
1 Urban Agriculture: The Allotment Gardens 2 as Structures of Urban Sustainability

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4 Additional information is available at the end of the chapter

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6 1. Introduction

7 This reflexion comes from a look over the city, particularly the relationship between the
8 built and the open spaces that constitute it. In this look we came across the enormous
9 importance that the system of open spaces has and has always had on the construction of
10 the city, its balance, its identity and its experience. On a closer approach to the system of
11 open spaces of the city, we were confronted with the existence of typologically qualified
12 spaces and of spaces without any typological attribution but that are, by no means, less
13 important than the former. Open spaces, interstices between the built fabric of the
14 contemporary city, that present a certain continuity and that allow the flow of air, of water
15 and matter, simultaneously with the flow of residents or casual users. Sometimes, besides
16 that flow, an informal appropriation of these spaces as spaces for fun, games and socializing
17 is verified, emphasizing the enormous potential presented in the structure and cohesion of
18 the city as support of the urban experience, of social interaction and, of the development of the
19 sense of community. About these spaces, several questions have been raised concerning its
20 quality and diversity, namely its lack of integration in a recognized urban typology and all the
21 consequences that this determines. However, we considered that this fact, on its own, does not
22 constitute a negative factor, but a distinct reality determined by the ever-accelerating rhythm
23 of the technological, economical, social, cultural and demographic changes.

24 The need to understand the presence of these spaces leads us to a study and analysis of the
25 evolution of the city and of the transformation process that has been occurring, not only in
26 the conceptual and ideological point of view, but also in morphological terms determined
27 by different social-economical and cultural contexts.

28 During this project we verified that the characteristic discontinuity of the suburbs was the
29 result of an urban model that, since the 60's of the 20th century, has given birth to a new
30 concept of city and, in a disorderly growing process, allowed a landscape of problematic

1 suburbs to arise, anarchically, in an unqualified territory. The interstices over which we lean
2 are the consequence of this extensive growth of cities and its suburbs.

3 Aware of the existence of these unnamed *intervals*, in the city, the open space continues,
4 frequently, to be called *green* and to, still, play a secondary role on the construction of the
5 urban landscape. Despite its high potential in the structure and cohesion of the city, these
6 spaces – the interstices and the *greens* – and the attitude of indifference that has been verified
7 towards its qualitative definition tends to reduce them to nothing more than another index
8 in the city's statistics.

9 Thus, it is necessary a new understanding on the urban condition of the interstitial spaces
10 and on the importance of the quality of the landscape. We consider fundamental to
11 implement an intentional and adequate use of these spaces, as a vital condition to its
12 defense, in a positive way, guaranteed by its comprehension and enjoyment, recognizing
13 them as the true potential to the development and experience of the city. They should, then,
14 be acknowledged as spaces of urban cohesion, fundamental and complementary to the built
15 space and its articulation with the surrounding, ecologically, aesthetically, culturally,
16 socially, economically and technologically.

17 With the purpose of obtaining a bigger understanding on the quality of the landscape, and
18 based on the idea that this should appear as a fundamental structure and a cornerstone on
19 the qualification of the city, we leaned on its inherent multifunctionality.

20 From here starts the conscious notion that the landscape is a recent conquest in the western
21 culture, being considered as such from the moment Man inscribes it in a determined culture
22 and epoch. Intrinsic to the concept of landscape come the concept of multifunctionality to
23 which the concepts and the practices of production, leisure and protection have always been
24 associated. However, this dimension and multifunctional look are lost with the modern
25 movement where, the sectoral zoning does not allow the coexistence of several roles thus
26 appearing the vague concept of *green space*, that stretches throughout the entire city
27 homogeneously, amorphous and residually.

28 It becomes, then, urgent and primordial the return to that concept of landscape. Several
29 authors, searching for new strategies that lead to the multifunctionality of the landscape and
30 its understanding, defend that in the open spaces of the city it should be implanted a
31 continuous and structuring fabric where landscape would appear as a fundamental
32 structure of this *continuum*, having as a principle the systemic vision of the landscape, long
33 implicit in practice and in the philosophy of landscape architecture, from the continuous
34 system of public parks designed by Olmsted, to the concept of *continuum naturale*,
35 introduced and developed, in Portugal, by Professor Caldeira Cabral, in the middle of the
36 last century, covering all the projects that include the concepts of green corridors and of
37 green or ecological structures, all of them essential, since they allow the occurrence of
38 ecological processes, fundamental to the growth and sustainable development of the city.

39 As well in the recent current, designated as *Landscape Urbanism* (1996), that appears with the
40 rekindle of environmental and ecological concerns, such as the growth of tourism and the
41 questions connected with it, with the sense of oneness and entity, as well as with the impact

1 that the massive growth of cities has over the rural space, the landscape is proposed as
2 model to the urbanism, and it is recommended the integration of public landscapes with the
3 infra-structural systems, formalizing and leading the urban development, similarly to what
4 happened with *Central Park* in New York and the continuous system of the Boston Parks by
5 Frederick Olmsted, where the landscape lead the process of the formation of the city.

6 In this search for the lost multifunctionality it is frequent the reference to the aesthetic,
7 social, ecological, economical and cultural components and consequently, the role of
8 protection, production and leisure.

9 It then begins to take shape, in this study, the idea of production associated with leisure as a
10 fundamental component of landscape that structures, qualifies, and gives continuity to the
11 urban fabric through its interstitial spaces, open spaces and suburbs, all the way to the
12 countryside, promoting an articulated relationship between this *old city-countryside* dichotomy.

13 Our main purpose is the proposal of a new project approach that provides the creation of a
14 multifunctional structure of landscape dedicated to production and leisure in an urban
15 context. In this perspective, the interstitial spaces, object of this study, can and should be a
16 current expression of the landscape *continuum*, given that it allows the occurrence of the
17 ecological processes and of the fundamental biological cycles to the harmonious and
18 balanced development of the city.

19 This desideratum is accomplished, or can consubstantiate itself, through urban agriculture,
20 which is perfectly compatible with recreational and leisure activities, as has been long
21 advocated by Ribeiro Telles, and it is even proposed in his "Plano Verde de Lisboa" -
22 Lisbon's Green Plan [1]-, and how it has been proved by the "quintas de recreio"
23 (recreational farms), in Portugal.

24 Although urban agriculture refers, in general, to activities connected to the production of
25 fresh vegetables in the city, it does not mean that it has to be strictly related with production;
26 urban agriculture is also fundamental on including ecological, cultural, recreational and
27 aesthetic concerns, related to the landscape. This means, urban agriculture can integrate,
28 and be, a structuring *continuum* that assures the occurrence of the processes and flows of the
29 various systems that constitute the landscape. This structure should be ecologically justified,
30 as well as it should be developed according to the holistic view that the landscape demands
31 in and for its understanding. In it, there should be present the ecological, aesthetic, social,
32 economical and cultural components and from it there should result spaces and economical,
33 social, cultural, aesthetic and ecologically balanced structures.

