schools, associations, gardeners and inhabitants of *Mirafiori Sud* neighbourhood³¹⁶. The initiative was carried out by the *Coefficiente Clorofilla* Association, today renamed *Orti Generali*³¹⁷, which actually is entrusted with the management of the area. Since 2019, the association has created, thanks to the collaboration of volunteers active in the redevelopment of the park on the *Sangone* Stream, a total of 170 vegetable plots, then assigned to citizens with the aim of growing food and creating a community in an active way.

Nevertheless, the path for the realization of this project is rooted in a previous experience, the research work of the *Miraorti*³¹⁸ pilot project, active since 2010 for the urban-environmental transformations of the agricultural areas of the *Mirafiori Sud* district. In this context, the *Parco Piemonte* was identified for the definition of a social agriculture project that would combine agricultural production with the offer of cultural, social, educational, training and employment services. The project turned out to be successful, and the mix of different actors, objectives and spaces characterized it positively, differentiating it from other experiences of UA traditionally proposed by the public sector in the Turin context, characterized by uniformity of spaces.

The horticultural activities conducted within the *Orti Generali* are characterized by their sustainability, the use of biological methods and technological innovation, which are also accompanied by training internships with rehabilitation courses of hortotherapy. Thanks to its characteristics of social and technological innovation, *Orti Generali* won the call for proposals Smart Cities and Communities and Social Innovation, launched by the Ministry of Education, University and Research; thus from 2016 to 2019 it launched a research phase supervised by the *Ca' Foscari* University of Venice. It is also involved in the European project proGireg - Productive Green Infrastructure for post-industrial urban regeneration for the development of Nature Based Solutions (NBS) for the urban regeneration of post-industrial areas; in fact ProGireg Living Labs are organized right in the *Mirafiori Sud* district, and among the seven types of NBS tested, the *Orti Generali* project was involved as Community-based urban gardens³¹⁹. The reality of the *Orti Generali* is also involved in the C.A.R.O.T.A. - *Cibo, Agricoltura, Rete, Occupazione, Territorio e Aggregazione* project³²⁰, which aims to create a sustainable welfare model in the neighbourhood starting from the theme of food, creating an integrated network of catering services, job integration and Urban Agriculture, intervening in the field of social integration and combating unemployment. As part of this project, a space has been dedicated to solidarity urban gardens, with the function of supporting the income of some families in difficulty in the neighborhood, and a large collective garden, curated by the volunteers of *Orti Generali*, provide its products as a contribution to the social canteen managed by the *Locanda nel Parco*, activating a short 0km supply chain. Finally, *Orti Generali* is also involved in the FUSILLI

³¹⁶ Source: <http://www.comune.torino.it/verdepubblico/2019/orti-general-a-mirafiori-dal-primo-marzo-avvio.shtml> - visited on 28th March 2021.

³¹⁷ Source: <https://www.ortigenerali.it/> - visited on 28th March 2021.

³¹⁸ Source: <https://miraorti.wordpress.com/progetto/> - visited on 28th March 2021.

³¹⁹ Source: <https://progireg.eu/turin/> - visited on 31th March 2021.

³²⁰ Source: <https://fondazionemirafiori.it/articles/view/carota-inaugurazione> - visited on 31th March 2021.

- Fostering the Urban food System Transformation through Innovative Living Labs Implementation³²¹ project, launched in 2021 to create a research network for knowledge sharing and mutual learning about the challenges of the food system transformation.

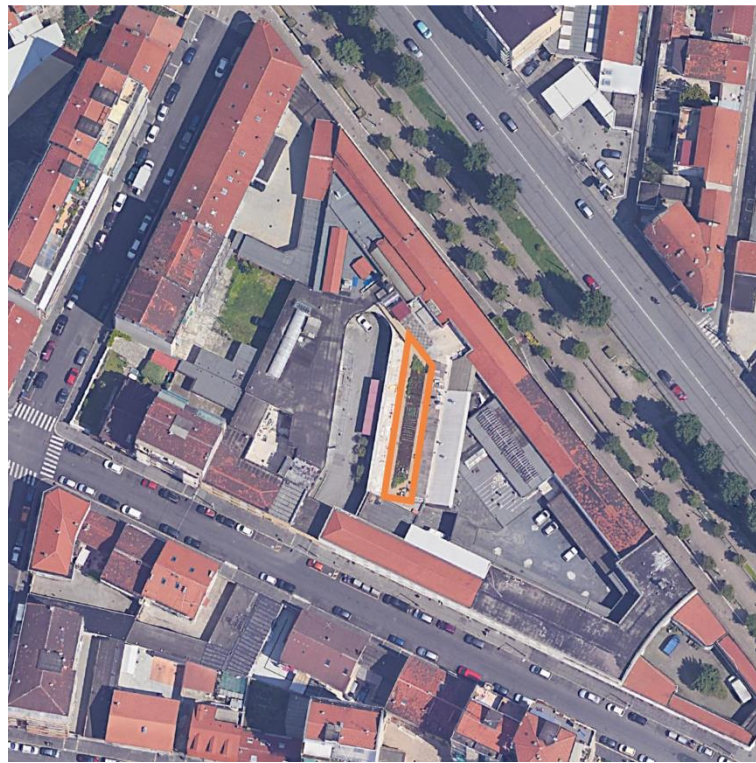
AS far as it concerns the management of the area, the urban gardens are located on public land owned by the municipality of Turin, which has entrusted its management to the *Orti Generali* association through a concession notice, for which the assignments of the vegetable plots are all managed by the association, which is also in charge to autonomously decide about the rent of the vegetable plots. In the context of *Orti Generali*, Urban Food Gardening typologies have been identified relating to Community and Educational Gardens. However, some of the horticultural areas are still municipally owned land, entrusted to individual private citizens, although managed by the association. From the point of view of economic sustainability, the gardens are maintained thanks to contributions paid by gardeners in terms of land rent, but also thanks to the support from private actors, participation in tenders or fundraising through the sale of products or organization of events. As far as spatial management tools are concerned, no specific tool can be identified. Since they are not recognized as municipal Allotment Gardens, or *Orti Circoscrizionali*, the regulation of the municipality does not concern the vegetable areas of *Orti Generali*, which are considered associative gardens, or *Orti Associativi*. Therefore, the only management tool for this space can be recognized in the statute of the association that manages the project, which governs in general terms the purposes of the activities carried out, including those of social agriculture, without specifying any type of regulation.

Land Use Designation

The urban gardens *Orti Generali* are classified by the functional zoning envisaged by the PRG of Turin as an area intended for public green; recognized as a *Zona Territoriale Omogenea F - zona per impianti e attrezzature collettive*, which means area for collective public facilities, as defined by Ministerial Decree 1444/68 on urban standards. In fact, this is an area intended for an Urban and River Park, falling into the category of public facilities as services and equipment of general interest.

³²¹ Source: <https://cordis.europa.eu/project/id/101000717/it> - visited on 31th March 2021.

6.3.3 Ortoalto Ozanam



Mixed-use
Built-up
Area.

Figure 30 - Aerial view of Ortoalto Ozanam. *Personal Elaboration.*

Source: Google Satellite. <https://mt1.google.com/vt/lyrs=s&x={x}&y={y}&z={z}> - visited on 20th August 2021.

Typology:	Community Gardens. + Urban Farming.
Land property:	Public.
Location:	Urban.
Timeframe:	Since 2016.
Dimension:	About 50 m ² .
Stakeholders:	Comune di Torino, OrtiAlti, Cooperativa Meeting Service, Cooperativa Agridea, Associazione Parco del Nobile, Associazione GAPS, Associazione ERI, Cooperativa Zenith.
Main Source:	https://ortialti.com/portfolio/ortoalto-ozanam/ - visited on 28 th March 2021.

Table 23 - Information summary about Ortoalto Ozanam. *Personal elaboration.*

The context

Ortoalto Ozanam is a rooftop garden, located in one of the main buildings of *Casa Ozanam*, a former industrial complex in *Borgo Vittoria*, a district north of the historic centre of Turin, part of *Circoscrizione 5*. It has been first community rooftop garden in Turin, inaugurated in 2016 as the pilot project of the *OrtiAlti*³²² association. The latter is involved in the creation of community rooftop gardens through a collaborative methodology that allows to recover and

³²² Source: <http://www.ortialti.com/> - visited on 28th March 2021.

transform flat roofs into green ones; favours the participation of communities of inhabitants in the care and management of gardens; creates opportunities for work placement and animation of the new spaces; triggers new micro-economies on the scale of the neighbourhood, thanks to the enhancement of fresh vegetables at “0 cm”.

Ortoalto Ozanam is located on one of the main buildings of *Casa Ozanam*, which today hosts numerous activities for the inhabitants of the neighbourhood, conducted by associations and social cooperatives, to which the Municipality of Turin has released a public concession notice for the use of the spaces. Born as a metal sheet printing house in 1938, subsequently it became *Casa Ozanam*, owned by the City of Turin and used as a guesthouse for student-workers. The complex consists of several buildings and contiguous courtyards that are arranged within a triangular lot, between *Via Stradella*, *Via Foligno* and *Largo Giachino*. In the centre of the main courtyard, the social cooperative Meeting Service manages a cooking school and the *Fonderie Ozanam* restaurant, which creates dishes with home-grown and fair trade ingredients. In fact, the *Ortoalto Ozanam* is right above the restaurant and covers 150 square meters of roof. On the opposite roof, an apiary with hives has also been installed. The honey produced, as well as the vegetables from the garden, are used in the preparation of the restaurant's dishes. Furthermore, since its opening in 2016, the *Ortoalto Ozanam* has opened up to citizens on various public occasions, proposing itself as an innovative, accessible space for producing, learning and socializing. Innovative collaborations have been launched between the partners of the *Ortoalto* and other local social actors engaged in initiatives of social inclusion, reuse and recycling, environmental education, sustainable production and hospitality, which have given way to new and important projects for the entire *Casa Ozanam*.

In particular, *Ortoalto Giardino Condiviso*³²³ is a project to promote a path of knowledge and appropriation of the garden on the roof of *Casa Ozanam* by the inhabitants of the neighbourhood. In this regard, a process of writing a shared management regulation for the gardens has been launched, in order to promote *Ortoalto Ozanam* as a shared Community Garden, co-managed and open to citizens two afternoons a week, through the subscription of a Pact on Mutual Cooperation. In this regard, *Casa Ozanam* is also one of the winners of the Co-City³²⁴ tender for the construction of a Community Hub, an urban development project promoted by the City of Turin. Co-City is an innovative project to promote the shared management of common goods, created thanks to the European program Urban Innovative Actions (UIA), which in 2016 led to the experimentation of the regulation on collaboration between citizens and administration for the care, shared management and the regeneration of urban commons.

As regards the management aspects, the *Ortoalto Ozanam* is currently entrusted to the maintenance by two elderly people of the neighbourhood, coordinated by the *Zenith* cooperative, and migrant guests of the *Casa Ozanam* hostel, who thanks to the *GAPS* and *ERI*

³²³ Source: <http://www.comune.torino.it/circ5/cm/pages/ServeBLOB.php/L/IT/IDPagina/3895> - visited on 28th March 2021.

³²⁴ Source: <http://www.comune.torino.it/benicomuni/co-city/index.shtml> - visited on 5th April 2021.

associations have been able to start a job inclusion path through the activities of horticulture and beekeeping. It therefore represents a virtuous example of how Urban Food Gardening, aimed at the reuse of unused built urban spaces such as flat roofs, which can represent an opportunity for the regeneration of the urban environment through the direct participation of citizens. The experience of *Ortoalto Ozanam* represented a local laboratory of social innovation and a bottom-up practice of urban regeneration that has also attracted the interest of researchers, also on the limits and potential of rooftop farming. As for the economic sustainability of the project, it is supported by membership fees, as well as through fundraising through events or direct sales of their products, or with contributions from private bodies and foundations.

With regards to any regulation, being a vegetable rooftop garden, it is not subject to regulation on urban gardens provided by the public administration, which has to be applied only to *Orti Cirscoscrizionali*. Nevertheless, the project had to deal with local urban planning and building regulations, having converted a roof into an accessible productive green area. In fact, the project was considered as a change in the intended use of the terrace which involved a feasibility check as well as a payment of construction fees. It is interesting in this case to note how, following the *Ozanam* experiment, the municipality of Turin then decided to recognize the social value generated by the rooftop garden, updating the Municipal Building Regulations at Article 39, Paragraph 8, discounting the costs to private individuals who intend to transform an inaccessible solar flat roof into green roof, whether it is productive or not. This demonstrates how the new trends in UA in the city of Turin are also impacting on an adaptation of urban planning tools (De Filippi and Saporito, 2017).

