

## **VALUES, ROLES AND ACTORS AS DRIVERS TO BUILD A LOCAL FOOD STRATEGY: THE CASE OF AGRICULTURAL PARK OF "CASAL DEL MARMO"**

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*Keywords: Food planning, urban agriculture, Rome, ecosystem services.*

*Abstract: The paper configures the Parco Agricolo of Casal del Marmo, as well as all other food practices in Rome, as a device of resilience for the city, made up of places where flows, relationships and processes become increasingly more sustainable, and where both physical and intangible spaces act as an infrastructure in their exchange with the city. Our issue is about understanding the role of a Parco Agricolo in building a food strategy, increasing knowledge and establishing a baseline for evaluating the potential role of local food shed, even in terms of its impact on agro-ecosystems and landscape.*

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### **1. Introduction**

The relationship between agriculture, food and cities - seen not as a simple fact but as a complex system of social, economical and political behaviours - can tell the story of many Mediterranean cities and certainly that of Rome. The lack of productive urban land, the food insecurity, the uncontrolled urban growth, the lack of stable local food markets, the land use conflicts in the urban areas and a general lack of knowledge about the food production, fuel the debate about city and food in time of changes.

Casal del Marmo area is located in Rome, on both public and private land. In the area take place two different farms, one is a social cooperative, deeply involved in care farming, and the other one is a large landed estate example. The park's area hosts several informal allotment gardens and it seems extremely interesting in terms of both natural and agricultural aspects. The process of park design is involving both the Municipality of Rome and different local stakeholders. It has several objectives: it aims to reconstruct the historical heritage of the area, to develop innovative ways to strengthen the sustainability of new model of business and market, and to identify governance model of public involvement. We focus on understanding the role of a Parco Agricolo in building a food strategy, increasing knowledge and establishing a baseline for evaluating the potential role of local food shed, even in terms of its impact on agro-ecosystems and landscape. Starting from the relationship between town and country in Mediterranean contexts (Cavallo et al., 2014), we focusing on some main questions: Which planning and governance path is developing? How the local community perceived the flow of externalities produced by the park? And finally which role can be played by farming and food activities conducted in the Park, in the neighbourhood transformation process?

The paper is organized as follow: paragraph 2 summarizes the main Rome practice, in paragraph 3 we focus on the park area, in 4 on analysis of ecosystem services in Casal del Marmo to understand how the local community perceived the flows of products, good and services of the Parco. In sections 5 we deepen the role played by the involved actors and the commitment of Rome City Council and we discuss the potential role of the park in building a local food Strategy and some final remarks.

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## 2. The role of Casal del Marmo Park within Rome food practices

Since 2013 Rome Municipality is engaged in different initiatives strictly linked with agriculture and food. Analysing all actions we have select a set of thematic axes to understand their meaning and role in the Roman model.

First we have choose the programme 100 Resilient Cities financed by the Rockefeller Foundation (100RC) as the most relevant in terms of education. The program aims to bring cities around the world to a more resilient model, within the program 100RC Rome Municipality is seeking new ways to preserve its rich cultural heritage and protect itself from a variety of environmental and socioeconomic shocks and stresses. Rome is struggling to reverse decades of poorly regulated development and address its informal housing neighbourhoods, inadequate infrastructure provision, and sprawl.

Regarding the public food service, Rome represents a model at international level in school canteen (Morgan and Sonnino, 2008). One of the most important project deserving to be presented is known as the Quality Revolution, concerned with school canteen service in Rome. In the last decade the concept of quality has been widely used to describe the dynamics that have been shaping the system of food and agriculture. Moreover, nowadays organic food represents the 69% of all food served in schools, except meat, fish and cold cuts. Rome's approach enhanced the market in terms of sustainability and quality and companies are now aware that they face a public administration, which requires strict compliance in order to continuously improve their own performance. Nowadays, the Rome City Council has promoted a new initiative involving an agricultural cooperative and a primary school, named "Uruguay", where twice a month the school meals come from a farm based near the school. We can consider this practice as at the same time an education and a farming support action, but due to the fact that only one school has adopted this model we can not consider notable its impact on urban resilience.