34 Urban agriculture can be based in the ecological principles of life and on the necessary space
35 to process its actions, reactions and interactions. It can be considered, even, as other
36 elements of the urban infra-structure: wide and complex, and demanding planning and
37 design, management and maintenance. This means, it is perfectly compatible with the
38 holistic concerns of landscape architecture.

39 In this sense, urban **architecture** is considered, in this study, in its several dimensions –
40 ecological, cultural, social, economical and aesthetic – as a constituent of the natural and

1 cultural continuous that structures the urban and suburban fabric, through its open spaces and
2 interstices, making the articulation and establishing an inter-relationship with the countryside.

3 We consider that this option is based on three pillars: one with a historical and temporal
4 character – the multifunctionality (promiscuity) of the Mediterranean landscape, from which
5 the meridional Portuguese landscape is a part; another of a conceptual and practical
6 character, that concerns the theory and the *praxis* of landscape architecture and of the
7 *landscape urbanism*; and lastly, in our own opinion, the answer that may be given by the
8 urban **architecture** to the global crisis situation and **of** the growth of the estimated urban
9 population (already felt) in the next decades, which lead us to approach the theme of urban
10 agriculture in a more general way.

11 According to *Food and Agriculture Organization* (FAO) (2009), for the first time in the history
12 of humanity, there is a bigger concentration of population in the cities than in the
13 countryside. This urbanization process determines big challenges to the planning,
14 management, maintenance and conservation of the urban areas.

15 In the beginning of the third millennium we inhabit a world with an unprecedented number
16 of population. There are currently around 6.3 billion people, a number that it is expected to
17 rise to 9 billion, in 2050 (FAO, 2009). Around half of the world population lives in cities, and
18 this estimation is expected to rise to two thirds by 2030. A great number of cities grow over
19 agricultural terrains, a fact that certainly reduces the capability to produce a considerable
20 amount of the food necessary to the auto-sustainability of the city. It is estimated that if the
21 developing countries follow the western lifestyle – in terms of the usage of food, forest and
22 energy products – three whole planets will be needed. It is, then, of crucial matter that the
23 city becomes much more efficient in the way it utilizes its resources, which includes,
24 obviously, the production of food. Urban agriculture constitutes, in this case, a fundamental
25 contribution to the auto-sustainability of the city. Moreover, urban agriculture will be a
26 practice that won't compromise uses or future options, thus becoming a guaranty of soil
27 preservation, a scarce and fundamental resource.

28 **The following** chapter is centered on the theme of urban agriculture, namely its definition,
29 identification and characterization, emphasizing three of its typologies based on relevance
30 and inclusion in the objectives of this study. They are: the urban allotment garden, the
31 *continuous productive landscapes* and the *urban field*. In this context, we leaned over its
32 relevance and the need in the contemporary city when facing the current social-economical
33 crisis and the estimated urban growth in a near future. The benefits that can be brought and
34 the obstacles that can occur are presented, either at a food and nutritional safety level, either
35 at a health and local development level, or even at a social-cultural and urban
36 environmental management level. The politics that regulate urban agriculture in its social,
37 economical and ecological dimensions are addressed, and how it has influenced its practice,
38 as well as the economical issues associated. We considered fundamental the study of
39 agriculture throughout history and its evolution in the city, its relationship with the
40 countryside, as well as the possibility of its integration in the interstitial urban spaces and,

1 consequently the relevance of its contextualization, in the *landscape urbanism*, something that
2 it is not the happening today.

3 Lastly, we concluded with the proposal of integrating urban agriculture in a new approach
4 to the landscape design in an urban context, but also in conceptual terms. And, with the
5 presentation of strategies to the development of a sustainable urban agriculture, in order to
6 contribute to a return to the multifunctionality of the landscape, which promotes the
7 existence of a structure of continuous landscape where the recreation, the production and
8 protection should be present and inseparable, thus contributing to urban sustainability.

9 **2. Materials and methods**

10 The clear relevance of the presently discussed subject, namely the existence of open spaces
11 in the city, and the need to revitalize its periphery, the multifunctionality of landscapes, the
12 concept of landscape as structure, and the pertinence of agriculture through the creation of
13 allotment gardens, has led many authors from different fields to produce literature, critical
14 studies, and research on these important matters. Our theoretical support are those authors
15 who consider open spaces and urban voids as work material, full of potential and value for
16 the creation of new socially, culturally, economically, ecologically, and aesthetically viable
17 spaces, as well as those studies centered on the best tools to act on the urban voids, as urban
18 resources. The rigid building fabric rejects these manageable, flexible spaces, which are
19 highly adaptable, in constant change, and well articulated with the different systems of city,
20 and its design.

21 In recent years, there have been some studies both on the importance of landscape in urban
22 spaces, and on the ecological systems and their associated aesthetic issues. Some studies and
23 projects have also been done on urban agriculture and its pertinence, ecological integration
24 and significance as network, system, and infrastructure.

25 Therefore, this project is based on a bibliographical review of theoretical studies about the
26 themes we seek to develop, and about the proposition of *Plano Verde de Lisboa*, which
27 includes many interventions on the landscape architecture integrating the design of the
28 development of allotment gardens.

29 **3. What is urban agriculture?**

30 Where human beings exist, there is an associated food market. To the eyes of planners,
31 architects, politicians and investors, to practice agriculture in the city was considered all
32 over the world, and mainly in the previous century, a practice not to be done or to be simply
33 ignored. However the production of local food was always quite popular appearing,
34 frequently, in confined spaces given that those with access to land and water would do it,
35 independently of the political restrictions. Recently, researchers, politicians, urban planners
36 and landscape architects have given it a growing importance – turning a neglected activity,
37 in the last seventy years, in a great potential to create forms of sustainable subsistence.

1 If we look to the history of agriculture, in the European context, many have considered
2 agriculture and city in a different way. However, according to several authors this does not
3 correspond to reality.¹

4 Urban agriculture always existed. As we know, the first human settlements are located near
5 fertile and arable land to assure a close food source. As cities grew, they were occupying
6 those agricultural lands, necessitating, consequently, of more sources of food.

7 The definition of urban agriculture in [2], classical and widely used, refers that “urban
8 agriculture is an industry located inside or in the outskirts of the city, the growth of which,
9 processes and distributes a diversity of food and other products, widely re-utilizing human
10 and material resources, products and services found inside and in the outskirts of the urban
11 area, and providing, in turn, material and human resources, products and services to that
12 urban area”.