To conclude, for the purposes of the research, the *Ortoalto Ozanam* was considered as an example of Community Garden, since part of the horticultural space is opened to citizens, which start to be involved also in its maintenance through the implementation of a Pact of Mutual Cooperation with the municipality. Furthermore, the example can be also considered a form of Urban Farming, given the presence of the restaurant that employs and sells the products of the garden, as well as the presence of beekeeping activities, whose honey is also sold locally.

Land Use Designation

Ortoalto Ozanam is located on the roof of a public building, located within a consolidated residential mixed-use urban area. In particular, the area occupied by the *Casa Ozanam* complex of buildings is classified, within the functional zoning envisaged by the PRG of the city of Turin, as an area intended for public facilities, recognized as a *Zona Territoriale Omogenea B - zona di completamento*, which means area for “urban completion”, as defined by Ministerial Decree 1444/68 on urban standards. In fact, it is an area intended for equipment of common interest.

6.3.4 Or-To, Eataly Lingotto



Public
Facility
Area.

Figure 31 - Aerial view of Or-To. *Personal Elaboration.*

Source: Google Satellite. <https://mt1.google.com/vt/lyrs=s&x={x}&y={y}&z={z}> - visited on 20th August 2021.

Typology:	Educational Gardens.
Land property:	Private.
Location:	Urban.
Timeframe:	Since 2017.
Dimension:	About 400 m ² .
Stakeholders:	<i>Eataly Torino, OrtiAlti, Or.Me, Scuola dell'infanzia all'Ospedale Regina Margherita.</i>
Main Source:	https://ortialti.com/2017/04/or-to-il-nuovo-orto-di-eataly-lingotto/ - visited on 28 th March 2021.

Table 24 - Information summary about Or-To. *Personal elaboration.*

The context

Or-To is an initiative of Eataly Torino³²⁵, created in collaboration with the *OrtiAlti*³²⁶ association, and it is an above-ground urban garden organized in boxes, set up on the public square in front of the Eataly store, located in *Nizza Millefonti* district, in *Circoscrizione 8*. This Eataly's initiative was born to raise awareness of environmental and food education and to

³²⁵ Source: https://www.eataly.net/it_it/negozi/torino-lingotto/news/orto-urbano-torino - visited on 28th March 2021.

³²⁶ Source: <http://www.ortialti.com/> - visited on 28th March 2021.

promote experiences of active citizenship through the shared care of a green area available to the community. Or-To, which consists of 60 boxes in wooden strips of different heights that define the design of the square, has in fact become a public space managed by the neighbourhood community, where citizens are not only consumers but first of all producers. The project had as its objective the promotion of 0km and sustainable horticultural production, offering the local community a place for socializing and intergenerational exchange.

Therefor the garden develops on a public area owned by the municipality of Turin, being a square. The supervision, care and maintenance of urban gardens is entrusted by *OrtiAlti*, which is the managing body of the project, but its maintenance takes place with the support of the inhabitants of the neighbourhood. In particular, during its first edition, the garden was cultivated with vegetables and flowers in consociational system by neighbourhood associations and some schools, which then received the garden as a gift at the end of the project. The project involves also *Or.Me.*³²⁷, the network of gardens, farmhouses, third sector associations, cooperatives and citizens that support horticulture and Urban Agriculture in Turin. Its economic sustainability is instead fully supported by private financing from Eataly, which is also involved in keeping the garden space alive. It has in fact been used on several occasions to organize culinary and cultural events and appointments, or even courses to learn how to care for and maintain a vegetable garden. Although it is has to be considered a temporary experience, which is renewed from year to year through various editions, the experience of *Or-To* represents for the reality of the neighbourhood a moment of encounter with sustainable horticulture and an important opportunity for socialization between citizens who share and reclaim urban spaces.

For the purposes of the research, this experience was classified as an Educational Garden in the context of Urban Food Gardening, since the project mainly involves the schools of the neighbourhood in which it is located, giving priority to educational and recreational activities. As for the spatial management tools, the application of any particular tool was not found. Being intended as an *Orto Associativo* and not an *Orto Circoscrizionale*, it is not subject to the municipal regulation, moreover it is also a special case, as it is a temporary vegetable garden in boxes above ground.

Land Use Designation

Or-To, owned by Eataly, is located in an area currently dedicated to a public square. In particular, the area specifically occupied by the vegetable gardens organized in boxes is classified, by the functional zoning envisaged in 1995 by the PRG, as an Urban Transformation Zone destined to public facilities, recognized as a *Zona Territoriale Omogenea B - zona di completamento*, which means area for “urban completion”, as defined by Ministerial Decree 1444/68 on urban standards.

³²⁷ Source: <https://ormetorinesi.net/> - visited on 2nd April 2021.

6.3.5 Orti Fai Da Noi, Leory Merlin



Specialized
Built-up
Area.

Figure 32 - Aerial view of Orti Fai Da Noi. *Personal Elaboration.*

Source: Google Satellite. <https://mt1.google.com/vt/lyrs=s&x={x}&y={y}&z={z}> - visited on 20th August 2021.

Typology:	Community Gardens, Educational Gardens.
Land property:	Private.
Location:	Urban.
Timeframe:	Since 2017.
Dimension:	About 3,000 m ² .
Stakeholders:	Leroy Merlin, OrtiAlti, Comitato Promotore S-Nodi..
Main Source:	https://ortialti.com/2017/04/orto-fai-da-noi/ - visited on 28 th March 2021.

Table 25 - Information summary about Orti Fai Da Noi. *Personal elaboration.*

The context

Orto Fai Da Noi is a Community Garden, set up in boxes in an area of over 1600 square metres adjacent to the Leroy Merlin store, located in a specialized commercial built-up area in the northern suburbs of Turin, within *Circoscrizione 6*. It is a project carried out in collaboration with *OrtiAlti*³²⁸, which deals with the management of the area and provides for active support to the families who have been obtained the use of the horticultural plots, which are in fact assigned individually to citizens. The area is divided into 20 plots intended for as many

³²⁸ Source: <http://www.ortialti.com/> - visited on 28th March 2021.

families; common areas furnished with tables and pergolas favour moments of meeting between gardeners and other boxes and are dedicated to training activities on horticulture for schools and families. The initiative of the gardens was proposed by Leroy Merlin to recover uncultivated land near the store. The *Orto Fai Da Noi* became also an opportunity to give back to the community, in fact the gardeners undertake to donate part of the production to families in economic difficulty, through social initiatives launched in the area, such as *Fa Bene* project promoted by the the S-Nodi Committee³²⁹. The Turin experience was the first of others promoted by Leroy Merlin in other cities: in 2018 the second *Orto Fai da Noi* was inaugurated in Rome, at the *Tiburtina* store. In 2019, the Verona shop, not having land available for implementing a vegetable garden, launched the *COrti Fai da Noi* project for primary school children to teach the relationship with nature and self-production.

As regards the management and regulation aspects of this urban garden, it is located on private land, the owner of the area is in fact Leroy Merlin, who also represents the financier of the project, ensuring its economic feasibility. The initiative to obtain a vegetable garden is open to everyone and assignment requests are handled directly by Leroy Merlin. Being an *Orto Associativo*, it is not subject to the municipal regulation applied only to municipal Allotment Gardens. Therefore, the horticultural area is regulated by an internal regulation³³⁰ drawn up by Leroy Merlin. This regulation expresses Leroy Merlin's intention to experiment with the creation of a Community Garden with the aim of involving citizens in the shared management and care of a garden. It is also specified that part of the garden is intended to host educational and training courses for schools and families, and that the production obtained in this area through the collaboration of all the gardeners will be returned to families in economic difficulty. The gardens are assigned to applicants through loan for use contracts, entered into with Leroy Merlin.

Land Use Designation

Orto Fai Da Noi, owned by Leroy Merlin, is located near the building hosting the store, located within a consolidated specialized urban area for productive activities. In particular, the area specifically occupied by the vegetable gardens is classified, within the functional zoning of the PRG, as an area designed for industrial activities, recognized as a *Zona Territoriale Omogenea B - zona di completamento*, which means area for “urban completion”, as defined by Ministerial Decree 1444/68 on urban standards. However, the Leroy Merlin store is instead located in an adjacent area, classified by the zoning plan in a different way. It is designed as an Urban Transformation Zone, to be used for commercial functions, for large-scale distribution, recognized as *Zona Territoriale Omogenea C - zona di espansione*, which means area for “urban expansion”, as defined by Ministerial Decree 1444/68.

³²⁹ Source: <https://ortialti.com/2017/04/orto-fai-da-noi/> - visited on 28th March 2021.

³³⁰ Leroy Merlin. Regolamento. *L'Orto Fai Da Noi. Un orto di comunità per coltivare, imparare e restituire*. Source: <http://www.comune.torino.it/circ6/cm/pages/ServeBLOB.php/L/IT/IDPagina/4199> - visited on 29th March 2021.

6.3.6 Orto Urbano Lidl



Mixed-use
Built-up
Area.

Figure 33 - Aerial view of Orto Urbano Lidl. *Personal Elaboration.*

Source: Google Satellite. <https://mt1.google.com/vt/lyrs=s&x={x}&y={y}&z={z}> - visited on 20th August 2021.

Typology:	Community Gardens, Educational Gardens.
Land property:	Private.
Location:	Urban.
Timeframe:	Since 2019.
Dimension:	About 900 m ² .
Stakeholders:	Lidl Italia, RE.TE. Ong, Associazione M.A.I.S., Associazione Arcobaleno.
Main Source:	https://corporate.lidl.it/responsabilita-sociale/attivita-e-progetti/orto-urbano - visited on 29 th March 2021.

Table 26 - Information summary about Orto Urbano Lidl. *Personal elaboration.*

The context

Orto Urbano Lidl³³¹ is a rooftop garden of about 2,000 square meters, organized in boxes that develops on the roof of the first Lidl store ever to be equipped with urban gardens, located along *via Bologna* in *Barriera di Milano* district north of the Turin historical centre, part of *Circoscrizione 6*. This store is the result of an urban redevelopment project that has affected an

³³¹ Source: <https://corporate.lidl.it/responsabilita-sociale/attivita-e-progetti/orto-urbano> - visited on 29th March 2021.

area of over 4,500 square meters that was abandoned for many years³³². Lidl Italia is the owner of the area, but the gardens created on the roof of the building are managed by *RE.TE.* association, that develops cooperation and social inclusion projects for people in difficulty, intervening in situations where there is a desire for change, to fight urban poverty, promote self-organization and sustainable development in favour of disadvantaged people. In particular, *RE.TE.* is active in the Turin area, and specifically in the *Barriera di Milano* neighbourhoods, with an urban and social agriculture program called *Agrobarriera*³³³, which has the aim of promoting social agriculture as a tool for community development.

In 2019 *Agrobarriera* expanded, as the association took over the urban rooftop Community Gardens on the Lidl shopping centre in *via Bologna*, in collaboration with the *M.A.I.S.* association. In 2019, part of the lots on the roof were in turn assigned, through the publication of a public call, to people or families in the neighbourhood, giving priority to local residents and people in socio-economic difficulties. These assignees, engaged in cultivating their own gardens, also partially take care and maintenance of the shared spaces and materials. The vitality of these gardens was further supported since some transversal activities were carried out for the development of the space as a meeting point for socializing and community empowerment; thus for example, visiting classes from schools were hosted; or horticulture and environmental education activities were carried out with children enrolled in summer schools. In particular, collective garden and environmental education actions have been activated in collaboration with the *Arcobaleno* association, which works with people with mental disabilities. Therefore, this reality has set as future objectives to carry out further projects to increase social inclusion, using gardens and shared spaces as a place to encourage meeting, dialogue and exchange between different cultures and generations.

With regard to the any space management tool applied, the *Orto Urbano* Lidl can be considered as a Community and Educational Garden, therefore it is an *Orto Associativo*, but it is not clear whether specific tools are in place for its management. Although Lidl is the owner of the building, officially it does not appear to be the financing body as well, but it would seem to be all entrusted to *RE.TE.* association, which provided for the allocation of vegetable plots through a public tender, probably without the provision of any annual rent. Moreover, it was not possible to trace any regulation. Finally, in terms of economic sustainability of the project, it is guaranteed through membership fees, contributions from private bodies as well as public bodies and fundraising activities.