The role played by the local food network in Rome is remarkable, particularly in case of farmers' market, SPG' and those linked to box schemes experiences have seen significant success (Cavallo et al., 2015). The increasing importance of Alternative and Local Food Networks is showed in the data: the 60% of Rome municipalities farms sell directly (Istat, 2012) it was registered an increase of + 57% Farmers' market at municipality level and of + 64% in Rome Metropolitan Area (2010/13) (Marino et al., 2013). The Rome Local Food Network behind agriculture in the city, within a number of integrated social agrarian cooperative, who represented an alternative food production system and landmark for many initiatives carried out by the civil society, associations, cooperatives, volunteer and school sectors, community supported agriculture (CSA) initiatives. Now Rome has a Regulation on farmers market and the XIV Municipality has activated "DOM", a brand that distinguishes the products of SFSC from about 30 local farms. "DOM" is an interesting case due to its role in terms of business, different from all other action that are able to act mostly in terms of education.

Rome's city limits include large expanses of still viable agricultural lands and natural reserves, and its forward looking planners are focused on transforming these assets in order to maintain and protect its environment and build long-term resilience to shocks and stresses. The Rome City Council is enhancing actions to promote integrated management of agricultural lands, defining tools aimed to promote biodiversity and landscape protection. During the last year the Rome Municipality allocate 50 hectares of vacant public lands to two different groups of young farmers with the idea of promote urban and periurban agriculture. Borghetto San Carlo, 22 hectares in the north side of the city, is located in the Protected area of Parco di Vejo, a green infrastructure that connect a marginal urban area with the Rome countryside. The second, named Tor de Cenci, is in the opposite side of Rome, between an high density neighbourhood and the Protected area of Castel Porziano. It's too early to analyse effects of both experiences in terms of impacts, but we can estimate a very high role of this

kind of practice in education. The Rome council presents an announcement for four different areas, but due the fact that one of those was not vacant – it is occupied by a group of activist from the 60s– and one needs an high investment to be activate, only the 50% are involved in a process of reuse. Rome has four historical public farms, for an amount of 2400 hectares inside the city, in an deficit budget, in this framework Borghetto and Tor de Cenci represent a new and interesting way to manage public lands, the framework of the Rome City Council Commitment on food and agriculture is summarized in figure 1.

Moving from farming to planning actions, again the XIV Municipality has started the project for Casal del Marmo Park. It's a combination of a working farm and a municipal park that is located at the urban edge. The Agro Park can serve as transition and buffer between urban and agricultural uses. It'd be a multiple space defined by small farms, public areas and natural habitat.

Casal del Marmo is located on both public and private lands, vary in acreage, and it host single and multiple tenants, and have a variety of both agricultural and park components.

The system described above configures a set of different forms of foodscape as a device of resilience, made up of places where flows, relationships and processes become increasingly more sustainable, and where both physical and intangible spaces act as an infrastructure in their exchange with the city.