13 This definition articulates production in confined spaces, related economical activities,
14 localization, destination markets (or just for the consumption inside the house) and the
15 types of products made in a dynamic interaction that may vary from one urban area to the
16 other. Urban agriculture does not only present research associated to the natural sciences
17 (agronomy, pollution, water and soil quality, among others), but also important questions of
18 social and economical nature (land markets, migration from the rural space to the urban and
19 social integration among others.)², not counting the questions associated to urban planning
20 and the architectures.

21 Also according to [3], urban agriculture can be defined as the cultivation of plants and the
22 raising of animals with food purposes, inside and around the cities including, even, other
23 uses and activities related such as the production and the delivery of *inputs*, and the
24 processing and commercialization of the products. Urban agriculture is located inside or in
25 the outskirts of the city and it comprehends a variety of different production systems,
26 different from the subsistence production, processing, at the level of the aggregate, a
27 completely commercialized agriculture.³

28 This activity is generally characterized: by the proximity to the markets, by a high
29 competitiveness for the land, by being a limited space, by the utilization of organic resources
30 namely solid organic residues and residual waters, by having a low degree of organization,
31 by its products being mainly perishable, and by having a high degree of specialization,
32 among others. Due to the provision of perishable products such as vegetables, fresh milk,
33 and poultry products, urban agriculture complements, to some extent, rural agriculture and
34 heightens the efficiency of national and regional food systems.

¹ Henri Bava, Joaquin Sabaté, Pablo Arias Sierra, Pierre Donadieu and Ribeiro Telles, among others, argue the coexistence and the simultaneous development of both.

² Currently, the research on urban agriculture is also applicable to the study of politics and is offered as an answer to the technocratic vision of the way of planning and legislating.

³The population capacity to generate income is necessary and profoundly satisfactory. Using the surface, and the land itself, is one of the most ancient ways of generating income, mainly under the form of food production. It also allows the so much desired work in and with natural conditions.

1 In [4] is referred that the most important characteristic that distinguishes urban agriculture
 2 from any other kind of agriculture, is not so much the location, but the fact that it constitutes
 3 a part of the urban economy and the ecological and social systems: it utilizes urban
 4 resources (land, work, solid organic residues and water); produces for the citizens; it is
 5 strongly influenced by the urban conditions (politics, competition for the land, markets and
 6 urban prices) and causes an impact on the urban system (the effects on food safety, poverty,
 7 ecology and health).

8 Also in [5] urban agriculture may have place in any part of the city – in spaces of different
 9 topography, defined, or undefined typology, *brown-fields*, *green* spaces, parks, roadsides,
 10 highway slopes, in wide spaces or hidden corners.⁴ It can appear wherever inside the urban
 11 context, leading many cities to stimulate their multiple use keeping the spaces, inside the
 12 city, simultaneously valuable and free of buildings. In most cases it is high yielding
 13 allotment gardens where fruit and vegetables grow and, if the economical situation is tough,
 14 it can include small animals and/or aquaculture.

15 Peri-urban agriculture is the agriculture that occurs in the urban-rural borderline or in low
 16 density sub-urban areas, similar to urban agriculture despite the size of the allotment being
 17 frequently bigger. Despite this vast coverage of urban agriculture, typologically and
 18 spatially speaking, we want to make reference to three theoretically distinct types, although
 19 perfectly compatible and complementary in morphological and practical terms.

- 20 - The first referring to urban allotment gardens, protagonist typology of the urban
 21 agriculture in the city, and that is why it stands out, and which importance should be
 22 crucial on a productive, economical, ecological, social, and recreational point of view.
- 23 - The second refers to the concept of *Continuous Productive Urban Landscape* – CPULs for
 24 its analogy with the concepts of *Natural Continuum and Cultural Continuum*, perfectly
 25 inclusive of landscape architecture in Portugal and it seems important to us from the
 26 point of view of a possible design strategy of landscape to the urban space.
- 27 - The third is the concept of *urban countryside* of Pierre Donadieu that implies a duality
 28 between ecology and identity, constituting necessarily an urban rurality, similarly to
 29 what succeeded with the Quintas de Recreio (Recreational Farms) in Portugal. In this
 30 concept is implied a project intentionality that we consider fundamental as a strategy to
 31 be implemented.

32 3.1. Allotment gardens

33 Allotment gardens are a unique contribution to urban space. It's a contribution challenging
 34 the conventional notion of urban space and of open space design. These spaces are an echo,
 35 and a memory of how the countryside might have been – a humanized *landscape* but with a
 36 peaceful feeling, a shared space with a touch of inner silence.

37 However, urban/rural conflict has been a consistent source of difficulties for urban designers
 38 because it contradicts imposed rankings of what is, or should be the urban space –

⁴The *Continuous Productive Urban Landscapes* - CPULs may appear in any space of variable shape, dimension and scale.

1 expressed through particular notions of order and control, purity of shape, and clear limits.
 2 Still, the users and the public in general seem to prize this contradiction of rules. The feeling
 3 many people have about living, working, strolling, and bicycle riding through allotment
 4 gardens is an evidence both of their vital, psychological and physical value and of the need
 5 to involve more people in the debate about the future of these spaces.

6 3.1.1. Brief historical evolution

7 Food production is linked to the history of cities, since their origins [6]: the lack of an
 8 efficient transportation system and of sophisticated food preservation techniques before the
 9 Industrial Revolution inevitably meant that the population had to grow vegetables near
 10 their place of residence. In the 18th century, allotment gardens acquired a deliberate social
 11 character to compensate the rural population that had migrated to the city. The purpose of
 12 those allotment gardens was to provide a nutritional and economical safety net against
 13 unemployment or, to supplement reduced incomes. The necessity of urban allotment
 14 gardens quickly rose, occupying the city. At this point, the display and the supply of the
 15 allotment gardens was widely private and *ad hoc*.

16 At the end of the 19th century, the power and the rising responsibilities of the local
 17 governments reflected in the appearance of the first law to urban allotment gardens, in
 18 England, that required local authorities to provide allotment gardens to the workers that
 19 showed economical needs. Similar proceedings occurred in other parts of Europe, for
 20 example, the introduction of the *Schrebergarten* in Germany [5].

21 Until the third decade of the 20th century, the urban growth of food meant an important
 22 part of the city's consumption. The fresh products, legumes and vegetables came from the
 23 allotment gardens along the streams and rivers of the city. The importance of these rural-
 24 urban bonds transcended the merely economical plan and the environmental issues that
 25 today we are faced with.

26 The former allotment gardens' zones started to be occupied with highways, residential
 27 areas, railroads and other infra-structures necessary to the growth of the city.⁵ Throughout
 28 the ages transformations to the agricultural activities in the urban areas occurred as a result
 29 of the new industrial culture of the cities as well as of speculative interests associated with
 30 the improvement of transportation that allowed a quicker and more economical supply of
 31 the central markets. At the same time, the contamination of the waters of the rivers by the
 32 industry represented one of the greatest ecological catastrophes resulting in the
 33 abandonment of the agricultural activity in urban areas.