Land Use Designation

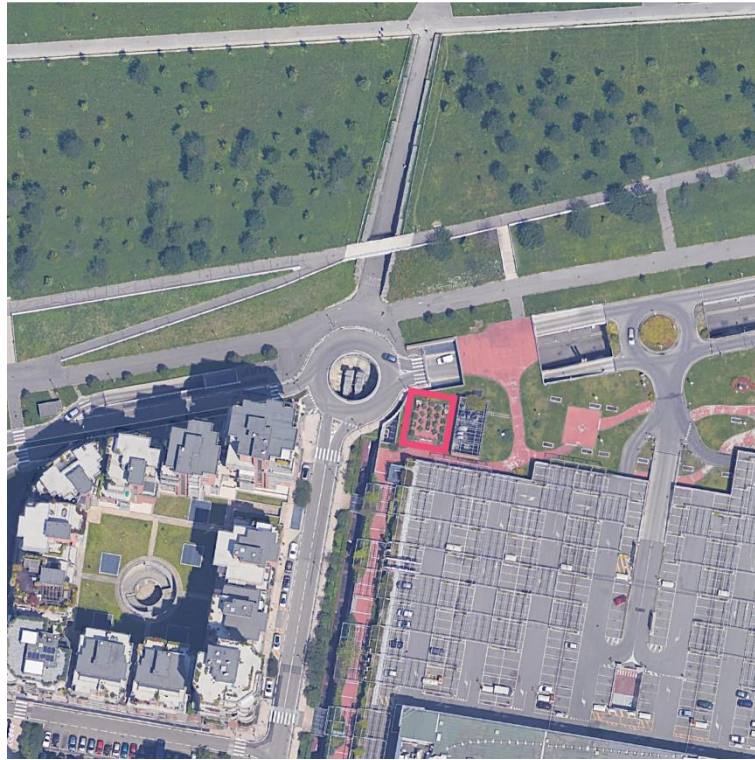
Orto Urbano Lidl is located on the roof of a commercial building, realized with an urban transformation project on a previously abandoned area. In fact, it is located in an area classified by the functional zoning of the *PRG* as an Urban Transformation Zone, to be used for “Eurotorino Technological Park” functions, an intended use planned in 1995 which provided

³³² Source: <https://www.quotidianopiemontese.it/2019/04/03/a-torino-in-via-bologna-il-primo-punto-vendita-lidl-al-mondo-con-gli-orti-urbani-sul-tetto/> - visited on 29th March 2021.

³³³ Source: <https://www.reteong.org/categorie-italia/item/3-agrobarriera.html> - visited on 27th June 2021.

for mixed-use, and which then became a commercial destination. The area is recognized as *Zona Territoriale Omogenea C - zona di espansione*, which means area for “urban expansion”, as defined by Ministerial Decree 1444/68.

6.3.7 Orti al Centro, Parco Commerciale Dora



Specialized
Built-up
Area.

Figure 34 - Aerial view of Orti al Centro. *Personal Elaboration.*

Source: Google Satellite. <https://mt1.google.com/vt/lyrs=s&x={x}&y={y}&z={z}> - visited on 20th August 2021.

Typology:	Community Gardens, Educational Gardens.
Land property:	Private.
Location:	Urban.
Timeframe:	Since 2015.
Dimension:	About 70 m ² .
Stakeholders:	<i>Parco Commerciale Dora, Innesto.</i>
Main Source:	http://www.innesto.info/orti-dora-in-poi.html - visited on 28 th March 2021.

Table 27 - Information summary about Orti al Centro. *Personal elaboration.*

The context

Orti al Centro are urban gardens realized above ground, created within the private area belonging to the *Dora Commercial Park*. It is the result of the project proposed by the *Innesto*³³⁴ association in 2015, which kicked off the *Orti Dora in Poi* initiative, in the *Dora Park*. The *Innesto* association deals with experimentation in the field of horticultural and nursery production, and in the development of social thematic projects aimed at raising community awareness and social inclusion. The project included two theoretical-practical training courses on urban

³³⁴ Source: <http://www.innesto.info/orti-dora-in-poi.html> - visited on 28th March 2021.

horticulture that give continuity to the experience started with the *Farming Dora - gli Orti nel Parco*³³⁵ project, which saw the *Hortus conclusus* transform from a garden closed to the public into a space for experimentation with cultivation in the city. In fact, the *Orti Dora in Poi* project involved the creation of vegetable gardens in two locations: the *Hortus conclusus*, where the new participants work alongside the expert horticulturists in a former industrial garden, and the *Orti al Centro* area, available from the *Dora Commercial Park* near the Michelin lot of the Park for new aspiring urban farmers. Thanks to its initiative, *Innesto* won in 2015 the call for horticulture and social gardening promoted by the *Parco Dora* Committee as part of the "Sharing, Learning and Caring Parco Dora" project³³⁶. The area of *Orti al Centro* is also used for the organization of free workshops on various issues related to greenery and sustainability, in collaboration with various local bodies and actors. Among the main activities carried out in the gardens, there are recreational and educational activities, with the involvement of some local schools.

As far as it concerns the management aspects, the space is currently managed by *Innesto* and it is hoped, as a future prospect, in greater responsibility for taking charge of the space by the group of gardeners who take care of it, in an autonomous and self-managed way, always in accordance with *Dora Commercial Park*. The latter is therefore the owner of the area, but grants public use of the spaces intended for vegetable gardens; while it is *Innesto* that deals with the allocation of gardens through public calls open to all. The association also offers information appointments, moments of collective gardening and care of common areas, free workshops and moments of sharing. The gardeners are therefore required to commit to the care of the common areas and spaces and of the shared boxes and flower beds. Apparently, no space management tool can be identified, but there is the presence of a project regulation relating to the management of the horticultural area provided by *Innesto* association. To conclude, the economic sustainability of the project is guaranteed by membership fees, contributions from public and private actors, and fundraising through the organization of events.

Land Use Designation

Orti al Centro is located in an urban area that is classified, within the functional zoning envisaged by the *PRG* of the city of Turin, as an Urban Transformation Zone to be used for mixed-use, recognized a *Zona Territoriale Omogenea B - zona di completamento*, which means area for "urban completion", as defined by Ministerial Decree 1444/68 on urban standards. In fact, the area was then destined to commercial use.

³³⁵ Source: <http://www.comune.torino.it/comitatoparcodora/servizi/attivita/farming-dora-2-gli-orti-nel-parco.shtml> - visited on 28th March 2021.

³³⁶ Source: <http://www.comune.torino.it/comitatoparcodora/servizi/attivita/orti-dora-in-poi.shtml> - visited on 28th March 2021.

CHAPTER 7

Research Outcomes

Nowadays Urban Agriculture is becoming a permanent feature of urban contexts for sustainable city development. It is clearly diverse in its scope, scale, participants and goals, and it can be undertaken in a variety of forms. Its diversity is in fact the rule rather than the exception, and thanks to its multi-functionality, claimed to be the strength of UA, it Agriculture is experiencing a strong revival out of its ability to cope with diverse development challenges. Therefore, Urban Agriculture has to be seen as a permanent component of the urban system. However, the current state demonstrate that often it goes unregulated, creating policy vacuums that could impede the potential of further implementing these practices. It is worth to consider also that institutionally UA can fall under the jurisdiction of different levels and types of authorities, according to the policy realm. Hence, the successful integration of Urban Agriculture into the urban policy framework is a complex task, which requires a multi-disciplinary, multi-sectorial and multi-level approach.

In light of that, the purpose of this research has been to explore any possible interaction between Urban Agriculture and City Planning in the Italian context, investigating the current state of Urban Food Gardening practices from the perspective of Urban Planning and Management of urban spaces. Therefore, this section collects the outcomes emerged from the transversal and comparative reading of the selected case studies, focusing on the current trends and path-dependencies in each context in order to identify possible winning solutions or constraints for the development of UA related to the adoption of certain urban policies, strategies, plans or regulations, with particular attention to space management tools and urban planning instruments.

7.1 Urban Food Gardening policies and path-dependencies in Bologna, Milan, Rome and Turin

Starting from the city of Bologna, it has demonstrated to be a peculiar case when it comes to Urban Agriculture, characterized by a proliferation of practices promoted by various actors and the municipal administration itself. The latter made UA really a political issue, thus the city has been a frontrunner in Italy regarding UA and its integration in urban policies. In particular, the municipality fostered the growing integration of Urban Food Gardening into newly planned parks, to enrich and qualify the green heritage of the city; thus UA has been adopted as a tool to physically and culturally regenerate urban spaces. The role of the public administration has been really essential, and its interest in planning the development of further UA is confirmed by recent attempts of cognitive survey undertaken to grasp current trends and information on various actors active in the context, experimenting new forms of individual and collective management for involving new types of users. In this regard, the city of Bologna promoted several initiatives such as exhibition, international design competition and projects, besides being involved in European projects also at the Metropolitan City level. Bologna is in

fact active in the international contexts and through the ResCUE-AB, the Centre for Studies and Research in Urban Agriculture and Biodiversity of the University of Bologna, the lively panorama of Bolognese initiatives is also very much supported by the academic realm.

In the case of Milan, the debate about the integration of UA in City Policies can be traced back to the first experiences of Urban Food Gardening promoted in the 80s by *Italia Nostra*, which promoted the creation of Allotment Gardens inside the *Parco Boscoincittà*. Starting from this pioneering experience, *Italia Nostra* still play a fundamental role in promoting UA also at a national level. In addition to the driving public initiative, mainly represented by *Italia Nostra* rather than by the municipal administration, the Milanese context is also interested by the initiatives of other institutions, such as universities, hospitals, penitentiaries or local health services. Moreover, private citizens and companies have also entered the realm of UA practices. In particular, the recent planning strategies, oriented towards urban renewal, saw the strong involvement of private companies and major investors, thus the integration of Urban Food Gardening into City Planning takes place mostly in terms of territorial regeneration, integrating UA in the city green system. In this case, however, urban gardens tend to give rise to risks of privatization of public spaces, without activating synergies in local communities. Therefore, if in the Bolognese case the public initiative is predominant, flanked by the important role of the university, Milan is characterized by the involvement of foundations and private companies. It should also be emphasized that EXPO 2015 was certainly an important factor influencing the adoption of policies and strategies aimed at integrating food and all the related issues in the City Planning. In parallel, the Milanese context is also dotted with a lot of bottom-up initiatives, whose activity is contributing to the debated on the integration of UA into the city's policy, asking for collaboration formulas to obtain the concession of abandoned public areas for agricultural purposes. Consequently, the city provided for two solutions: the *ColtivaMi* tender, which was not very successful; and then the introduction of *Giardini Condivisi*, a tool that introduced successful collaboration between civil society and administration for favouring the formalization of UA experiences. Another important initiative undertaken by the municipality of Milan was also the *Bando Cascine*, aimed to enhance the rural heritage of publicly owned farmhouses. To conclude, the Milanese context is certainly influenced by integrated policies linked to the paradigm of the *Parco Agricolo Sud Milano*, which affect peri-urban agricultural areas, involving the interest of the Metropolitan City.

The city of Rome, as opposed to the others, stands out for a negative connotation, related to the fact that the support from the municipal administration towards Urban Agriculture was very delayed. Despite UA in Rome was not supported or regulated until a few years ago, the panorama of Urban Food Gardening activities shows a lively reality of formal and informal associations dedicated to the care of green areas, which undertake a bottom-up re-appropriation of urban spaces, to combat urban pressure and building speculation. The municipality of Rome has late understood the potentials represented by Urban Food Gardening, which for years has developed with an informal character till becoming a very relevant phenomenon. Consequently, many initiatives became subject of political debate, focused on regularizing existing informal experiences and on the creation of new horticultural areas on publicly owned land. Thus, the progressive integration of UA in City Planning

strategies started with active citizens initiatives, and gradually translated into the integration of urban gardens as greenery provision for recovering land in degraded conditions. One of the advantageous policy speeches on UA practices has developed in relation to the growing awareness of the costly maintenance for urban green areas, particularly difficult in Rome. On the wave of a renewed attention by the citizens to UA, the city started getting involved in different projects. Among these, the most important are those involving the *Agro Romano*, which has favoured the flourishing of many Urban and Peri-Urban Agriculture activities, offering unique potential to further develop this sector, which since the 70s has witnessed the proliferation of various pioneering experiences of social agriculture cooperatives. Although the attention to UA has come late from the public administration, Rome is now very active on the international scene; it is lead partner in the RU:RBAN project for the transfer of good practices related to UA. It is taken as an example for its governance and regulation model, which focuses on the role of the third sector and citizens' associations in implementing Urban Food Gardening projects. To conclude, the Roman context is also affected by the debate on the Agricultural Park paradigm, which also involves policies and strategies for Protected Natural Areas and archaeological parks, all aspects that relate to the *Agro Romano*; however currently this debate has not yet proved to be translated into concrete projects.