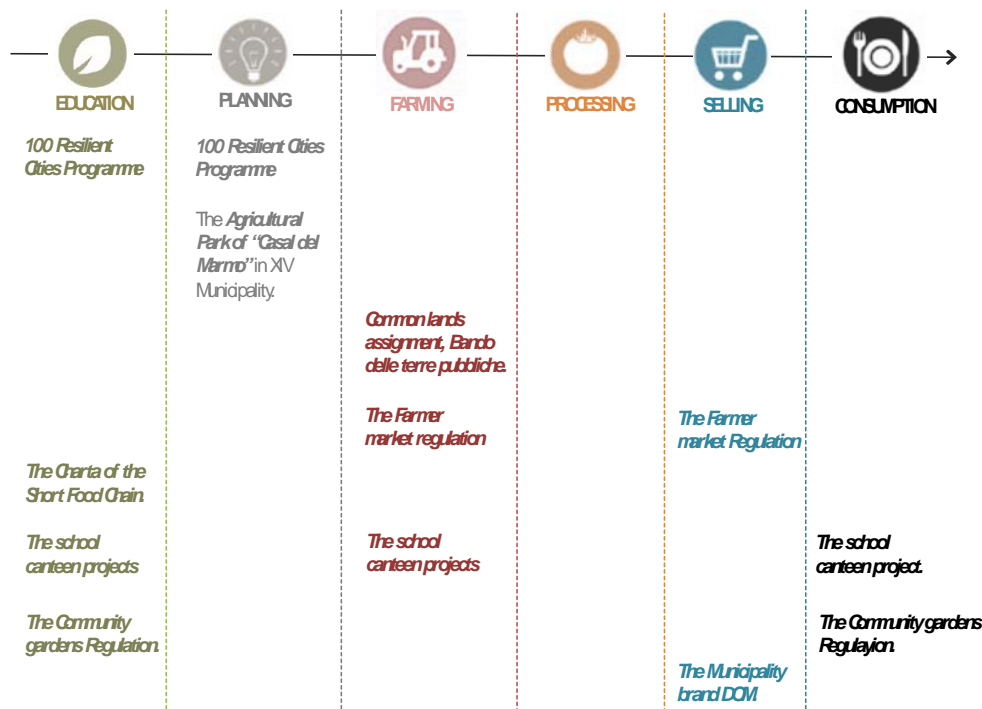


Figure 1. The Rome City Council Commitment on food and agriculture.

However most actions are based on informal practices, establish by The Rome Municipality, their scale is still local and can't design a network. The Roman model is strongly bottom up, with an ineffective policy making and planning actions. The Rome council is not able to act also at the metropolitan level and it's an obstacle in building a strengthening urban rural relationship in terms of administrative engagement. The last issues is about built a link between market and Institutions: it's seems that all energies are in education actions and only a few part of Roman Council projects are able to look at the agriculture activity as economic tools to develop new urban models.

### 3. The Parco Agricolo of Casal del Marmo

The Parco Agricolo of Casal del Marmo is located in the North-West of Rome within the GRA, the major highway that surrounds the city. The Parco Agricolo includes about 500 hectares of cropland (Agro Romano) between the urban areas of Palmarola neighborhood in the north and Primavalle and Torrevicchia neighborhoods in the south-east. In the Parco Agricolo there are numerous items of historical and archaeological interest and some major public infrastructure like Santa Maria della Pietà, San Filippo Neri Hospital, the high school "Pasteur" and the juvenile prison "Casal del Marmo". The Parco Agricolo of Casal del Marmo is a "naturalistic remains" of the Agro Romano that, before the urbanization and expansion of the city, had an ecosystemic continuity with other green areas, now protected, in the North West of Rome (Insugherata Natural Reserve, Urban Regional Park "Pineto", Natural Reserve of Monte Mario and Natural Reserve of the "Tenuta dell'Acquafredda").

The area of the Parco Agricolo is included in the XIV Municipality of Rome, it is an extended floodplain with a minor hydrographic network made up of three valleys: Polledrara ditch (1.5 km), Marmo Nuovo ditch (4.3 km) and Fagiano ditch which flows into Capannelle ditch (3.6 km). While Polledrara ditch has not suffered any particular environmental impacts, Marmo Nuovo and Capannelle ditches present bad environmental conditions due to not untreated sewage that is the main cause of pollution in the area, together with illegal landfills dumping.

The Parco Agricolo is a complex agro-ecosystem where natural and human factors are highly integrated. The allocation of land ownership is a first factor: the 30% of the area is owned by the Rome Metro Area (120 hectares), half is entrusted to the Cobragor cooperative, a multifunctional farm that, in addition to traditional farming activities, including arable land, permanent crops (olive groves, orchards), greenhouse and open field vegetables, has been carrying on different activities related to olives processing, agritourism and educative courses for schools.

The remaining public part of the Parco Agricolo includes some areas squatted by "ortisti" (vegetable gardeners) and divided in about 200 small cultivated plots fenced with recycled materials.