⁵ Metropolization is the major cause of the loss of agriculture in the city. Attests to the supremacy of the tertiary function: commercial, financial, of decision and of command; it depends on a modality of urban growth founded under the automobile, under the consentment of the urban public administration and, consequently, under the form of local government. A second series of motives is related with a negative view for sanitary reasons and public health. A third series has to do with the disadvantages to which the farmers are subjected (the incompatibility of tractors with the urban traffic, lack of irrigation water (...)) [7]

1 Between 1900 and 1945 the bigger stimulant to the production of food in Europe was the
2 War: the real threat of famine caused by the blockages originated campaigns to increase the
3 local food production, a lot of which was coming from urban agriculture.

4 During the First World War, with fear of harming the citizens' morale, the British
5 government's campaign to increase food production, as well as the rationing, started from
6 1917. Despite all this, the results of the campaign were outstanding. In [5], the number of
7 250m² allotments increased, approximately, from 450 000 to 600 000 in 1913, and from 1 300
8 000 to 1 500 000 in 1917, having been produced 2 000 000 tonnes of vegetables.

9 Between wars, the public's interest in allotments and in other forms of urban food
10 production declined in Europe, although to levels never lower to those recorded in 1914.
11 The mass unemployment, verified since 1920, revived the interest in allotment gardens as a
12 valuable means of social-economical aide. Philanthropic Groups of the most varied origins,
13 namely the *Society of Friends*, in England, developed plans providing fertilizers, seeds and
14 tools. Currently, similar supporting mechanisms are used in Cuba, in its national program
15 of urban agriculture. During the Second World War the production of fruits and vegetables
16 inside the cities of the UK was shown to have an important value in times of need. The
17 production in family allotment gardens, making use of gardens in public and private places,
18 exceeded more than 10% of the country's total needs in terms of fresh vegetables [8].

19 According to the data in [9], during war time, not only the agricultural activities but also the
20 livestock and poultry production reached high values. In 1942 there were registered, in
21 urban zones in England, more than 90 000 poultry farmers with a production of 16 000 000
22 specimens. In 1944 the allotment gardens, alongside gardens and other portions of land
23 including parks transformed into agricultural fields, amounted to a total 10% of the
24 country's food needs and half the fruit and vegetable's needs. The end of the campaign *Dig
25 for Victory*, in England, was followed by a harsh decline of the urban food production. The
26 recent state of well-being, the existence of jobs and a rising prosperity, made that the food
27 production was no longer a necessity. Also an image problem had a negative effect on the
28 allotment gardens: people associated them to war, and a time of austerity that no longer was
29 in line with a time destined to the scientific progress [5].

30 Among progress and setbacks, in periods of crisis, the strategic value of allotment gardens
31 has always been emphasized. The 1970's were a turning point for allotment gardens, with
32 the emergence of new production means. This seemed to be due to a new environmental
33 ethics, developed in the 1960's as an alternative lifestyle, and a notion of self-sufficiency
34 based on renewable energies. After the crisis, the urban dynamics of developing societies
35 brought new freezing techniques, allowing the possibility to find any product regardless of
36 the season and at a minimal distance. Nevertheless, old urban markets inside the cities are
37 very significant as a means to re-establish the citizens' natural links with nature [10]. This
38 requires a redefinition of the methods and purposes in the design of open spaces within the
39 cities, with new roles and goals allowing *new urban activities*.

40 It is evident that the new diffuse city carries, in a way, a certain desire of a relationship
41 between the citizen and nature and, it seems clear that in this context, it is physically easier
42 to establish this bond through urban agriculture.

1 It is also to be noted that the settlements from where the great metropolitan areas arose, in the
2 west, came from rural areas. The will to maintain this old cultural heritage had important
3 effects in certain working suburbs, in big urban areas not only European, but also American
4 [8]. The ethnic and cultural variety in the European Union, made of populations that came
5 from rural cultures and that made sure that, in certain suburban areas, the patios and the open
6 spaces of the house were used to their full potential with the cultivation of vegetables, keeping
7 the bond with their origins and, at the same time, helping the family's economy. This practice
8 can be considered an example for the open spaces of the city that, frequently, with their
9 *standardized* treatment, keep the citizen and the city with their backs turned against nature.

10 In Portugal, the strong migration movements from the 60s and 70s, of population coming
11 from rural areas towards the big cities [11], lead as well to the appearance of certain ways of
12 urban and suburban agriculture that answered to a new type of *urban space*, called in [12] as a
13 *third space*, that showed a bond from the new industrial population to the memory of their
14 old rural habits.

15 Still today, in our great metropolitan areas, there are small agricultural explorations in the
16 interstitial spaces, or of difficult use, in suburban areas that, inside their precariousness,
17 have an exceptional interest as a sociological phenomenon, and that we believe to exceed
18 what would be a mere mechanism of transition as an adaptation of migrant populations to
19 the new culture of the urban space⁶.

20 The sub-metropolitan allotment gardens appear in the big cities (take a look at Lisbon) as
21 very representative places, even from the sociological, geographical, and anthropological
22 point of view, which has been studying them with obvious interest. These studies show us
23 what they mean as an expression of a way of understanding the urban space as the *habitat* of
24 Man: the sub-metropolitan allotment gardens mean more than just bridges towards
25 adaptation, being the expression of what the city could be in its definitive form and that that
26 form is both easy and possible to be accomplished.

27 In the case of the metropolitan area of Lisbon, the important peri-urban agricultural areas
28 that had some significant production capability, since the 60s of the 20th century, started to
29 progressively lose importance as a consequence of the destruction of the agricultural soil,
30 not only due to the new industrial and residential developments that invaded these
31 peripheral spaces, but also due to the construction of powerful infrastructures and networks
32 of services that destroyed the productive space of a primary sector that, on the other hand,
33 was also losing its manpower, given the new employment opportunities.

34 Nowadays, it is frequent that the nature and origin of those allotment gardens, either
35 because of where it came from, or because of its situation, do not have a relationship with

⁶ Institutional areas (belonging to hospitals, schools and churches), riverbanks and road edges, parks, terrains under high voltage power lines, areas that can not be used for construction and its surroundings constitute a great part of municipal terrain. The planning of the use and exploration of these spaces requires the record of the localization, as a first step, and then the evaluation of its potential. It is important to evaluate the availability of the land for urban agriculture in a certain city in a short, medium or long term. The land may not be available due to the rapid growth of the city and the expansion of built areas [3].

