

# Chapter 7

## The Agricultural Heritage: A Climate Change Answer for the Metropolis



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### 7.1 Introduction

At a first glance the relationship between agricultural heritage and climate change could sound excessive. However, this association is embedded in urban agricultural landscape since centuries. Unequivocal scientific evidence shows that unprecedented concentrations of greenhouse gases (GHGs), driven by human activities such as burning of fossil fuels and deforestation, are contributing to climate changes including warming of the oceans and atmosphere, sea level rise and diminished snow and ice. The impacts of these changes are already damaging infrastructure, eco-systems, and social systems – including cultural heritage – that provide essential benefits and quality of life to communities. Excessive and insensitive development reflects the abandonment of sustainable patterns of land use, consumption and production, developed over centuries if not millennia of slow adaptation between communities and their environment (ICOMOS, 2019).

We will first explain the historical connection between countryside and the city that shaped agricultural landscapes; then, we will move to clarify the citizen's relationship to the present agricultural tangible and intangible heritage; finally, we will demonstrate how agricultural heritage can provide suggestions for the contemporary city climate problems. The city of Milan will supply suitable examples.

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## 7.2 The Evolution of Relationship Between City and Countryside

Urban agricultural landscapes, intra or peri urban, were formed by the need of food production (especially vegetables) and building materials for the city over time (Scazzosi, 2020). Until early XX century, the food supply to the Maggiore Hospital's patients were assured by Morimondo land's farmsteads; likewise building materials such as bricks, poles and beams were provided by Fallavecchia's furnace and Morimondo's woods, transported along the Bereguardo, then Grande Canal, then Navigli's Circle until the small lake behind the Duomo, close to the hospital (Branduini et al., 2019, 2020) (Fig. 7.1).

The need to produce large quantities of fresh grass affected the spread of water meadows technique (locally called *marcita*, which allowed 6/7 cuts of fresh grass per year instead of the usual 4/5) to feed city's horses. This technique strongly characterized the landscape of Milanese South-west, where the city's wastewater (Brown & Redondi, 2017), richer in nutrients, produced more forage.

### 7.2.1 Effects on Landscape

The field's division into progressively smaller squares, that we perceive today, is the specialization of the *marcita* technique occurred since XIX century (Fig. 7.2). Similarly, at the same age, rice cultivation increased to meet the city's food

**Fig. 7.1** Dependence of the city from the countryside: transportation of construction materials as well as food to the city along Naviglio Grande (Approx. 1930)





**Fig. 7.2** The water meadows, locally called *marcita*: an ancient but extremely advanced technique that shaped the agricultural landscape of Milan, is now threat to disappearing

requirements and even today it is one of the most “directly sold” crop in the area closest to the dense city. The “rooms” of rice, that become water glasses in spring and we enjoy today, are the result of a cultivation technique specialized for the city two centuries ago.

### 7.2.2 *Landscape as Palimpsest of Heritage*

Therefore today we enjoy a landscape that is the palimpsest of tangible permanencies interlaced by intangible meanings: irrigation canals, water regulation artifacts, terraces, embankments, alignment trees, forests, as well as roads and agricultural buildings are some of the tangible traces; agricultural techniques, local recipes, toponyms, religious rites, popular and contemporary songs written and sung in dialect in the urban courtyards are signs of intangible living heritage (CEMAT, 2003). Tangible heritage provides the substance and the evidence of intangible heritage: courtyard space delimited by agricultural buildings is the appropriate frame for celebrating rites and performances, because it conveys inclusion, separation from traffic, acoustic and visual insulation from the city noises. Therefore, landscape is not a sum but a system of tangible and intangible heritage (Scazzosi & Branduini, 2014; Scazzosi, 2018) and the key for understanding this potential is an appreciation of the breadth of cultural heritage concept. “Over time, the meaning of cultural heritage in professional practice has expanded from single monuments and sites identified as objects of art to cultural landscapes, historic cities, and serial properties. Contemporary practice further extends the concept of heritage beyond ‘tangible

heritage’, to the intangible dimensions of heritage as well. This means the entirety of knowledge derived from the development and experience of human practices, representations, expressions, knowledge and skills and associated objects and spaces that communities recognise as part of their cultural heritage” (ICOMOS, 2019). So we should move the attention toward the actors, who reproduce intangible heritage and those who benefit from it.