The private land of the Parco Agricolo is about twice in terms of extension of the public part and it is currently used for cultivation. It consists of three large estates (Massara, Mancini and Vittorini, respectively of 100, 110 and 60 ha) and other small areas smaller than one hectare. The part of the Parco Agricolo beside via di Casal del Marmo is important for grazing thanks to presence of meadows and pastures.

Agricultural activities in the area both as an economic (Cobragor cooperative) and a social activity and leisure (urban gardens) have undoubtedly been the main defense of this part of the city from soil sealing and have increased people's awareness of the material and immaterial value. In 2012 the "Committee for the Parco Agricolo di Casal del Marmo" has started to promote the project of the Parco Agricolo of Casal del Marmo as required by the Piano Regolatore Generale of Rome (PRG), the roman urban plan. The project has many objectives crucial for the future of the area from environmental and socio-economic point of view.

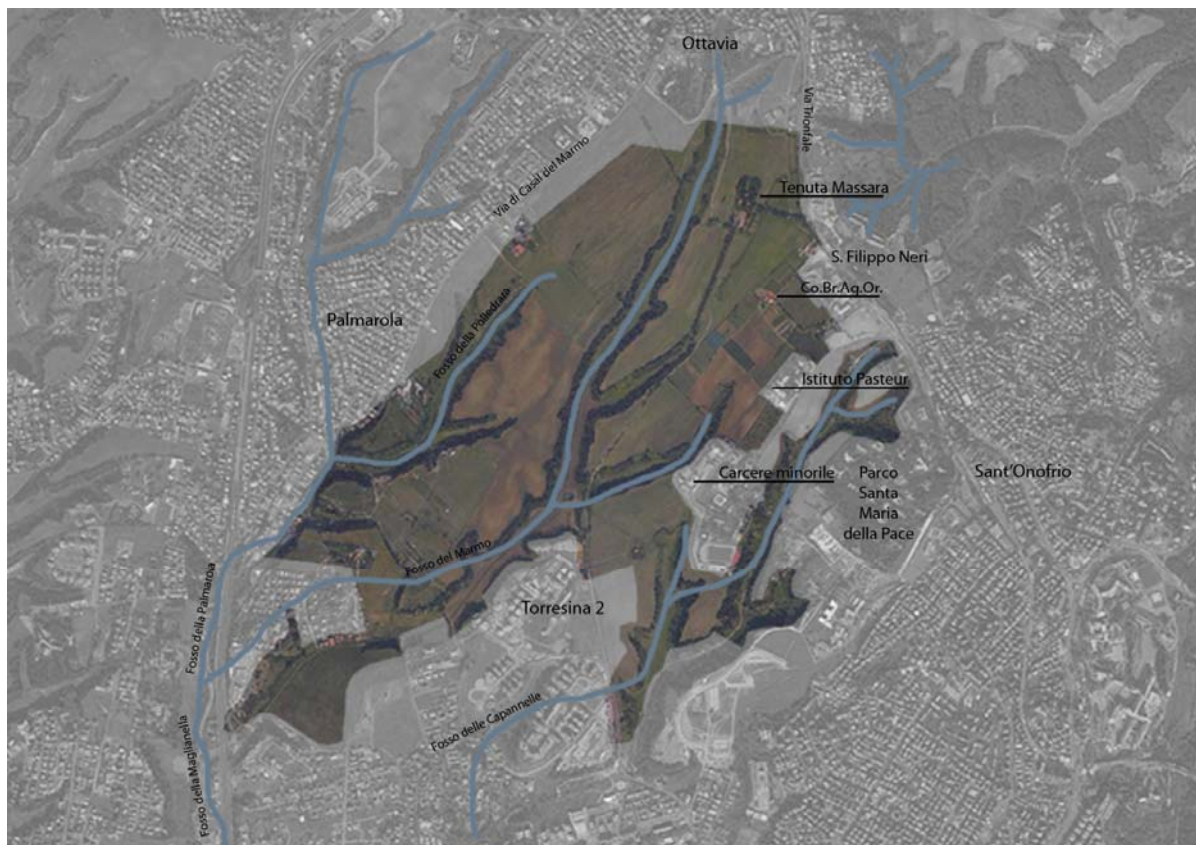
The Parco Agricolo di Casal del Marmo has a good potential accessibility related to the presence of the urban railway Rome-Cesano and several entrances for cars, bikes and pedestrians. Despite this advantage, the use of the area is still very difficult as most of the land is private and inaccessible.