1 the conventional agricultural activity that existed or still exists in a determined area. They
 2 are, often, activities done outside the commercial circuits, in small allotments or allotment
 3 gardens that justify themselves, as an activity, with their own reasons more linked to the
 4 urban world, than to the rural one. On the other hand, the agricultural practice by the
 5 working class has survived at the expense of the low cost food available.

6 Currently, urban agriculture continues to be useful as a means of providing some food and
 7 financial income for the citizens, as well as having some other important benefits [13]:

- 8 - Social (leisure, fomenting local groups, therapy for individuals with special needs,
 9 rehabilitation of youngsters).
- 10 - Environmental (renewal of abandoned urban spaces, diversification of the usage of
 11 urban land, increase of biodiversity, preservation of the water, soil and air cycle,
 12 reduction of the carbon footprint).
- 13 - Human (promotion of sociability through the encouragement of personal qualities such
 14 as altruism, the improvement of the quality of life through social interaction, health
 15 benefits through physical exercise, better food quality and bigger diversity)
- 16 - Economical (stimulus of the local economies, creation of employment and wealth,
 17 directly or indirectly).
- 18 - Emotional (due to the pause that it can provide to the monotonous and gray everyday
 19 of the citizens, allowing them to realize the real dimension of time).

20 In England and in Northern Europe in general, a community allotment garden or an urban
 21 farm, are local projects run by and for local community groups. Sometimes they are run in a
 22 partnership with the local authorities but, its main characteristic is the strong local
 23 involvement. These allotment gardens exist mainly in densely built areas where its creation
 24 has been the answer of the community to the lack of a project and/or adequate management
 25 to and of the open spaces.

26 The urban farms are also known as pedagogical farms or community farms. The agricultural
 27 allotments are not generally run by a community, but there is a rising movement for the
 28 formation of an association of groups of parcels with the objective of practicing a
 29 decentralized management from the Local Authority that will move from the *statutory* sector
 30 (although with legal protection) towards the *run by the community* sector. Inside the
 31 movement of the allotments it is verified as well that there is a rising number of groups that
 32 are consciously establishing work run by the community with innovative schemes to obtain
 33 more community support [14]. The majority of the projects is centered on food production
 34 activities, formation courses on the area, field trips from schools to community allotments
 35 and the undertaking of community businesses related to the urban agricultural practice.
 36 Some advance with the proposal of recreational and sporting equipments, of free time
 37 activities and vacation schemes.

38 The community allotment gardens⁷ and the urban farms are extremely flexible and adapt to
 39 the requirements of the local community. They have in common the encouragement of

⁷ Relatively to their location and marking of the allotment it is necessary to bear in mind if its objective is therapeutic or recreational, commercial, for self-consumption or mix use. The gardening allotments are of the most popular for

1 social participation and of the creation of sustainable communities. The projects contribute
2 directly to the development of the community generating social participation and
3 promoting urban regeneration through:

- 4 - More open spaces built from living materials (water, soil, vegetation) in the urban
5 environment;
- 6 - More educational, formal and informal opportunities;
- 7 - More pedagogical information concerning food and animal production;
- 8 - Adult formation in a series of subjects, namely gardening, horticulture and livestock;
- 9 - School field trips and educational, didactic and pedagogical activities;
- 10 - Preschool activities;
- 11 - Gaming and sporting activities;
- 12 - Leisure occupation and vacation schemes;
- 13 - Integration of people with deficiencies in learning and/or other special needs;
- 14 - Development of the practice of community companies, such as cafes, markets of
15 horticultural products, horsemanship centers, gardening centers and/or other
16 community businesses.

17 In [15] is considered that the expression *agricultural allotment* should be replaced by the
18 concept of recreational gardens because the first one has an historical stigma of low yielding
19 and relative poverty. Additionally, the tracing and localization of the allotments should
20 consider not only the individual parcels, but also the community areas, shelters, recreational
21 areas and even some occasional spaces for orchards and groves. The *recreational gardens*
22 should be strategically placed near the requirements and as far away as possible from sources
23 of known contamination, such as old railroad tracks and some empty spaces resultant from
24 polluting industries.

25 In [16] is understood the presence of these sub-metropolitan allotment gardens as the result
26 of a marginal occupation of soils that comes as the result of problems due to the crisis and of
27 the industrial stop that in the decade of 1970 affected the working economy. The exploration
28 of these small parcels serves to grant some additional funds to the families' economies and
29 to give jobs to young unemployed people with no expectations whatsoever.

30 This diagnosis, as to the origin and justification of existence of sub-metropolitan allotment
31 gardens, is not entirely shared in [17] after deeply analyzing the sociological components of
32 the existing allotment gardens in suburban areas of the city. In[17], the origin of the
33 metropolitan allotment gardens can not be related to the issue of industrial deactivation,
34 given that the origin of the allotment gardens is prior to it. Thus, its origin has to be
35 explained in variables of some other nature.

36 It does not seem valid, as well, to relate these allotment gardens with factors of economical
37 benefits to their cultivators. In fact, the greens and vegetables produced do no enter in any
38 kind of commercialization. The only gains are the occasional family consumption or the
39 satisfaction of offering the products to friends of acquaintances.

leisure reasons and spare time in England. In fact the management of the allotments is considered by many as a leisure activity more than a means of producing food.

1 The same author refers that the cultivated parcels lack market value. They are precariously
 2 occupied with their owners aware that they can be evicted at any moment. These terrains
 3 were never bought or sold and, if those who cultivate them can no longer enjoy them due to
 4 the age or any familiar reasons, they give them to those that show some interest in
 5 cultivating them. Also, it does not seem common the presence of youngsters in the
 6 cultivation of the allotment gardens; those who work there, occasionally, are men, of
 7 mature age, from 50 to 70 years old, in their majority retired, that use their free time, to fill
 8 the emptiness of their leisure. This dedication is never too intense, nor has any economical
 9 expectations, a fact almost impossible due to being a low quality piece of land, to using
 10 elementary tools and to not having the adequate support.

11 3.1.2. *The reality in Portugal*

12 Relatively to the Portuguese reality, in 2004 the Culturgest issued a challenge for the
 13 attribution of urban allotment gardens in Lisbon. The contestants were all (or almost all)
 14 retired people and migrants in the city. According to the Commissary of Town Hall of
 15 Lisbon (CML) to this contest, the Landscape Architect Rosário Salema, the children of the
 16 contestants would not carry on this activity, simultaneously productive (because they sell
 17 the products they cultivate) and recreational. Relatively to the community allotment
 18 gardens, it was verified that they covered technical staff (qualified active population), at
 19 least in the medium class neighborhoods, for example Telheiras.