Urban Agriculture in Turin has taken on many forms and has changed over time, especially since the Nineties, when the city began a process of reshaping its social and economic identity, after the progressive dismantling of the car sector, also addressing its new development policies in terms of food. Therefore, Turin has witnessed a progressive mushrooming of UA initiatives, promoted both by public institutions or at informal level. Although the first act for the regulation of urban gardens dates back to the 80s, the direct commitment by the municipal administration in the promotion of new UA projects dates back to the 2000s, when the first municipal Allotment Garden was implemented, within a large peripheral public park. A peculiar aspect of the Turin case is that UA is closely linked to the urban green sector, in which the city of Turin is particularly committed. It adopted a Green Infrastructure Strategic Plan which officially addresses also policies in the field of Urban Food Gardening, intended for providing ecosystem services and ecological connection. This propensity is strictly connected to the experiences gained from the European project ProGReg, aimed at introducing productive green infrastructure for post-industrial urban regeneration, developing Nature Based Solutions, among which Urban Agriculture represents a successful option. The city is also actually committed in enhancing the peripheral areas intended for public parks and private agricultural land, in order to increase urban sustainability promoting UA. In this regard, the Metropolitan City has played a fundamental role in fostering green projects, such as the *Corona Verde* project, which takes in great consideration agricultural activity for safeguarding land use capacity and enhance peri-urban spaces. Moreover, also the Turin context is active in terms of bottom-up commitment from associations and citizens groups, which usually collaborate with private actors interested in investing in Urban Food Gardening projects, involving local communities. To conclude, the city of Turin has stated its future prospects on UA, expressing its intent to enhance existing horticultural areas, mainly for addressing ecological-environmental and socio-cultural benefits.

7.2 The integration of UA into City Planning

With regard to integration of Urban Food Gardening into urban policies, the intent of the whole research was to investigate whether the theme of Urban Agriculture was declined in a sectorial or inter-sectorial manner. A further reflection was then made specifically regarding the land use regulations adopted in each city. In this regard it is worth to remember that the planning systems differed in each city in the adoption of different tools more strategic or regulatory in nature, a variety that allowed for further comparison of cases.

Starting from the city of Bologna, the theme of Urban Food Gardening is of interest to the Environmental and Energy Sector. The latter, in collaboration with external bodies such as *Villa Ghigi* Foundation, the regional reference Center for Environmental and Sustainability Education, mainly deals with survey attempts, in order to set integrated policies on Urban Agriculture. Therefore, the theme of UA would seem to be declined in a rather sectorial manner, in relation to the green sector and to environmental policies in general. As regards the planning system, it is not based on functional zoning. Despite the strategic nature of the tools, there is no particular openness towards integrating the UA function within them, even if the Municipal Structural Plan (*PSC*) approach could implicitly have offered numerous opportunities for UA, since it is oriented towards the concept of sustainability and introduces attention to regeneration in suburbs. Such regeneration interventions could constitute the first nuclei for Urban Food Gardening projects, opening also the possibility to their official recognition as urban standards. In any case, the Urban Building Regulations (*RUE*) explicitly mentions urban vegetable gardens as recognized public green spaces. The plan therefore does not identify spaces for the construction of urban gardens, but provides for specific indications for their implementation and design, specifying the performance requirements to be respected for their construction.

Regarding the Milanese context, the sector in charge of the Urban Planning Policies for the Suburbs has been proved to be the body committed in identifying areas for implementing urban vegetable gardens, pursuing objectives of both environmental and social quality. In addition, each decentralized *Municipio* is also equipped with a specific office for the management of instances concerning Urban Food Gardening activities, which is part of the unit relating to public services offered to citizens. Therefore, the theme of UA is dealt with in an inter-sectorial manner: both in terms of urban regeneration policies and in relation to the supply of public facilities. As for the integration into planning tools, in fact, the Public Facilities Plan (*PdS*) deals precisely with public services, in particular the Implementation Rules attached recognize urban gardens among the types of urban green. They also specify that part of the newly identified green areas, planned in one of the graphical tables attached to the *PdS*, can be used for urban gardens. In any case, the setting of the Territorial Governance Plan (*PGT*), which is the main planning tool of the city, is of a very strategic and inter-sectorial nature. In particular, it provides an Atlas in which the main envisaged interventions are collected; in this document reference is made to the settlement of agricultural areas within the city. In this sense, it could be interpreted as a strategic form of functional zoning in which Urban Agriculture is integrated as a land-use designation provided for in the plan.

With regard to the city of Rome, at the beginning of the 2000s the municipality gave birth to the Urban Garden Service, located at the Department of the Environment; therefore also in this case the integration of policies relating to UA takes place in rather sectorial way. In particular, the city's Urban Food Gardening regulation identifies the municipal Environmental Protection Department as responsible for the implementation procedures of new projects. With regard to the integration of horticultural practices within the planning system, the case of Rome is peculiar since it is the only case in which the regulation on urban gardens explicitly refers to the provisions of the General Regulatory Plan (*PRG*), asserting that the gardens can only be created in accordance with the zoning identified by the plan. The Technical Implementation Rules attached to the *PRG* also cite the "recreational-social urban vegetable gardens" as one of the possible functions that can be established, integrated as a typology of green space and local public facility within the prescriptive graphic tables dedicated to the "Systems and Rules", thus in a certain way also the city of Rome recognizes urban gardens as an intended land-use within the green public facilities provision of the city.

To conclude, in the city of Turin UA policies are mainly addressed in a sectorial way within the Green Infrastructure Strategic Plan, which states future policies on how to promote urban horticulture. The city of Turin therefore promotes the expansion of AU as part of the development of green infrastructures, declining its ecological functions, but also insisting on the multi-functional aspects of agricultural activity. With regard to urban planning tools, the *PRG* currently in force is based on a strictly functional zoning, which does not envisage UA among its intended land use. However, revision activities are underway for the adoption of a new *PRG*. The Technical Proposal of the Preliminary Project (*PTPP*) of the new *PRG* intends to introduce a new land use designation, defined as "Ecological Agricultural Areas" (*ZAE*). Although it is not strictly intended as Urban Agriculture, this land-use designation is addressed to cultivated areas that today are fragmented and physically deconstructed by urban pressure. Another innovation which will be introduced is the possibility of activating Temporary Use projects, on regulatory zones in which the restrictive functional zoning currently makes it difficult to intervene with changes of intended land-use; therefore, this opening would be useful also for implementing possible new UA. To conclude, although the urban planning tool currently in force in Turin is still a rigid functional zoning, the new interest on UA is leading to a progressive adaptation of the planning instruments. In this regard, the municipality decided to modify its Building Regulation in order to make it easier to create rooftop gardens.



Figure 35 - Integration of UA into Urban Planning policy and tools in the cities analysed. *Personal elaboration.*

7.3 Urban Food Gardening on Public Land

When it comes to Urban Food Gardening on Public Land, the typology of vegetable garden to mainly refer to is that of the municipal Allotment Gardens, which have shown to have different variants and characterizations in the four urban contexts analysed, both in terms of management and regulation. The cities of Bologna and Milan have proved to be characterized by experiences particularly rooted in time, while Rome and Turin have seen an intervention by the public administration late in promoting Urban Agriculture experiences. Moreover, among urban horticulture on public land, all four cities also include bottom-up food gardening initiatives, coordinated by associations or third parties in public contexts, such as parks or squares. In particular, Bologna stands out for cases of Community Gardens in areas intended for social housing, or public green spaces to be subtracted from abandonment. The city of Turin presents the *Orti Associativi*, characterized by their social and inclusive purposes. On the other side, the case of Milan is characterized by a large number of Guerrilla Gardens on marginal public places and bottom-up initiatives that make the official Allotment Gardens a niche category. In the end, the Roman context, where the public administration has remained almost non-existent for years, the initiatives on public land has evolved as shared gardens or guerrilla gardening actions, motivated by the will to counter building speculation.

Descriptive Aspects

Going into the specifics, the Bolognese municipal Allotment Gardens are often linked to realities of social housing districts, characterized by fragile social fabric, as in the case of the *Orti Salgari*, or to redevelopment interventions of peri-urban rural environments. They are also characterized by their multi-functional declination, in fact it is not uncommon to host also therapeutic and rehabilitative activities, which flank the offer of vegetable plots intended for self-production for private citizens. In other cases, as for *Villa Bernaroli*, the Allotment Gardens are also supported by complementary Urban Farming activities, which can represent Community-Supported Agriculture (CSA) business models. Moreover, in addition to urban gardens hosted in green public areas, the city of Bologna has been the first for the realization of a roof top garden integrated on a public housing complex, the *GreenHousing* project. The municipal Allotment Gardens of the Milanese are mainly located in the large suburban parks of *Parco Boscoincittà* and *Parco Nord*, flanked by municipal vegetable gardens in more urban location. Unlike the Bolognese case, the Milanese municipal gardens are aimed almost exclusively at cultivation by private citizens for self-consumption. Nevertheless, they remain a niche category, in fact the casuistry of gardens on public land promoted by bottom-up initiatives is more relevant, testifying to the will of the associations to pursue multi-functional purposes at the service of the community. An example is the case of the vegetable gardens managed by the *Riccardo Catella* Foundation, in the context of *Porta Nuova* urban renewal project; or the experiences developed in public farmhouses owned by the municipality, made available through the *Bando Cascine*, as in the case of *CasciNet*. In the city of Rome, the identification of Allotment Gardens appears controversial and difficult. This is because most of

the experiences developed as a bottom-up initiatives on vacant spaces often characterized by improper uses. Examples of how activist groups have re-appropriated these spaces are the *Orti Tre Fontane* and the *Orti Garbatella*, which represent very active initiatives, playing a role of territorial control in more peripheral neighbourhoods. Also following the institutionalization of these Allotment Gardens, the current regulation on the matter provides that the implementation of municipal gardens takes place on the initiative of associations; hence the Roman Allotments Gardens actually continue to be characterized by an almost total absence of public administration intervention. Therefore, for the purposes of this study, none of the case studies presented have been considered as Allotment Gardens. The Turin case is also characterized by a rather late experience of official municipal Allotment Gardens, which started to developed following the formal recognition of pre-existing spontaneous urban horticulture sites, often located in peripheral contexts in public parks. In the case of Turin, it is the city itself that distinguished between *Orti Circoscrizionali* and *Orti Associativi*, which can be both on public land, but the former are managed directly by the decentralized administrative districts, the *Circoscrizioni*, and the latter are managed by associations or even private entities, such in the case of *Eataly*, which have implemented an urban garden on a public square. The *Orti Associativi* find a more urban location, even within complexes of municipally owned buildings intended to host public facilities for citizens, as in the case of the *Ortoalto Ozanam*.