Currently land use cover shows the presence of natural grasslands mostly without trees and shrubs (32.5%), arable land (23.4%) and grassland without trees and shrubs (17.3%), as showed in table 1.

**Table 1. Land use of the Casal del Marmo Agricultural Park**

Corine Land Cover code	Land Use Class definition	Area (ha)	%
2111	Arable land prevailingly without dispersed (line and point) vegetation	107,86	23,4
2221	Orchards	6,87	1,5
2231	Olive groves	4,08	0,9
2311	Grassland (pastures and meadows) prevailingly without trees and shrubs	79,8	17,3
2422	Complex cultivation patterns with scattered houses	36,76	8
3211	Natural grassland prevailingly without trees and shrubs	150,16	32,5
3111	Broad-leaved forests with continuous canopy, not on mire	16,36	3,5
31121	Broad-leaved forests with continuous canopy on mire	42,77	9,3
322	Moors and heathland	12,27	2,7
323	Sclerophyllous vegetation	4,94	1,1
	<b>Total</b>	<b>461,873</b>	<b>100</b>

Source: Cafiero et al., 2004.



**Figure 2. The Agricultural Park of Casal del Marmo.**

#### 4. Mapping and assessing the ecosystem service of the Park

One of the main attraction of the Parco Agricolo of Casal del Marmo is its multifunctionality. The benefits provided by the Parco can be defined as "ecosystem services" and have direct and indirect impacts on the urban population well-being (EEA, 2014). The multifunctionality of the Parco Agricolo thus refers to its ability to provide a wide range of ecosystem services to humans, such as provisioning, regulating and cultural services.

To assess the multifunctionality we tried to identify the main ES provided by the area of the Parco Agricolo and to map them through an analysis conducted during the workshop held from the 18th to the 20th of June 2015 and organized by the european project TURAS (Transitioning towards Urban Resilience and Sustainability)<sup>3</sup>, an European research on sustainable and resilient cities, financed by the Seventh Framework Programme. The workshop involved about 60 stakeholders including national and international experts: professors, researchers, engineers, architects, agronomists, urban planners, economists and so on, as well as local stakeholders (Parco Agricolo , institutions, etc.). Each expert was asked to indicate the importance (from 1 - very low to 5 - very high) of each ES currently provided by the Parco Agricolo of Casal del Marmo and to indicate "NS" (Don't Know) in case of uncertainty.

After identifying the 3 main ES for the area, in order to figure out which portions and/or elements of the Parco Agricolo could provide these services respondents were asked to draw the number of the corresponding ES within a circle on a map of the area where they believed the service was provided. As the map shows, the result is quite interesting because it consists in a first spatialization of the main ES by linking elements of the Parco Agricolo to the benefits for the urban population. It is worth noting that the ES 1 "Crops" is concentrated mainly in the area of the CoBragor cooperative, although it is also provided by other areas of the Parco Agricolo including those of private ownership beside Casal del Marmo street or along the Capannelle ditch where the urban gardens are cultivated. The ES 13 "Pollination and seed dispersal" and 14 "Habitat for biodiversity" are provided mainly by the hydrographic network and appear to be primarily related to the riparian vegetation. Finally, the cultural ES 15 " Recreation and leisure", 16 "Cultural/spiritual and educational values" and 17 "Landscape aesthetic" are related to both anthropic and natural elements that are widespread throughout the area. In some cases the respondents were not able to identify a specific point for the provision of ES, but they attributed all or some of the main ES to the entire area; this seems more evident for cultural ES that can be hardly associated with a single land use or item, as they result from the overall use of the area. Compared to the knowledge of the ES it is clear that in this area the main interest is the development of agricultural and recreation activities as well as the conservation of landscape amenity within the urban area; indeed, all the respondents have been able to score these ES (none has flag "NS"). Instead the regulating ecosystem services are not always well known as they require specific technical skills to be recognized and understood such as the ES 8 "Erosion control" and ES 12 "Waste treatment".