### 7.3 The Actors of Heritage

Intangible heritage is dynamic, because it is “constantly recreated by communities and groups in response to their environment, their interaction with nature and their history” (art. 1 UNESCO, 2003). According to their attitude it is possible to distinguish the bearers of agricultural traditions, so called role models, and those who try to reproduce them, so called replicators.

#### 7.3.1 Role Models and Replicators

The role models are generations of farmers who consciously or unknowingly repeat the practices because they have been handed down to them by daily use. They follow good agricultural practices, which keep the soil in good condition, aerate it, reuse the excrements to fertilize, closing the biogenomic cycles (Sorlini, 2020). These farmers perpetuate practices and arouse citizen’s interest: they are wishful to learn and replicate horticultural suggestions in their allotments or community vegetable gardens (Fig. 7.3).

Some farmers are able to perpetuate rural rites and groups of citizens ask farmers to reproduce it and strengthen their sense of community. The Saint Antony’s bonfire, celebrated the 18th of January to bless animals, has spread to all the “surviving” Milan urban farmhouses, and usually gathers around it hundreds of people, in the



Fig. 7.3 The work of waterman and his gesture explained during a course for new watermen



**Fig. 7.4** Saint Antony bonfire for animals blessing at Biblioteca farmstead: the celebration is still in use even if no more farmer and cattle are present in the farmstead.

cold of winter. Sometimes the farmer is no longer present but the tradition is replied by the community, as in Biblioteca farmhouse. The choral celebration fostered a so tough cohesion face to citizen individualism, that the celebration occurs with or without farmers, animals or fire, namely without the object and the mean of celebration (Branduini, 2020), overwhelming authenticity (Fig. 7.4).

### ***7.3.2 Community Face to Tangible and Intangible Heritage***

When there is a loss of tangible heritage and presence of intangible heritage, like in case of traumatic events (flooding, earthquakes) and the tangible heritage is partly or totally damage, intangible heritage can help cohesion and reinforce identity: after the collapse of all churches in the 2016 earthquake in the center of Italy, the community found again cohesion in continuing rural celebration (Branduini & Carnelli, 2021a) (Fig. 7.5b) When there is presence of tangible heritage and loss of intangible heritage, like a farm converted to residence, or a water meadow adapted to corn-field, or a vineyard terraced changed to a pasture, a gradient of evidence in historic matter (buildings and land morphology) can be read, but the new functions totally or partially cancel the readability of the reasons the artifact was made for (Fig. 7.5a). In the urban context, the horticultural practice and knowledge exchange can give new life to former agricultural and now abandoned areas (brown fields) that was former agricultural areas (Branduini, 2016). When there is presence of both tangible and intangible heritage, the relationship between buildings and cultivated land is reinforced (Branduini et al., 2020). The evidence of tangible heritage strengthen the vitality of intangible heritage and keep both alive (Branduini & Carnelli, 2021b). So, integrated approaches are welcome (ICOMOS, 2004).



**Fig. 7.5** Tangible and intangible relationship: (a) Vione farmstead tangible heritage is well restored as a residential village, no more remains of intangible heritage; (b) the Faoni bonfire in Norcia was repeated every year even after the earthquake seriously damaged every churches