20 According to the Landscape Architect Maria José Fundevila, current commissary for the
 21 legalization of community allotment gardens, the Town Hall of Lisbon, the *Heritage and*
 22 *Investment Division* of the CML is finally making a record of urban allotment gardens, with
 23 that information still unavailable. Relatively to the age groups and professional situations of
 24 the farmers, it would depend on the areas in question: in the more marginal zones, socially
 25 speaking, you have a wide variety of farmers being hard to establish a global pattern for the
 26 urban allotment gardens – the allotment gardens are very connected to the social and
 27 economical aspect in the city, at least that appeared spontaneously, so that they are directly
 28 related to the social typology of the area in which they are inserted.

29 The Commissary referred two distinct examples: Quinta da Granja, in front of the Colombo
 30 Shopping Center, and the Parque Hortícola de Chelas, near the J Zone neighborhood in
 31 Chelas: in the first one there is a predominance of retired people, at a 60 to 70% rate, that
 32 have cultivated the area for a long time. The oldest one has done it for 38 years and is 97
 33 years old today. In this case, the number of people that initiate the cultivation already in
 34 retirement is really low. Many have occupied these areas for a long time and have,
 35 meanwhile, retired. The main reason to cultivate the allotment gardens is the fondness for
 36 the cultivation of the land as well as the distraction it provides and the leisure occupation.

37 In Parque de Chelas the situation is completely different. The age group ranges from 30 to
 38 70 and here, predominate the professionally active individuals or, at least, in this age group,
 39 given that many are unemployed. Here, the main reason for the cultivation of allotment
 40 gardens is the complement to the family income. These farmers sell their products illegally,

1 unlike those from Quinta da Granja that cultivate solely for themselves. In this case a severe
2 problem arises which is the watering of the allotment gardens, in the summer, with residual
3 waters from domestic or industrial origin, and that are improper for such use. They are,
4 however, ready to be initiated the works of the first phase of a horticultural park, in this
5 area, that consists precisely in endowing the area with accesses and water for irrigation.

6 As for the municipal politics, in Lisbon, lately there have been promoted the urban
7 allotment gardens, which until now, had not yet happened, despite all the continued effort
8 made by some, trying to rekindle this practice.

9 About six years ago, a Commission was created, with the purpose of legalizing urban
10 allotment gardens. It was then proposed a regulation that legitimates the existence of these
11 spaces conferring some safety to the farmers that, in the last 12 years, have already received
12 two eviction notices. This proposal has not yet been juridically seen but, however, it is
13 already being applied. It consists basically in a classification, in order to protect the
14 economical and social allotment gardens that correspond to 90% of all of the existing
15 allotment gardens.

16 Aside from all the economical expectation, the suburban allotment gardens have an
17 indubitable interest as an urban phenomenon given that it is an activity situated besides the
18 *space offer* that the city provides to its citizens. They signify a way of *passing time* that the city
19 had not foreseen. In this sense, they constitute an *in between* space, between their homes and
20 the cafe as a place of reunion and leisure for the inhabitants. As it was already referred, in
21 [12] the *third space* is considered interpreting allotment gardens as a place of leisure, with no
22 equivalent in what is offered by the cities in a *standard* way.

23 In [17] those allotment gardens are linked to the transition of the rural to the urban space, as
24 a manifestation of the persistence of a rural-agrarian encysted in a urban *habitat*,
25 understanding that they constitute a symbol loaded with values, rooted in the interior of the
26 new citizen. In this sense, they put it inside resistance and protection against hostility
27 schemes that the city transmits to ethnic groups or cultural misfits. This assimilation of the
28 sub-metropolitan allotment gardens in the context of the slums does not seem well-thought
29 to us. The underlying problem in these urban-rural spaces is not only the creation of a *safety*
30 *space* of reunion with their own identity and with the land of origin. It is also the expression
31 of a will of permanence, an intention to integrate in the urban space something that, with no
32 apparent reason, disappeared from the city.

33 Ribeiro Telles, that in Portugal has always been a fervent supporter of the existence of the
34 urban allotment gardens, says that the new *city farmers* bring an intelligent message, in a
35 spontaneous and naïve way and, without dogmas nor impositions, show the evidence of the
36 possible, achieved without political support or public demonstrations. The new energy and
37 wisdom sap, that the urban context brings, is the result of not only remembering rural
38 values, but also of recognizing and feeling the urban needs. The suburban allotment gardens
39 are not ways of socializing that are contradictory and opposite to the urban lifestyle, instead
40 they are paradigms of the needs that no longer justify themselves in the urban space.

1 The in-between space, halfway from the domestic and the pure leisure, considered in [12], is
 2 something that the city has had, in some way and, today, the new neo-liberal city of the
 3 post-modernism has definitely lost allowing as the only option the commercialization of
 4 virtual gadgets. But this *third space* of life is not commercial nor a mere alienating hobby,
 5 having as a background everything that the city and Man need from Nature. This means the
 6 relationship Man/Nature and includes the understanding of the landscape with all of its
 7 multifunctionality.

8 In [17] is warned that there is a confrontation between sub-metropolitan allotment gardens
 9 and planning policy. The insensitivity of the planning about this space is something more
 10 than just ignorance: it is the result of the fear of the same foundations that rules planning, an
 11 image of order, from the social, functional and also aesthetic point of view. The allotment
 12 gardens have little meaning in today's virtual world where the way of existing and of
 13 connecting, given that the understanding of the city-nature does not have a market value.

14 3.1.3. Other concepts related to the allotment gardens: Continuous Productive Urban 15 Landscape (CPULs) and Urban Countryside

16 *Continuous Productive Urban Landscape (CPULs)*

17 Viljoen introduced the concept of Urban and Peri-Urban Agriculture and with the concept
 18 of CPULs – Continuous Productive Urban Landscape (CPULs) ⁸ in 2005, and it sounds quite
 19 interesting to us given the proximity of concepts with the concepts of *Natural Landscape*
 20 *Continuum* and *Cultural Continuum*, profoundly rooted in landscape architecture in Portugal
 21 and with concepts of the current landscape architecture: it consists in a coherently planned
 22 and conceived combination of *Continuous Landscape*⁹ with *Productive Urban Landscape* ¹⁰.

⁸ *Continuous Productive Landscape (CPUL)* is a concept of project design that advocates the coherent introduction of productive landscapes. Crucial in the concept of CPUL it is the creation of a network of multifunctional open spaces that include urban agriculture as a complement and support of the constructed environment.

This concept grew in the project design investigation and explores the role that urban agriculture may play in urban design. It was thought and articulated for the first time in 1998 by *workshop Bohn and Viljoen – Architects*, followed by a publication of the book *Continuous Productive Landscapes: Designing Urban Agriculture for Sustainable Cities*. This concept was the center of international attention and is, currently, part of the contemporary speech project. André Viljoen and Katrin Bohn are currently developing this concept in Brighton University – Faculty of Arts, through the said workshop.