The perception and evaluation of ecosystem services is a first step for raising awareness of the urban population of the importance of green urban areas. Our assessment has shown that the Parco Agricolo provides many ecosystem services, but at the same time relationships between different stakeholders and land ownership greatly influence the provision of these benefits for the whole urban population. In the case of the Parco Agricolo of Casal del Marmo agricultural production seems to be the key for maintaining or increasing urban resilience. In other words the multifunctionality of Casal del Marmo is mainly due to the food production because without this activity the other ecosystemic functions would not be provided at the same level by the Parco Agricolo. So, defining

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<sup>3</sup> [www.turas-cities.eu](http://www.turas-cities.eu)

and implementing a food strategy means also influencing urban land use and local development. In this sense, a major issue is in understanding how to handle different interests (landowners and other stakeholders) and which tools are available for that.

**Table 2. List and description of ecosystem services included in the questionnaire**

Code	Ecosystem service	Definition
1	Crops	<i>Cultivation of edible plants and harvest of these plants on agricultural fields and gardens which are used for human nutrition</i>
2	Biomass for energy (wood)	<i>Wood used for energy conversion and/or heat production</i>
3	Wild food	<i>Wild food, medicinal herbs, etc.</i>
4	Fresh water	<i>Used freshwater (e.g. for drinking, domestic use, industrial use, irrigation)</i>
5	Global climate regulation	<i>Long-term storage of greenhouse gases in the Park ecosystems</i>
6	Urban climate regulation	<i>Changes in local climate components like wind, precipitation, temperature, radiation, etc. due to the Park ecosystem properties.</i>
7	Water flow regulation	<i>Maintaining of water cycle features (e.g. water storage and buffer, natural drainage, drought prevention)</i>
8	Erosion control	<i>Soil retention and the capacity to prevent and mitigate soil and wind erosion and landslides</i>
9	Noise reduction	<i>Absorption of sound waves by vegetation and water</i>
10	Air purification	<i>Capturing/filtering of dust, chemicals and gases.</i>
11	Moderation of environmental extremes	<i>Physical barrier and absorption on kinetic energy (e.g. storm, floods, heat waves)</i>
12	Waste treatment	<i>Effluent filtering and nutrient fixation by ecosystems</i>
13	Pollination and seed dispersal	<i>Habitat provision for birds, insects and pollinators</i>
14	Habitat for biodiversity	<i>Habitat provision for animal species</i>
15	Recreation and leisure	<i>Outdoor activities, including forms of sports, leisure and outdoor pursuit</i>
16	Cultural/spiritual and educational values	<i>Cultural, spiritual or educational values that people attach to the Park</i>
17	Landscape aesthetic	<i>Visual quality of the landscape/ecosystems which influences human well-being</i>

Source: Gómez-Baggethun and Barton, 2013; Kandziora et al., 2013.