Management Aspects

The municipal Allotment Gardens in the city of Bologna are distributed in each decentralized district and self-managed by the assignees, which are the associations that play an intermediary role between the public administration and private citizens. The municipal Allotment Gardens are allocated to specific management bodies, through public tenders for land assignment on free loan for use in horticulture. As regards the costs, the plots are assigned to private citizens on free loan, thus their maintenance is usually managed by group of citizens in a non-paid way. The assignment of the areas remains centrally managed by the municipal administration, which still retains a role of primary actor, despite the intervention of the associations for the practical management of the areas. In the city of Milan, the Allotment Gardens are assigned with public tenders for land assignment and are coordinated by three different managing bodies: the *Centro Forestazione Urbana* for the gardens in *Parco Boscoincittà*; the Park Authority of *Parco Nord*; and the decentralized administrative districts for the remainder. The assignment takes place through an agreement of loan for use contact for a portion of land between individual citizens and the managing body, after a public tender on the basis of a ranking; therefore the gardens are given in concession with a variable annual fee to private individuals. The maintenance, despite being based on an onerous concession, could be defined similar to the provision of a public facility, as in the case of the gardens in the two large suburban parks. In the city of Rome, the municipal regulation on Urban Food Gardening, the management of gardens on public land takes place through the stipulation of an agreement for free loan for use between the association promoting the project and the decentralized *Municipio*. Therefore, the model adopted by the city of Rome for the management of municipal Allotment Gardens is based on the initiative of associations or citizens, through the mandatory passage through a public tender upon project presentation. These gardens on public land are provided

and maintained as public facilities, requiring the assignees to pay an annual fee to cover management costs. Finally in Turin the municipal Allotment Gardens are intended for both citizens and associations, and are considered as public facilities for the residents community. They are assigned directly to private citizens, through public tender by the decentralized administrative districts. Nevertheless, the city of Turin is considering entrusting the management of the municipal horticultural areas to third parties or association, as a more efficient management model. An annual fee is requested which differs according to whether they are Social Gardens, at controlled prices, or Proximity Gardens.

As regards the experiences of horticulture on public land that cannot be classified as municipal Allotment Gardens, the Bolognese case is characterized by experiences of UA usually integrated in wide-ranging project and social intentions. These are addressed to associations and cooperatives, but also to the residents themselves not for profit purposes, whose maintenance is often entrusted to groups of volunteers who take care of the space, or supported by profitable Urban Farming activities. In the Milanese case, these experiences on public land are characterized by long-standing bottom-up initiatives, spontaneously born through mechanisms for the re-appropriation of green spaces, which have obtained official recognition from the public administration only after their implementation. In these contexts, a grant of land for rent was reached between the association promoting the project and the public body that owned the area, but only at a later stage than the start and implementation of the horticultural area. In other cases the management aspects are based on a simple agreement with the city of Milan for the care of green spaces, as they develop in areas intended for public gardens. However, when the management body is a private actor, the managerial approach detaches itself from the involvement of the local community, perhaps also leading to privatization risks in terms of use of those public spaces, raising issues relating to the management of public areas by private entities. As far as it concerns the *Orti Associativi* on public land in Turin, they are also managed as not-for-profit experiences, through public concession notices by the municipality. They are often supported through direct funding from private companies promoting the project, or based on models of co-maintenance and co-governance through the voluntary work of groups of citizens.

To conclude the considerations regarding the management aspects of urban gardens on public land, it is important to refer to the recent dissemination of regulations for the management of urban commons, through Pact on Mutual Cooperation, which may also concern experiences of Urban Food Gardening. Bologna has been the first city in Italy to equip itself with a tool for the shared management of urban commons in 2014, a pioneering action that is found in the various experimental pilot-projects active in the territory, especially with regard to the dissemination of Urban Food Gardening activities. As far as it concerns the Milanese context, the use of Pact on Mutual Cooperation is rather scarce, although there is the *Giardini Condivisi* tool, concerning public spaces managed in a community-based and shared manner, even if it has not yet found significant application in the promotion of UA. Eventually, even in the Turin case the recourse to the Pact on Mutual Cooperation for the shared management of horticultural areas is becoming a widespread practice. The city of Rome is the only one not to present particular signs towards the development of innovative solutions for the management

of public spaces in terms of urban common goods. In fact, the city does not yet have a regulation in this regard, despite the political debate on the issue started in 2018, on the initiative of citizens interested in the shared management of urban spaces.

Regulatory Aspects

From the point of view of land use designations, the urban gardens on public land in Bologna are classified as public facilities, also in terms of complexes for social activities or social housing, part of the planning of public green areas, even if declined with different purposes. Also in the Milanese case, the public gardens are part of the public facilities provision. In specific, in the case of the urban gardens on public land part of the *Parco Agricolo Sud Milano*, they are subject to specific territorial development policies adopted by the Park Authority and excluded from urban development. Moving on to the Roman case, the municipal Allotment Gardens must develop in accordance with the zoning provisions, so they can be implemented in areas identified for public green, also as components of the ecological network at municipal level. To conclude, the gardens on public land implemented in the city of Turin all arose in areas classified as urban standards, even if within Urban Transformation Zones. Therefore, it is clear that the Urban Food Gardening on public land has adapted to urban planning requirements by falling within the intended use of the public city in terms of green services.

As regards space management for horticultural areas on public land, in all the cities analysed, with the exception of Milan, the municipal Allotment Gardens are subject to a single municipal regulation. The Bolognese municipal regulation of 2009, unlike the one adopted by the city of Turin, provides that the municipal Allotment Gardens are assigned to associations or other local authorities rather than directly to private citizens; moreover, it establishes that the concession takes place without costs. In the case of Milan, the question relating to the regulations for the space management of public horticultural areas depends on the management body. *The Parco Nord* adopted its regulation on urban gardens in 2018, which provides that the gardens can be directly assigned to private citizens and in part opened to agreement solutions with institutions for educational or rehabilitative courses. The *Parco Boscoincittà* regulation, dated back to 2016, provides for the offer of both individual and collective horticultural areas, also providing part of gardens for educational activities. Finally, the Allotment Gardens managed by the *Municipi* are subject to different decentralized regulations. The other types of urban gardens on public land, managed by associations or third parties, are instead subject to internal regulations. In Rome, on the other hand, the issue concerning the regulation of horticultural areas on public land is the result of recent political debate. Until 2015 the Urban Food Gardening activities in the Capital were not regulated at all. The current regulation specifies that the construction of Allotment Gardens must be subsequent to the presentation of a project by associations or groups of citizens. A further aspect that differentiates the Roman regulation from the ones adopted in the other cities is that it makes it clear that the municipal urban gardens can only be built in accordance with the provisions of the zoning tool. The municipal regulation also provides that each Allotment Garden is then subjected to an internal regulation, demonstrating the fact that the public administration mainly relies on the associations that take care of the management of the garden area. To conclude, the city of Turin

also has a specific regulation for the management of urban gardens, adopted in 2013, also providing that each decentralized administrative district may have its own specific regulation. These tools only apply to *Orti Circostrizionali*, while the *Orti Assocaitivi* could have internal regulations drawn up by the associations, often integrated into their statute. In general, for this category of gardens the regulatory framework remains milder, especially in case studies promoted by private bodies or commercial companies, as their management often relies on voluntary activities, without resorting to adoption of particular tools. In conclusion, the city of Turin is also the only one to have recently adopted the Guidelines for the first Urban Gardens Operational Plan, which however is only an instrument addressed to the protection of public health linked to the risks of urban gardens. Finally, urban vegetable gardens are also officially recognized as a typology of urban green in all the cities analysed, thus they are subject also to the municipal regulations adopted on the matter.

7.4 Urban Food Gardening on Private Land

As regards Urban Food Gardening on private land, Milan and Turin present a diversity of case studies. In particular in the Milanese the third sector itself usually tends to turn to private actors to implement UA projects, to reduce time and bureaucratic needs with respect to the public institutions. In other cases, the same initiative comes directly from the private sector, as in the case study of the *Orti di Via Chiodi*, which testify to an unprecedented management and business model, where the private substitutes the public offer of urban gardens. In other cases, the gardens on private land are created in the context of urban renewal interventions, as for the *Orti Fioriti* in the *CityLife* district, where the investor wanted the creation of gardens at the service of the resident community. In the case of Turin, gardens on private land often implemented by private companies of commercial nature. These are private gardens adjacent to commercial outlets, as in the case of *Leroy Merlin* or *Dora Commercial Park*; or integrated to the buildings, as for the *Lidl* urban gardens. These experiences on private land, however, retain a social nature as they remain open to community use, often thanks to associations or groups of volunteers. Moving to Bologna, the private gardens in the city are mostly of historical value, preserved over time in the courtyards of the historic centre, but in most cases they are no longer accessible or used. The private sphere in the Bolognese context of UA is therefore almost completely absent, the existing private gardens, belonging to foundations or institutions, are also poorly managed, as in the case of the *Orti di Via Orfeo*. To conclude, the Roman landscape is instead dotted with Squatter Gardens on private land, often regulated by rental contracts, developed as a consequence of planning tools forecasts, waiting for a passage of land-use zoning which would have allowed building activity. Multi-functional agriculture business models are emerging that also open up to the private offer of Urban Food Gardening, as in the case of the *Orti di Veio*; there is also no shortage of urban gardens promoted by private institutions, particularly sensitive to the theme of food policies and urban sustainability, but the gardens in this case opens only partially to interaction with the local community, as happens with the urban gardens of the American Academy case study.

Descriptive Aspects

As already anticipated, the private gardens in the Bolognese context are largely belonging to foundations or institutions, often of a historical nature, which remain closed to the community, thus losing part of their value and potential. The case studies selected in Milan, on the other hand, cover both urban and a peri-urban locations, and also on the basis of their different positions, they are declined in different ways. These types of gardens, promoted by a private companies or by a single citizen, can be considered as forms of Community Gardens mixed with Family Gardens, if allow tenants to cultivate horticultural particles in a self-managed way. As for the examples in the Roman context, private urban gardens in an urban context are not located within large green areas, as for gardens on public land, but in small green zones pertaining to private buildings, headquarters of owner institution. Different is the case of private urban gardens in peri-urban rural contexts, where they usually develops integrated to multi-functional Urban Farming. To conclude, the Turin context presents a series of vegetable gardens on private land that are still different by type, the selected case studies have a purely urban location, and are mostly located in specialized or mixed-use built-up areas, since they belong to commercial companies. Despite being private, these experiences can be considered examples of Community Gardens, proving to be initiatives aimed at serving the social needs of the resident communities.

Management Aspects

Since there are few cases of urban gardens on private land in the Bolognese case, it is not possible to sum up their managerial aspects. The case study of the *Orti di Via Orfeo* demonstrates a lack of aptitude on the part of private foundations in the promotion of UA experiences, so the area in question is currently awaiting a management proposal. This absence of private initiative, however, could be justified by the strong presence of the public actor on the other side, whose policies on UA have made Bologna a peculiar case, characterized by one of the largest and most long-lived heritage of horticultural projects in Italy. Moving to the Milanese context, depending on the case the maintenance of the horticultural area can be paid by individual citizens who have access to the horticultural area, or financed by the private company which commissioned the project. In the case of the *Orti di Via Chiodi* it is not possible to identify a specific space management tool, as it is essentially a private area rented by the owner to requesting citizens; while the case of the *Orti Fioriti* of *CityLife* appears more controversial and interesting, whose management resembles that of a Botanical Garden; their maintenance is in fact entrusted to expert gardeners, while remaining accessible for the community. In the case of Rome, generally the experiences related to the realities of private foundations urban gardens are made to be lived by the members of the institution, opening up in some cases to associations and the third sector. With regard to their maintenance, it is financed by the private owner as for the American Academy. Different is the case of the *Orti di Veio*, which represents a business model. In both cases it is not even possible to identify a specific space management tool, since they are private realities, self-managed by the owners. Finally, in the Turin case, the maintenance of private urban gardens takes place through funding from the same commercial company that built the garden, or thanks to the

commitment of volunteers. The casuistry is interesting because it opens up a question relating to the management and public access of private spaces. The private urban gardens created by commercial companies in Turin are all assigned to associations that deal with their management through public tenders or agreements of loan for use, to make the area open and accessible to private citizens. However, these are still fenced areas, as in the case of *Leroy Merlin's* gardens or those on the roof of the *Lidl's* store, which remains accessible only during the opening hours of the shop.

Regulatory Aspects

As regards Bologna, the considerations about the regulatory aspects of urban gardens on private land are limited to the land use designation of the *Orti di Via Orfeo*, classified as an ecological-environmental element, thus recognized as a green area to be preserved and on which to intervene for ecological purposes. From the point of view of land use designations, the gardens in Milan on private land created by *CityLife* are part of a urban transformation project, so it is possible that this area was created to meet the obligation on urban standards provision. In the case of the *Orti di Via Chiodi*, they are part of the *Parco Agricolo Sud Milano*, thus excluded from urban development, which is the reason that led the owner to implement his own business model based on Urban Food Gardening. With regard to the Roman case studies, the gardens of the American Academy are part of the historic city centre, as pertaining to a historical villa with private green areas of historical-morphological-environmental value. As for the *Orti di Veio*, their case history is similar to that of the *Orti di Via Chiodi* in the Milanese case, since they are within the *Di Veio* Regional Park, subject to restrictions for urban development. Finally, in the case of Turin, the gardens on private land analysed are all created in Urban Transformation Zones, to be destined for commercial or mixed use. In this case, it would seem that their realization was dictated by the possibility of fulfilling the obligation of realization of urban standards. However, this hypothesis is not true since the horticultural areas remain on private land, and the same access is not open to the public for the whole day, so they cannot be areas considered as urban standards as defined by the urban regulations, as they would not fall into the categories required by law.