### 7.3.3 *Engagement and Participation*

People's involvement in intangible heritage safeguard is very active and dynamic and it takes place through engagement and participation. They have the same goal, but a different approach. Citizen participation is an informal bottom-up process, and is the common way people start collaborating in an urban agriculture initiative. It can embrace engagement, the active and intentional dialogue between public decision makers and citizens: it is a formal top-down approach, usually initiated by the institution to involve citizens in the preservation and defense of cultural heritage (Branduini, 2020). During the celebration of agricultural rituals, the urban community's sense of belonging around the farmhouse brings together long-term residents with new ones, from European, African and Eastern cultures: it is the Faro convention's "heritage community" (ICOMOS, 2003) that gathers all who recognizes to belong to a place or a group of people sharing a well-being based on the traditional habits. Mutually, the community's involvement can save the farmers from the threat of moving in front of urban expansion projects and change municipality's plan: this happened to Campazzo farmhouse with petition and declaration as an "heart's place" (establish by FAI Foundation for Italian environment, one of the most important Italian NGO for landscape protection). (Fig. 7.6).



**Fig. 7.6** Campazzo farmstead, S. Martin celebration with the farmer's family (linked to the movement of rural people at the end of agrarian contract) in a still active farmstead: celebration of agricultural tradition established a strong link with the local neighborhood that help the farmer fighting against the eviction

## 7.4 Heritage at Risk

There are specific cultivation techniques, like water meadows, as mentioned before, that are now considered obsolete and abandoned because they require a lot of manual labor compared to mechanical work, and that have been influenced and modified by the city proximity: flooded paddy fields were turned into dry field, in order to limit the number of mosquitoes close to the city districts; corn fields were transformed into wheat fields due to the water pollution; dairy cattle farms decreased or disappeared in the immediate surroundings of the city related to the water meadows abandon and water pollution. Although they risk extinction, these techniques respect the soil and increase animal and plant biodiversity, so they contribute to improve the environment quality. Landscape protection bodies, such as the Parks (around Milan, Parco Sud, Parco del Ticino), are in charge of the protection of agricultural heritage through constant dialogue with the farmers who still practice traditional agricultural techniques. The law protects the tangible heritage, the physical landscape, but the intangible component should be transmitted by refresh courses to spread the knowledge outside the family context in order to create an intergenerational bridge and increase awareness among farmers as heritage bearers (as was done in the course for drowner in Life Biosource project <http://ticinobiosource.it/corso-sulle-marcite/corso-marcite-formazione-campari>). In Italy these landscape are recognized in the

Register of Agricultural Practices and Rural Landscapes by the Ministry of Agriculture; worldwide they are (potentially) recognized by FAO through the GIAHS Globally Important Agricultural Heritage.

## 7.5 Agricultural Heritage for Climate Change

Agricultural traditional techniques (before mechanization), based on circular energy flux through crop and livestock, could help to improve circular economy and provide solutions to climate change (Branduini & Scazzosi, 2020). They should combine ancient knowledge with present technologies, manual labour to mechanization, renewable with fossil resources: for that reason they are innovative rather than obsolete. They are in a constant dynamic balance, several time altered but continuously re-establishing their stability: they are resilient, if a pressure occur to perturb them, they move their equilibrium system forward new states (Bocchi, 2020).

Agricultural heritage should be safeguard because is traditional, contemporary and living at the same time, inclusive, representative and community based (art. 3 UNESCO, 2003). Agricultural heritage could help cohesion, reinforce identity, gather the community and strength the resilience of the contemporary cities. “Cultural heritage is a resource for the future. Communities over time have developed strategies to respond to local conditions and landscape change including architectural and agricultural adaptations and settlement patterns. These endogenous ways of knowing support contemporary mitigation options, from low-carbon, locally adapted approaches to decarbonizing buildings and cultural landscapes to pointing the way to low-carbon models for developing peri-urban areas” (ICOMOS, 2019). The research group on Heritage and Climate Change (ICOMOS, 2019) encourages large communication, interdisciplinary research, all level education and intersectoral policy development: these actions should promote a fundamental shift in policy and professional practices to acknowledge the power of cultural heritage. Moreover, the study of agricultural heritage can provide solutions for contrasting climate change for adapting practices to respond to climate change effects on heritage: in order to limit global warming to 1.5 °C, it would require rapid and far-reaching transitions in the way we use land, energy, industry, buildings, transport, and cities.

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