⁹Continuous Landscape, similarly to the concept introduced by Caldeira Cabral, in Portugal, in the 50s – Continuum naturale – it is a current idea in the theories of architecture and urbanism that has already started to be implemented, not in a global way but partially, in some cities of the world. It consists in a network of open spaces, predominantly porous and made of vegetation, namely parks, or inter-connected green spaces, oftentimes referred as an eco-structure or infra-structure. They are free of automobile circulation, allowing pedestrian movement in the urban open space. They are an alternative to the use of the urban open space if we compare them with the existing spatial qualities of the utilized and underutilized disperse parcels of the urban open space. They should constitute an enormous (infra) structure of walkable landscape that runs through the city. Example of this continuum is the green corridor of Monsanto.

¹⁰ Productive Urban Landscape is an open space made of vegetation and run in an economical way and to be ecologically productive, for example, providing food through urban agriculture, the absorption of pollution, the refreshing effects of the trees or the increase of biodiversity in the *green* corridors.

1 It corresponds to a non-built and urban landscape, economically, social-culturally and
 2 ecologically productive, situated in a landscaping strategy to a metropolitan scale, built to
 3 include living and natural elements; thought to encourage and allow the urban inhabitants
 4 the contact with the activities and processes normally related to the countryside.

5 Overlapping the sustainable concept of *Productive Urban Landscape* with the spatial concept
 6 of *Continuous Landscapes* it is possible to propose a new strategy of urban design that will
 7 change the appearance of the contemporary cities towards the understanding of the city as a
 8 natural system, similarly to what is pretended with *Lisbon's Green Plan* and its *Green*
 9 *Structure*.¹¹

10 The CPULs will divulge the productive landscapes economically, social-culturally and
 11 environmentally. They will be inserted in the concept of landscape on an urban scale and, in
 12 the current context can be transposed to a territorial scale, offering the city a variety of
 13 advantages, lifestyles and few, if any, inconveniences or unsustainable aspects. This system
 14 of continuity shall cross the city through the built space, connecting all the open spaces
 15 inside it articulating them, finally, with the surrounding rural space.

16 In [19], the CPULs will expand to the countryside, enriching the urban fabric and the
 17 lifestyles and actively contributing to the resolution of environmental and urban problems.
 18 Either being different or similar, these productive landscapes will exist on pair with other
 19 urban open spaces. The CPULs will function as a strategy of urban design, hence, being able
 20 to act as moderators between the wishes of the local users and the strategies for urban
 21 planning; between social and economical feasibility; between sustainable ideas and urban
 22 productivity; between short term advantages and long term benefits.

23 Formally they can be very similar to the urban parks given that they both present a
 24 materiality and spatiality predominantly built with living and natural structures and
 25 elements, and are design with determined spatial criteria, formal and functional. They are as
 26 well, for several reasons, similar to urban **groves**. The urban parks and **groves**, being
 27 agriculturally less productive allow, however, a bigger freedom on the utilization of the
 28 space, given that there is not the protection of the cultures condition. In what refers to
 29 countryside, the CPULs can be considered similar to gardens given that they both follow the
 30 same sequences and patterns of plantation.

31 In comparison with other open kinds of urban open space, in reference [19] are referred
 32 three criteria that cover the most important qualities of a CPUL:

33 - The time and space amplitude – as heritage, legacy and identity;

¹¹ Included in the Urban Green Structure, Magalhães [18] defends, the existence of an Urban Ecological Structure, in which it is pretended to assure a bigger biological richness and to safeguard the fundamental systems to the ecological balance of the city. With this Structure it is pretended the creation of a continuum naturale integrated in the urban space, as it was congratulated in the Environmental Bases Law, providing the city, in an homogenous way, of a system constituted by different biotopes and corridors that connect them, represented either by natural occurrences, either by existing or created spaces for the purpose, that serve as a support to wildlife. To this ecological structure we add a productive structure, also a subset of the Green Structure.

- 1 - Utilization – as the present reality;
 2 - Ecology – as its gift for the future.

3 The amplitude describes the space, in its extension, its width and breath. It means more than
 4 size, but the dimension is its basic element, its beginning. There is no qualitative judgment
 5 connected to dimension¹². The size is considered influential in the designation of the space
 6 and in its capability to proportion certain programs and occupations. The sense of
 7 openness¹³, given that it is connected to the size, reflects this manipulation providing a
 8 much more sensitive measure for the qualitative success of the urban open space.

9 The utilization/occupation of the space is one of the first concerns when planning the
 10 contemporary open space. It means, frequently, to put in perspective the success of the new
 11 project with designs with criteria, also quantifiable, as for example, the cargo capacity, or the
 12 financial volume obtained by the offer capacity of the place (leisure centers, stores,
 13 restaurants, spas, among others). A more holistic vision of the current occupation of the
 14 open spaces may include more stable and qualifying criteria, namely education, health, the
 15 potential for integration or enrichment of the self, the satisfaction over individual actions
 16 and its importance to a wider urban community¹⁴.

17 Ecology, in this case, gives importance to the open urban space for the connection of the
 18 present drawing project to the program of a more desirable and sustainable future,
 19 proposing, as well, a strategy for the management of this process. The ecological concept of
 20 gradient, in particular, clarifies the idea of gradation in the process of formation and
 21 transformation of the shape, and of the natural processes, of the organization of the
 22 materials in nature according to a stricter set of rules following the formal creative device,
 23 but coherent with the ecological limit principle. A second type of movement is that of the
 24 misfit, that continuously changes the shape, position and appearance.

25 *The Urban countryside*

26 In [20] is introduced the concept of *urban countryside*, in which is accepted as valid the
 27 definition of the French rural code, which defines as agricultural every activity of control
 28 and management of a biological cycle of either plant or animal nature, together with the
 29 activity developed by a farmer in the prosecution of the act of production or sustained by
 30 the companies. The concept of *urban countryside* puts itself in the relationship of movement

¹²A small open space is not a bad open space, neither is a big open space for that matter. They are valued for being open, exterior, non-built.

¹³ Although related to the place, the sense of openness reflects manipulation promoting a qualitative measure more consensual to the success of the urban open spaces. It is related to the occupation and function of the space as well as with its position in the urban thread, reinforcing the importance of the open space in the urban net. The potential to this movement encourages occupation and the occupiers as well as it models the shape and appearance of the urban open spaces. It also introduces change and renovation in the space, offering with that a particular visual stimulus. The stimulus can be extracted from a number of sources (events, activities, movement, etc.), but it is, predominantly, connected to the material and natural processes: the vegetation submitted to a seasonal variation, to the growth and change of plantation patterns, to water, wind, sun, rain, etc.