To conclude, with regard to space management tools adopted, in the Milan case there were no examples of internal regulations for the management of gardens on private land. In the Roman case, as regards the gardens of private foundations, the management takes place internally within the private entity; with regard to the *Orti di Veio* instead, the owners' choice was to implement a business model linked to Urban Farming, to which a private offer of Urban Food Gardening was flanked. In the case of Turin, all the case studies selected on private land have an internal regulation, which does not interact with the municipal one, concerning also relations with any external third-party associations involved in the management.

7.5 Peri-Urban Agriculture in Protected Natural Areas

This macro category of analysis was identified only in the cities of Milan and Rome. In the first case, three of the selected case studies fall within the *Parco Agricolo Sud Milano*. The first are Allotment Gardens belonging to the *Parco Boscoincittà*, whose implementation derives from

the initiatives proposed by *Italia Nostra*; the fact that these gardens fall within the Agricultural Park is in this case a secondary element, which does not influence the methods of management of the horticultural areas. Another case study is the one represented by the experience of *CasciNet*, in which the influence of the policies promoted by the city of Milan in terms of Urban Agriculture is more relevant. It is linked to the *Bando Cascine*, issued with the aim of revitalizing the rural heritage of the municipality represented by the historic farmhouses of public ownership. The fact that this area falls within the Agricultural Park has meant that the association and the cooperative that manages the area developed more in terms of multi-functional professional agriculture, also carrying out Market-Oriented Urban Farming activities, entering the agricultural production circuit of the *Parco Agricolo Sud Milano*. Finally, the most emblematic case is that of the *Orti di Via Chiodi*, where the designation of land use as protected area part of the Agricultural Park has prompted the owner to invest in a business model based on amateur Urban Agriculture, rather than on a classic model of intensive agriculture, offering a pure private service that goes alongside and makes up for the shortage of the public offer of Allotment Gardens.

As for the city of Rome, two selected case studies fall into protected areas. The *Hortus Urbis*, located in the *Appia Antica* Park, developed on the initiative of the Park Authority, in collaboration with the *Zappata Romana* association, to offer a recreational and educational service to park users. The case of the *Orti di Veio*, on the other hand, presents similarities with the Milanese case of the *Orti di Via Chiodi*. It is an example of a private offer, where the land use designation as protected natural area has prompted the owners to invest in a multi-functional agricultural business model. Given the peri-urban location, the project has connotations of multi-functional Market-Oriented Urban Agriculture, closer to the sphere of Urban Farming, which over time has developed by integrating Urban Food Gardening activities, going to compensate the lack of public municipal Allotment Gardens in the peripheral areas of the municipality.

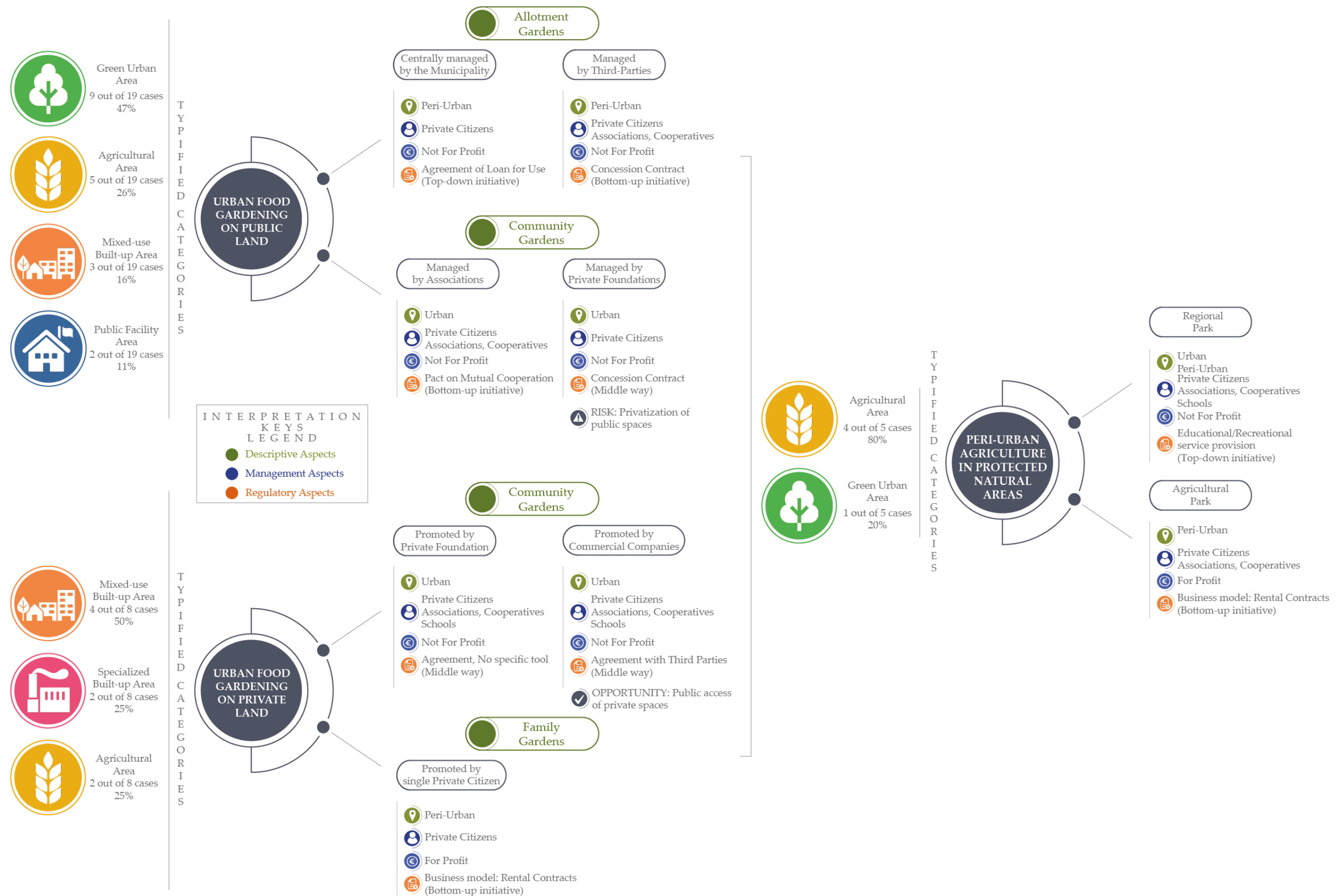


Figure 36 - Summary of the main findings from the comparative case studies analysis. *Personal elaboration.*

CONCLUSIONS

Coming to the conclusions, having already discussed the main findings obtained from the transversal reading of the various selected case studies, it is now useful to argue any research perspectives and open questions.

What emerged from the research is that the Italian panorama relating to the experiences of Urban Agriculture is certainly varied and diversified. It is full of growing experiences and projects which, however, mostly have a bottom-up connotation, thus they are difficult to be traced back to a standard pattern. In different contexts, in fact, it is hard to discern between the Urban Food Gardens centrally promoted by the public administration from collective informal initiatives, usually institutionalized at a later stage. Probably, the variety of ways in which Urban Food Gardening is declining in the main Italian cities is also due to the fact that the theme of UA is not yet systematically integrated into planning systems. The latter, moreover, differ in turn from city to city, due to the heterogeneity of urban planning laws at the regional level. Although an embryonic attempt has also been highlighted at the national level in wanting to promote the integration of UA in a systematic and structured way in urban policies, through the promotion of national projects or legislative proposals, the scenarios we are witnessing continue to be fundamentally diversified. This is due to the fact that UA is declined according to the peculiarities determined by the actors, spaces and policies of the specific circumstances of each city.

In general, the Italian practices of urban horticulture derives from past-rooted spontaneous initiatives, often illegal and unregulated, so that the current panorama is affected by the path-dependencies that characterized them. This characteristics make it almost impossible to identify a universal formula for the implementation of UA adaptable to every urban context. In any case, from the comparative reading of the selected case studies, 5 typified categories has been identified as a research result by the large casuistry analyzed, in order to define a generalizable categorization of Urban Food Gardening practices, applicable as a key to understanding in various urban contexts. These typified categories³³⁷ has been extracted on the basis of land use designation or land cover found in the different situations, with the aim of making it possible to apply a standard reading of UA practices based on their urban location in terms of both urban fabric and functions. These are in fact the main fundamental aspects to be considered when it comes to analysing UA relating to urban planning policies. However, this categorization should not be considered as a mean for identify standard solutions; on the contrary, many intersections and declinations have emerged within each category, which do not necessarily lead back to a shared standard. This is because UA practices depend on local circumstances, therefore it can not be defined a predetermined set of rules to be transferred

³³⁷ These five typified categories adopted to frame each Urban Food Gardening practice evidenced are: Urban Food Gardening in Agricultural Area; in Green Urban Area; in Public Facility Area (excluding public green); in Mixed-use built-up Area; and in Specialized built-up Area (intended for commercial or industrial use).

everywhere, but a context-specific approach is always required in the promotion and implementation of UA.

The diversification of scenarios which characterizes the Italian context is also found in the diversity of more or less sectorial approaches in addressing political choices in terms of UA. Its integration into the urban policy realm takes place in Italy in a more or less sectorial way, depending on the case. In particular, the prevailing trend sees the development of urban gardens as integrated in the environmental and green service provision sector, although there is no real integration of UA in zonification plans in any of the contexts analysed. This aspect is instead a crucial passage to integrate UA into Urban Planning, as highlighted by several scholars (Quon, 1999; Drescher, 2001; Mubvami et al., 2006). The literature in this regard, in fact, testifies that UA activities can represent main components of green zoning systems, where urban and peri-urban agricultural areas can be included in city development plans as part of green belts and green corridors, in order to address land use policies and avoid further urban development, highlighting the importance of UA for the city ecology (Deelstra and Girardet, 2000). In this sense, Italian practices follow this direction of action, especially in the Turin case, where the UA is expressly integrated into the Green Infrastructure Strategic Plan of the city. Alternatively, several researches have also outlined that UA sites can be combined with other urban functions promoting multi-functional land use. Or, on the other hand, such spaces for horticultural activities can be included in new public housing projects or private building schemes, within new housing development which envisage forms of communal space for agricultural activities (de Zeeuw et al., 2000). In this regard, the Italian context testifies that UA projects usually have been promoted in social housing districts, the case of Bologna is a peculiar example, precisely because of their social regeneration role in promoting community building and empowerment. Even with regard to new private residential districts, recent urban redevelopment projects have also seen the proliferation of Community Gardens, usually promoted by the same private investors as an alternative to other types of neighbourhood green spaces, as in the case of Milan. A solution that, on the other hand, appears little practiced in the Italian context, or at least in the case studies analyzed, is to integrate UA as a temporal use, both on public and private vacant land, in order to recover it from abandonment. In this regard, the involvement of the community in the management also represents a possible path to be adopted, because engaging the citizens in the maintenance of urban open spaces could help to reduce public costs for the care of these areas, protecting them from unofficial and informal uses at the same time (Ibid.). Despite the promotion of UA as temporal land use is not yet fully widespread, in terms of shared management solutions, the Italian context is instead witnessing the diffusion of new tools for the maintenance of urban spaces as common goods, through the adoption of Pacts on Mutual Cooperation that see citizens active in the care of urban commons.