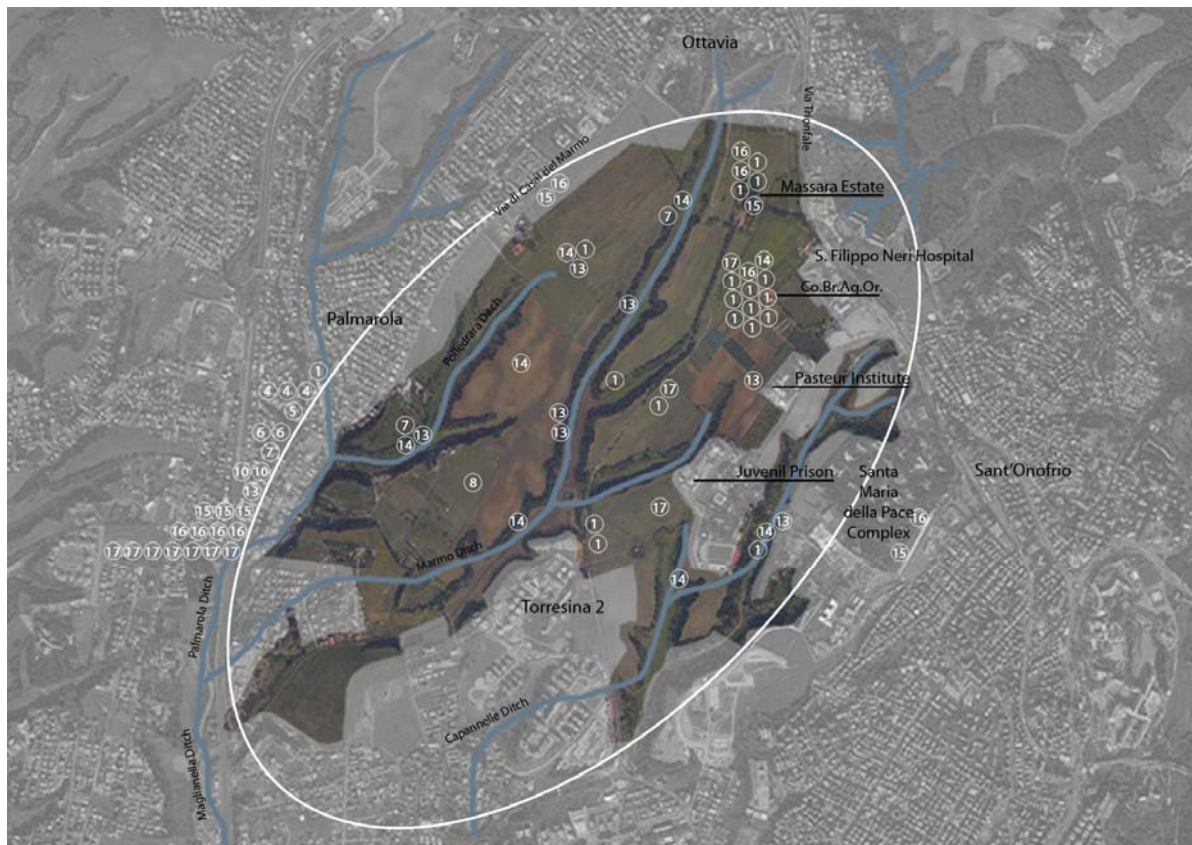


Figure 3. Participatory map of the main Ecosystem services Parco Agricolo di Casal del Marmo.

## 5. Bridging the gap: actors, procedures and tools

The participatory planning process of Casal del Marmo was started in 2014 within the TURAS project. The process involves a range of actors: the institutional part includes the regional public business innovation agency (BIC Lazio), the XIV local municipality of Rome and the Department of Environment of the Rome City Council. Two associations are involved as civic actors: "Associazione Comitato per il Parco di Casal del Marmo" who has started, since 2012, an informal process to encourage citizens participation and involvement in the planning and transformation processes of the Park area. The gardeners who manage the family allotment gardens in the Western fringe of the site founded an association involved in the process. The landowners represent the business actors: the social agricultural cooperative of CoBrAgOr, who has cultivated a portion of the publicly owned land since the 80s, that is involved in local alternative food network initiatives. The large landed estate of Massara and Vittorini families, those one of Unicredit Bank and the area of the Church. The role played by land property in the Casal del Marmo park is a key issue: there were likewise many actors with conflicting values. Part of the local business community and civil society has also interest in the development of the Parco. The entire area has been earmarked as "collective interest area" in land use planning as "agricultural park" within the last Rome Plan of 2008, the planning process as well as the political decisions that translated into a considerable financial loss for landowners expecting to develop the land. The issues comprises in the Casal del Marmo project at such a large scale within the political and economic context of the city of Rome, with implications for social and natural systems at different scales is particularly relevant.