To summarize, the political choices in terms of UA in the Italian context are mostly declined in terms of green system provision, usually addressed for urban and environmental regeneration purposes. This aspect could prove to be a starting point for opening the integration of Urban Food Gardening practices in the forecasts of urban planning tools at the municipal level in the form of urban standards, considering the UA as a component of the public city, interpreted in terms of green or social facilities provision. In this regard, some

considerations have to be done on the fact that integrating UA as a legitimated land use, as suggested by the literature, would bring back to the use of functional zoning, a solution that is trying to be overcome in favour of more flexible planning tools. In this regard, a point of reflection could concern the possibility of integrating Urban Agriculture as a temporary use in the land-use designation of urban planning tools of a more strategic nature, in order to make these forecasts adaptable to the ever-changing needs of urban development. Or, on the other hand, to make the integration of UA in planning tools more effective and reliable, it could be included as a typology of urban standard. This could represent an alternative choice, making UA a compulsory component of the public city, required by law, and leading to an effective integration of UA practices in urban planning at municipal level. However, this possibility must entail a reformulation of how urban standards are conceived by law, introducing qualitative and performance criteria, also in terms of ecosystem services offered, which would complement the strictly quantitative criteria currently envisaged for their definition. An urban garden can not be planned or promoted only in quantitative terms, but it should involve a system evaluation of its benefits, thus a suggestion could be to introduce performance criteria for the planning and design of UA in terms of ecosystem services provided, which would encompass not only environmental and ecological benefits, but also cultural and social ones. This solution has been inspired by the evidence of the case studies, because urban gardens are promoted in the context analysed in terms of green infrastructures for the qualification of the green system; as well as components of the facility provision in a city as community services, for their social regeneration role in social policies.

With regard to final considerations about space management tools, it is evident that the winning formula in the Italian context is that of resorting to the intermediary intervention of associations or groups of voluntary citizens, and in this regard the introduction of new tools for the shared management of urban common goods are proving to be the most effective solution. This is because they are resorting to the direct involvement of citizens, so as to relieve the public administration from commitments relating to the management and maintenance of public spaces, which often weighs on municipal budgets. In this regard, the financial aspect represents one of the main difficulties encountered in the implementation and maintenance of UA projects. In fact, the solutions for the implementation of various Urban Food Gardening experiences are increasingly differentiating also in terms of the actors involved, no longer limited to public administration or voluntary institutions. In this respect, the cities of Turin and Milan demonstrate an ever-growing private initiative, which goes alongside the public offer of Allotment Gardens, often lacking and not ready to satisfy the growing and diversified demand from the population groups interested in urban horticulture.

To conclude, it is hoped that this thesis research, and the information resulting from the comparative reading of the case studies, can represent a starting point for further study. The work presented so far has been limited to the analysis of Urban Food Gardening experiences on urban soil, excluding cases of indoor gardens, so as to be able to deepen the relationships of these activities with land uses forecasts. However, it emerged that there is still almost no integration between land use policies and the promotion of UA projects, which is considered by Italian planning tools as a generic urban green space, although its characterization in terms of

multi-functionality actually makes it an element to be integrated into the urban system in a cross-sectorial as well as multi-scalar way. In fact, another interesting aspect of analysis would be that relating to the forms of governance, or to the entrepreneurial models and to the types of actors involved in the various realities active on the Italian scene, aspects that have been taken into consideration only superficially, but which deserve a specific study on the diversity of UA practices in terms of stakeholders involvement and related relationships.

Ultimately, with regard to the main difficulties encountered in the course of the research, it must be said that, while on the one hand the wide diversity of cases of Urban Food Gardening provides a fertile field of study to carry out considerations and comparative analyses, at the same time it is difficult to bring the various experiences back to shared reading standards. Furthermore, it should be emphasized that the level of data available in Italy regarding the diffusion of UA phenomena is lacking and incomplete. Official institutes such as *ISTAT* have only recently included the category of urban gardens among the types of green surveyed, and this census takes place only at the level of Metropolitan or Provincial Cities. Despite other subjects have tried to collect and systematize data, most of the attempts undertaken have remained incomplete. Even at the municipal level, attempts of mapping and surveys UA cases often refer to data collected through bottom-up sharing and networking activities, following participatory mapping initiative. Therefore, a first starting point for further deepening the scenario of Urban Agriculture in the Italian context should start from an effective and complete systematization and collection of data, in order to fill the information gap that exists today. Only on the basis of a complete database, also supplemented by information relating to the georeferencing of cases, it could be possible to deepen more and evaluate the integration of such experiences in the City Planning strategies. Moreover, the difficulties related to the lack of a common vocabulary in the Italian context, of a clear terminology that identifies the different types in a univocal way and allows a more precise comparison of the multiple experiences in progress, must also be overcome. Thus, to conclude, a first step could be the definition of a common nomenclature and the construction of an Atlas of Italian Urban Agriculture, in order to have a complete and reliable knowledge reference framework on the basis of which any urban policies can be planned and implemented, both at national and local level in an integrated way.

ANNEX I










Case Studies Summary Tables




Case Study	Typified Category	Macro-group of Study	Descriptive Aspects				Management Aspects			Regulatory Aspects	
			Typology	Location	Land Property	Land Cover	Users	Intent	Maintenance	Land Use Designation	Space Management Tool
											
Bologna											
GreenHousing	Mixed-use built-up Area.	Urban Food Gardening on Public land.	Community Gardens.	Urban (Rooftop gardens).	Public. (ACER – Azienda Casa Emilia-Romagna)	Artificial surfaces - Urban fabric: Discontinuous urban fabric.	Residents.	Not for profit.	Non-Paid, managed by Individual .	Public facility: social housing building. Structured urban fabric: urban regeneration mixed-use built-up area.	No space management tool has been specifically adopted, since it is a Community Garden on the roof of a building. Model of co-governance and co-management.
OrtoCircuito Spazio Battifume	Public facility Area.	Urban Food Gardening on Public land.	Community Gardens, Therapeutic Gardens, Educational Gardens. + Urban Farming.	Urban.	Public.	Artificial surfaces - Industrial, commercial and transport units: Industrial or commercial units.	Cooperative, Associations, Citizens, Shoos.	Not for profit.	Middle-way, managed as public services.	Public facility: social and cultural activity. Structured urban fabric: urban regeneration specialized built-up area.	Public tender by the Municipality for land assignment at a pre-established rent of concession for use in horticulture. EtaBeta is the management body. Application of <i>Regolamento per la conduzione e la gestione dei terreni adibiti ad aree ortive</i> by the Municipality. Pact on Mutual Cooperation between the Municipality and EtaBeta, based on <i>Regolamento sulla collaborazione tra cittadini e amministrazione per la cura e la rigenerazione dei beni comuni urbani</i> by the Municipality. The new land is granted free of charge.
Orti Condivisi, Giardino Peppino Impastato	Green urban Area.	Urban Food Gardening on Public land.	Community Gardens.	Urban.	Public.	Artificial surfaces - Urban fabric: Discontinuous urban fabric.	Associations.	Not for profit.	Non-Paid, managed by Group.	Public facility: green area. Structured urban fabric: planned mixed-use built-up area.	Free grand of land owned by the Municipality and application of <i>Regolamento per la conduzione e la gestione dei terreni adibiti ad aree ortive</i> by the Municipality. Pact on Mutual Cooperation between the Municipality and Associazione Orti Giardino Peppino Impastato, the management body; based on <i>Regolamento sulla collaborazione tra cittadini e amministrazione per la cura e la rigenerazione dei beni comuni urbani</i> by the Municipality.
Villa Bernaroli	Agricultural Area.	Urban Food Gardening on Public land.	Allotment Gardens, Therapeutic Gardens, Cultural Heritage Farm. + Urban Farming.	Peri-Urban.	Public.	Agricultural areas - Arable land: Non-irrigated arable land.	Citizens, Cooperative, Schools.	Not for profit (the Allotment Gardens). For profit (most of the estate managed by <i>Arvaia</i> addressed to Urban Farming).	Middle-way, managed as public services (the Allotment Gardens). Paid, managed by a Company (most of the estate managed by <i>Arvaia</i> addressed to Urban Farming).	Public facility: green area. Rural territory: agricultural area of landscape value.	Public tender by the Municipality for land assignment on free loan for use in horticulture. <i>Centro Sociale Villa Bernaroli</i> is the management body. Application of the <i>Regolamento per la conduzione e la gestione dei terreni adibiti ad aree ortive</i> by the Municipality (the Allotment Gardens). Public tender by the Municipality for 25-year lease of land, won by <i>Arvaia</i> . <i>Regolamento CSA – Comunità che supporta l'agricoltura</i> by Arvaia (most of the estate managed by <i>Arvaia</i> addressed to Urban Farming).
Orti Salgari	Mixed-use built-up Area.	Urban Food Gardening on Public land.	Allotment Gardens, Therapeutic Gardens.	Peri-Urban.	Public.	Agricultural areas - Arable land: Non-irrigated arable land.	Citizens, Schools, Associations.	Not for profit.	Non-Paid, managed by Group.	Public facility: green area. Structured urban fabric: planned mixed-use built-up area.	Public tender by the Municipality for land assignment on free loan for use in horticulture. <i>Associazione Orti di Via Salgari</i> is the management body. Application of the <i>Regolamento per la conduzione e la gestione dei terreni adibiti ad aree ortive</i> by the Municipality.




Case Study	Typified Category	Macro-group of Study	Descriptive Aspects				Management Aspects			Regulatory Aspects	
			Typology 	Location 	Land Property 	Land Cover 	Users 	Intent 	Maintenance 	Land Use Designation 	Space Management Tool 
Orti di Via Orfeo	Mixed-use built-up Area.	Urban Food Gardening on Private land.	Community gardens	Urban.	Private.	Artificial surfaces - Urban fabric: Continuous urban fabric.	Associations, Citizens.	-	Non-Paid, managed by Group.	Ecological-environmental element in project. Structured urban fabric: historic city centre.	Fondazione Pio Istituto delle Sordomute Povere di Bologna is the owner of the area. Currently no management proposal.

Milan

Orti Spinè, Parco Boscoincittà	Agricultural Area.	Urban Food Gardening on Public land. + Peri-Urban Agriculture in Protected Natural Areas.	Allotment Gardens.	Peri-Urban.	Public.	Agricultural Areas - Arable land: Non-irrigated arable land.	Citizens.	Not for profit.	Middle-way, managed as public services.	Peri-Urban agricultural area. Excluded from urban development. Part of <i>Parco Agricolo Sud Milano</i> .	Public tender by the Municipality of Milan for land assignment. Agreement of loan for use between the user and <i>Centro per la Forestazione Urbana</i> , the management body. Application of <i>Regolamento per la gestione degli orti urbani</i> by <i>Boscoincittà, Centro per la Forestazione Urbana</i> .
Orti Parco Alessandrini	Green Urban Area.	Urban Food Gardening on Public land.	Allotment Gardens.	Urban..	Public.	Artificial Surfaces - Urban fabric: Discontinuous urban fabric.	Citizens.	Not for profit.	Paid, managed by Individual.	Public facility: green area.	Public tender by <i>Municipio 4</i> for land assignment on annual rent for use in horticulture. Agreement of loan for use between the user and <i>Municipio 4</i> . Application of <i>Regolamento Orti Municipio 4</i> by the local administrative district.
Il Giardino degli Aromi	Green Urban Area.	Urban Food Gardening on Public land.	Community Gardens, Therapeutic Gardens.	Urban.	Public.	Artificial surfaces - Artificial, non-agricultural vegetated areas: green urban areas.	Association.	Not for profit.	Non-Paid, managed by Group.	Public facility: green area in project. Area for urban renewal.	Grant of land for rent between the <i>Città Metropolitana di Milano</i> and <i>Associazione Il Giardino degli Aromi</i> , the management body. Application of the internal regulation for community garden by <i>Associazione Il Giardino degli Aromi</i> .

Case Study	Typified Category	Macro-group of Study	Descriptive Aspects				Management Aspects			Regulatory Aspects	
			Typology 	Location 	Land Property 	Land Cover 	Users 	Intent 	Maintenance 	Land Use Designation 	Space Management Tool 
Coltiviamo Insieme	Green Urban Area.	Urban Food Gardening on Public land.	Educational Gardens.	Urban.	Public.	Artificial surfaces - Urban fabric: Discontinuous urban fabric.	Shools.	Not for profit.	Non-Paid, managed by Group.	Public facility: green area.	Agreement between the Municipality of Milan and <i>Fondazione Riccardo Catella</i> , the management body, for the maintenance of the public garden.
CasciNet	Agricultural Area.	Urban Food Gardening on Public land + Peri-Urban Agriculture in Protected Natural Areas.	Community Gardens. + Urban Farming.	Peri-Urban.	Public.	Agricultural Areas - Arable land: Non-irrigated arable land.	Citizens, Association.	Not for profit.	Non-Paid, managed by Group.	Peri-Urban agricultural area. Excluded from urban development. Part of <i>Parco Agricolo Sud Milano</i> .	Public tender by the Municipality of Milan for granting of land rights for the redevelopment of <i>Sant' Ambrogio</i> farmhouse. Land lease contract between the Municipality of Milan and <i>CasciNet</i> , the management body.
Orti Fioriti, City Life	Mixed-use built-up Area.	Urban Food Gardening on Private land.	Community Gardens.	Urban.	Private.	Artificial Surfaces - Industrial, commercial and transport units: Industrial or commercial units.	Cooperative, Citizens.	Not for profit.	Paid, managed by a Company.	Transformation Urban Area in project. Mixed use.	No space management tool has been specifically adopted. Maintenance and care is entrusted to experienced professional gardeners.
Orti di Via Chiodi	Agricultural Area.	Urban Food Gardening on Private land + Peri-Urban Agriculture in Protected Natural Areas.	Community Gardens/Family Gardens.	Peri-Urban.	Private.	Agricultural Areas - Arable land: Non-irrigated arable land.	Citizens.	For profit.	Paid, managed by Individual.	Peri-Urban agricultural area. Excluded from urban development. Part of <i>Parco Agricolo Sud Milano</i> .	No space management tool has been specifically adopted. The owner directly rent his land to private citizens.










Case Study	Typified Category	Macro-group of Study	Descriptive Aspects				Management Aspects			Regulatory Aspects	
			Typology	Location	Land Property	Land Cover	Users	Intent	Maintenance	Land Use Designation	Space Management Tool
											
Rome											
Parco Ort9, Casal Brunori	Agricultural Area.	Urban Food Gardening on Public land.	Community Gardens, Educational Gardens.	Peri-urban.	Public.	Agricultural Areas - Arable land: Non-irrigated arable land.	Citizens, Association, Schools.	Not for profit.	Middle-way, managed as public services.	Public facility: green area. Ecological Network - secondary component.	Public tender by the Municipality of Rome for land assignment, upon project presentation by Association/Group of citizens. Agreement of loan for use between the Association and Municipio VIII. Grant of land for rent between the user and Associazione Vivere In...Onlus, the management body. Application of Regolamento per l'affidamento in comodato d'uso e per la gestione di aree a verde di proprietà di Roma Capitale compatibili con la destinazione a orti/giardini urbani by the Municipality of Rome; and internal Regulation by Associazione Vivere In...Onlus.
Ortolino	Green Urban Area.	Urban Food Gardening on Public land.	Community Gardens, Educational Gardens.	Urban.	Public.	Artificial Surfaces - Urban fabric: Discontinuous urban fabric.	Citizens, Shoools.	Not for profit.	Middle-way, managed as public services.	Public facility: green area. Ecological Network - completion element.	Public tender by the Municipality of Rome for land assignment, upon project presentation by Association/Group of citizens. Agreement of loan for use between the Association and Municipio VIII. Grant of land for rent between the user and Associazione Ortolino, the management body. Application of Regolamento per l'affidamento in comodato d'uso e per la gestione di aree a verde di proprietà di Roma Capitale compatibili con la destinazione a orti/giardini urbani by the Municipality of Rome; and internal Regulation by Associazione Ortolino.
Orti Garbatella	Green Urban Area.	Urban Food Gardening on Public land.	Community Gardens, Educational Gardens.	Urban.	Public.	Artificial Surfaces - Urban fabric: Discontinuous urban fabric.	Association, Citizens, Schools, Coopearitives.	Not for profit.	Middle-way, managed as public services.	Public facility: green area. Urban fabric - settlement system: Transformation Area. Ecological Network - completion element.	Public tender by the Municipality of Rome for land assignment, upon project presentation by Association/Group of citizens. Agreement of free loan for use between the Association and Municipio XI. Grant of land for rent between the user and Associazione Orti Urbani Garbatella, the management body. Application of Regolamento per l'affidamento in comodato d'uso e per la gestione di aree a verde di proprietà di Roma Capitale compatibili con la destinazione a orti/giardini urbani by the Municipality of Rome; and internal regulation by Associazione Orti Urbani Garbatella.
Orti Tre Fontane	Green Urban Area.	Urban Food Gardening on Public land.	Community Gardens, Educational Gardens.	Urban.	Public.	Artificial Surfaces - Urban fabric: Discontinuous urban fabric.	Association, Citizens.	Not for profit.	Middle-way, managed as public services.	Public facility: green area. Urban fabric - settlement system: Structuring Project. Ecological Network - completion element.	Public tender by the Municipality of Rome for land assignment, upon project presentation by Association/Group of citizens. Agreement of free loan for use between the Association and Municipio VIII. Grant of land for rent between the user and Associazione Orti Urbani Tre Fontane, the management body. Application of Regolamento per l'affidamento in comodato d'uso e per la gestione di aree a verde di proprietà di Roma Capitale compatibili con la destinazione a orti/giardini urbani by the Municipality of Rome; and internal regulation by Associazione Orti Urbani Tre Fontane.

Case Study	Typified Category	Macro-group of Study	Descriptive Aspects				Management Aspects			Regulatory Aspects	
			Typology 	Location 	Land Property 	Land Cover 	Users 	Intent 	Maintenance 	Land Use Designation 	Space Management Tool 
Hortus Urbis	Green Urban Area.	Urban Food Gardening on Public land + Peri-Urban Agriculture in Protected Natural Areas.	Educational Gardens.	Urban.	Public.	Agricultural Areas - Heterogeneous agricultural areas: Complex cultivation patterns.	Association.	Not for profit.	Non-Paid, managed by Group.	Public facility: protected green area. Part of Parco Regionale Appia Antica. Ecological Network - primary component.	No space management tool has been specifically adopted, since it is a Community Garden within a Regional Park. The regulation by the Park Authority does not mention the horticultural area, it is limited at regulating the use of spaces annexed to <i>Cartiera Latina</i> multifunctional complex, to which the urban gardens are attached, without expressing any rules regarding the garden.
Orti dell’American Academy in Rome	Mixed-use built-up Area.	Urban Food Gardening on Private land.	Community Gardens.	Urban.	Private.	Artificial Surfaces - Urban fabric: Discontinuous urban fabric.	Association.	Not for profit.	Paid, managed by a Company (financed by the American Academy in Rome).	Historic city centre: historical villa with private green areas of historical-morphological-environmental value. Urban fabric - historical city centre: special buildings.	No space management tool has been specifically adopted, since it is part of the American Academy pertinences. Maintenance and care is entrusted to experienced professional gardeners.
Orti di Veio	Agricultural Area.	Urban Food Gardening on Private land + Peri-Urban Agriculture in Protected Natural Areas.	Family Gardens. + Urban Farming.	Peri-urban.	Private.	Agricultural Areas - Arable land: Non-irrigated arable land.	Association, Citizens.	For profit.	Paid, managed by Individual.	Public facility: protected green area. Part of <i>Parco Regionale di Veio</i> . Ecological Network - primary component.	No space management tool has been specifically adopted. The owner directly rent his land to private citizens.

Turin

Orti Laghetti di Falchera	Agricultural Area.	Urban Food Gardening on Public land.	Allotment Gardens.	Peri-urban.	Public.	Artificial Surfaces - Industrial, commercial and transport units: Industrial or commercial units. Bordered with Agricultural areas - Arable land: Non-irrigated arable land.	Citizens, Associations.	Not for profit.	Middle-way, managed as public services.	Public facility: green area. Agricultural Park.	It is classified as <i>Orto Circoscrizionale</i> . Public tender by <i>Circoscrizione 6</i> for land assignment on annual rent for use in horticulture. Application of <i>Regolamento per l’assegnazione e la gestione degli orti urbani</i> by the Municipality; and <i>Regolamento per la gestione degli orti urbani siti in strada dell’Arriore e in zona “Laghetti Falchera”</i> by <i>Circoscrizione 6</i> .
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Case Study	Typified Category	Macro-group of Study	Descriptive Aspects				Management Aspects			Regulatory Aspects	
			Typology 	Location 	Land Property 	Land Cover 	Users 	Intent 	Maintenance 	Land Use Designation 	Space Management Tool 
Orti Generali	Green urban Area.	Urban Food Gardening on Public land.	Community Gardens, Therapeutic Gardens.	Peri-urban.	Public.	Artificial Surfaces - Artificial, non-agricultural vegetated areas: Green urban areas.	Citizens, Cooperative, Schools.	Not for profit.	Paid, managed by a Group.	Public facility: green area. <i>Sangone</i> River Park.	It is classified as <i>Orto Associativo</i> . Public concession notice by the Municipality of Turin. <i>Associazione Orti Generali</i> APS, the management body. No specific internal regulation.
Ortoalto Ozanam	Mixed-use built-up Area.	Urban Food Gardening on Public land.	CommunityGardens. + Urban Farming.	Urban.	Public.	Artificial Surfaces - Urban fabric: Discontinuous urban fabric.	Associations, Cooperative, Citizens.	Not for profit.	Non-Paid, managed by Group.	Public facility: community facility building. Residential mixed-use built up area.	It is classified as <i>Orto Associativo</i> . Public concession notice by the Municipality of Turin. <i>Associazione OrtiAlti</i> , the management body. Application of <i>Regolamento Edilizio Comunale</i> for conversion of an inaccessible solar flat roof into a productive green roof. Pact on Mutual Cooperation and <i>Regolamento di Gestione Condiziva dell'ortoalto di Casa Ozanam</i> (in the process of being drafted).
Or-To, Eataly Lingotto	Public facility Area	Urban Food Gardening on Public land.	Educational Gardens.	Urban.	Public.	Artificial Surfaces - Industrial, commercial and transport units: Industrial or commercial units.	Shools.	Not for profit.	Paid, managed by a Company (financed by Eataly).	Transformation Urban Area (<i>Zona Urbana di Trasfrmazione - ZUT</i>). Public facility.	It is classified as <i>Orto Associativo</i> . No space management tool has been specifically adopted, since it is a Community Garden on a public square. Model of co-governance and co-management.
Orto Fai Da Noi, Leroy Merlin	Specialized built-up Area.	Urban Food Gardening on Private land.	Community Gardens, Educational Gardens.	Urban.	Private.	Artificial Surfaces - Industrial, commercial and transport units: Industrial or commercial units.	Residents.	Not for profit.	Paid, managed by a Company financed by eLeroy Merlin).	Transformation Urban Area (<i>Zona Urbana di Trasfrmazione - ZUT</i>). Commercial use. Specialized productive built-up area.	It is classified as <i>Orto Associativo</i> . Agreement of loan for use between the user and <i>Leroy Merlin</i> , the owner. Application of <i>Regolamento L'orto Fai da Noi. Un'orto di comunit� per coltivare, imparare e restituire</i> by <i>Leroy Merlin</i> .

Case Study	Typified Category	Macro-group of Study	Descriptive Aspects				Management Aspects			Regulatory Aspects	
			Typology 	Location 	Land Property 	Land Cover 	Users 	Intent 	Maintenance 	Land Use Designation 	Space Management Tool 
Orto Urbano Lidl	Mixed-use built-up Area.	Urban Food Gardening on Private land.	Community Gardens, Educational Gardens.	Urban.	Private.	Artificial Surfaces - Industrial, commercial and transport units: Industrial or commercial units.	Associations, Citizens.	Not for profit.	Non-Paid, managed by Group.	Transformation Urban Area (Zona Urbana di Trasfrmazione - ZUT). Mixed use. (Eurotorino Parco Tecnologico)	It is classified as Orto Associativo. Public tender by Associazione RE.TE. for rooftop garden plots assignment.
Orti al Centro, Parco Commerciale Dora	Specialized built-up Area.	Urban Food Gardening on Private land.	Community Gardens, Educational Gardens.	Urban.	Private.	Artificial Surfaces - Industrial, commercial and transport units: Industrial or commercial units.	Associations, School, Citizens.	Not for profit.	Non-Paid, managed by Group.	Transformation Urban Area (Zona Urbana di Trasfrmazione - ZUT). Mixed use.	It is classified as Orto Associativo. Public use granted by Dora Commercial Park, the owner. Public tender by Associazione Innesto, the management body. Project regulation relating to the management of the horticultural area provided by Associazione Innesto.

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CONCLUSIONS

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CHAPTER 6

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