The Plan of Rome has identified "agricultural parks" as rural areas to be protected and enhanced due to a unitary systems of their natural, landscape, historical, archaeological values. The tool identify in terms of planning is a "program unit intervention" to be implemented through public interventions, farms planning and "agreements with owner or lessee of farms, also gathered according to the different forms of representation for testing specific projects environmental rehabilitation and agricultural conversion".

The vision developed within the Turas' framework is that the Parco should become the heart of a locally grounded, community-based food system that combines the ecological production of food with leisure, tourism and educational activities for the neighbours and institutions in its local system but also for the entire city.

The model identified by BIC Lazio in the project is linked to an application already conducted in Lazio, which would have a more articulated form in the Park, also including land management. The model is mainly oriented to the food chain: primary agricultural production, manufacturing, processing, packaging and marketing of agricultural products. The goal is to support a highly innovative entrepreneurial activities associated with systems agrifood, forestry, agricultural production and food quality, especially organic.

The key element of the implementation strategy is the establishment of a Public-Private Partnership that should act as the engine of the transition process and bring together the key stakeholders (including the private and public landowners). Within Turas project the research group has identified the case of Community Interest Company (CIC), which is a type of company introduced by the United Kingdom government in 2005, designed for social enterprises that want to use their profits and assets for the public good.

## **6. Some final remarks**

We introduced the concept of agriculture and food as an infrastructure (Cavallo et al., 2014), who refers to agricultural activities and food practices as a fixed social capital: physical as well as immaterial components of interrelated systems providing food and services essential to enable, sustain, or enhance living conditions, considered as a determinant of economic, social as well as environmental growth. The idea of infrastructure aims to focus on the role played by flows (of food, resources, knowledge, work, innovation, waste) between people, areas (urban, agricultural, rural) or neighbourhoods and landscapes beyond divide.

The project configures the Parco Agricolo of Casal del Marmo, within roman food practices framework, as a device of resilience for the city, made up of places where flows, relationships and processes become increasingly more sustainable, and where both physical and intangible spaces act as an infrastructure in their exchange with the city.

The community perception of the park, as result in the ES assessment, still confirms its role in the neighbour. The multifunctionality of the Park refers to its ability to provide a wide range of ecosystem services to humans, such as provisioning, regulating and cultural services.

The Parco Agricolo provides many ecosystem services, furthermore the relationships between different stakeholders and land ownership greatly will influence the provision of these benefits for the whole local community as well as the governance process of the area itself. Moreover, it is seems interesting apply the ES assessment to all different roman practice defined by a strong space approach – Borghetto Flaminio and Tor de Cenci farms within the common public land as well as in the context of Rome City Council' Farms – to understand impacts in terms of knowledge and perceptions and better direct the City Council strategy.

The Parco Agricolo of Casal del Marmo represents a context where farming is answering urban demands in re-building innovative relationships between city and agriculture, citizens and farmers, between private and public (or collective) space. In this sense, the on-going process should play a role in terms of endogenous innovation catalysing farmers' attitudes of responsibility to the community. It is also related to the idea of the civic economy, where the economic value is directly connected to the organisation of relational goods. Local actors – new farmers or social workers, Community Supported Agriculture and box scheme initiatives – can be able to act as a network in a wider perspective of change, following the principles of social innovation and transition theory, where people involved in organising political arenas and planning/policy networks develop and re-organize solutions and negotiate change among sectors and places.

However, local institutions - Municipality, Rome City Council, Metropolitan government, protect areas – play a crucial role. As we discuss in the paper, the on-going process is strongly bottom up – even considering the role played by TURAS project - it is clearly also both cause and effect of feeble planning and policy action, that is, the role of institutions and decision-making in governing the processes, where planning and policy chases rather than directs the change. Moreover the local institutions should rebalance the relationship between actors in a case such Casal del Marmo where large landowners force the process toward the private and income interests rather than those of local community. Finally, adequate governance, procedures and tools have to be considered in order to built an inclusive, effective and multilevel government action, in this fields further research efforts are required.

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