¹⁴ Depending on their programs and the tolerance to change, an open space providing social interactions will certainly accommodate a great variety of occupiers that seem less interested in the dimension of the space or its location, than in its potential to integrate and participate.

1 between process and product, between agriculture of the urban space and *desagriculture* of
2 the rural space.

3 Considered as a social project, capable of improving the urban life conditions, the urban
4 countryside is not reduced to a social-economical process that varies according to the
5 greatness or richness of the city. Not wanting to renounce to its goal – to feed the citizens – it
6 is a part of territory of the city without necessarily transforming into a *green space* or *natural*
7 *park*, unless the park takes on the content and duties as an experimentation place of the
8 *urban countryside*. In this case, we talk about an urban rurality – different from the
9 agricultural rurality – similarly to **Quinta** de Recreio (recreational **farm**), in Portugal, where
10 the population does not waive the agriculture but that should be coherent between two
11 possible paradoxes: to lose agriculture but not the shape of the allotment garden, or to keep
12 the field with no agriculture similar to the idea of a garden that evokes the agricultural
13 image, without producing.

14 *Urban countryside (campagne urbaine)* – coined by Donadieu in 1998 and title of one of his
15 most well-known works – two words that seemingly oppose and create movement fighting
16 the sedentariness of the thought. But, *urban countryside* are also two coordinated words in a
17 single concept through which it is easier to promote the project and an action.

18 The countryside space infiltrated in the disperse city may be a part of the urban space taking
19 on rules for the contemporary city project from the new cultural, ecological and social
20 values that build an inhabitable society. In [20] it is not proposed as an unprecedented space
21 typology, as a new *standard* for *green*, but is aspired to create an inhabitable space, given
22 that, together with agriculture, a new ecology is proposed, new myths and new symbols to
23 share with their inhabitants – a new landscape.

24 The goal of Donadieu is that the peri-urban agricultural space, which will tend to be more
25 extensive in the coming years, never again has to be subjected to the fatality of a next
26 transformation, but that it shall be a witness of the history, given that it will outlive it. This
27 countryside, inhabited by a society that combines the practice of the city with landmen
28 from several origins, asks to participate in the definition of the urban space given that their
29 inhabitants do not want to let go of the city, confirming a life choice where a bigger contact
30 with nature is privileged¹⁵.

31 The hypothesis that the new city of the *urban countryside* organizes itself around an
32 habitability project, or better put of sustainable urbanity, can be put. However, for this new
33 countryside to become a landscape and, consequently, to acquire a relative perpetuity, it is
34 obvious that it should be created with the quality that it does not currently have¹⁶. It is the

¹⁵ The risk that the peri-urban society takes is alienation, the loss of an horizon of meaning and the feeling of belonging to a community confused with the place, the attribution of a social category to a stable and immutable context.

¹⁶ In [21] is emphasized that, without the cultural scheme of landscape, the citizen can not understand the countryside: "How can you understand the agricultural logic if you are unacquainted with the subjects of fieldwork and livestock? And looking to the ecological thought, how can you accept that absolute protection allows the conservation of biodiversity, when everyone knows that the second *natura*, once abandoned, can leave the place a lot less diversified than what ecologists think? And how not to protest against the horticultural academicism that proposes to cover countries and cities of flowers, to produce nothing more than commonplaces. What the aestheticians say, without

1 job of a landscape design – to build and design the landscape structure that will build the
 2 Eco-symbols. The innovation will consist in associating the agricultural and the built spaces,
 3 in a project that binds them forever. The inhabitable city will be constructed at the expenses
 4 of creative imagination, over the ruins of conformism and preconceived ideas. The
 5 multicultural concept of nature and the new attribution of the natural sense to the natural
 6 objects can create the foundation to the political project of the *urban field*.

7 According to Donadieu the realistic utopia of the *urban countryside* voluntarily attributes to
 8 the space a spiritual condition, more than reducing it to a lifeless support of equipment and
 9 social practices. Some will participate and will recognize themselves in this project; others
 10 won't, because the constructive tension of the project is that same source of social
 11 differentiation, adhesion, expectancy or denial.

12 As for us, we consider that the challenge of territorial appropriation is remarkable: first it
 13 includes in the social territory in question, some spaces exclusive for the inhabitants given
 14 that, through a work that involves major actors – farmers, associations or municipal staff – it
 15 questions the ideal of social organization and discusses that aesthetic job. The virtues of the
 16 dialog are certainly known but, its achievement depends, majorly, from the capability of
 17 society to recognize their own mythical horizons, be them ancient or modern.

18 It is indispensable to reclaim the myths of nature that, in the *urban countryside* project, send
 19 us to the founding values of society. The myths and rites keep the group together, gather it
 20 when it falls apart, be it a problem of public order, be it of collective health or of the future
 21 of the planet. Acting in such a way, the interlocutors of the project gather around rites –
 22 meetings, expositions, media messages – indicating the symbols, spaces or objects, land or
 23 agricultural products, stimulating the processes of socialization where individual dispersion
 24 is the rule.

25 To say that the habitability of a territory passes through the social appropriation of the
 26 public and private places, mean to enunciate a necessary condition but probably not enough
 27 because the creation of social legacies through founding myths – as solidarity or health
 28 benefits – makes the social-political regulating system to recognize the collective project and
 29 to accompany it; otherwise it won't be nothing more than pure fantasy. In [20] the
 30 communal administration should, for example, buy agricultural fields to guaranty the
 31 continuity of the cultivation, to systematize leisure routes in the agricultural parks or to
 32 subsidize the farmers in case of prolonged price fall. It is not rare that local administrators
 33 subscribe to the common opinions, making their own the aspirations of society: living in the
 34 countryside, for example, is a *slogan* that accompanies the farms' policies and local
 35 revivalism.

compromise, is that the ecological sciences should concern themselves about the natural processes, inventory and environmental sustainability and living species, while nature and landscape pay attention to the perception of this environment and its representation."

The countryside is, in fact, the second nature made a show, in territory where urbanity and rurality are intimately connected and still opposed. In [20] the countryside is a concept we need to keep mentally representing to be able to reach reality.

1 Localization can be enunciated under the form of a paradox: the more social groups find in
 2 the *urban countryside* the attributes of nature, the more complex should the social and
 3 technical processes be to produce this way of *nature* connected dialectically to the central
 4 urban area. The more the countryside becomes inhabitable, offering pleasure and comfort to
 5 its users, the more the collective myths should be renewable.

6 We can then consider, as being of general consensus that, although it may be placed inside
 7 urban agriculture, given that it refers to activities related to food production in the city,
 8 being able to occur in several situations, the *urban countryside* allows other activities besides
 9 this one, namely new social and economical practices (ponds, rural tourism, sale of quality
 10 food products, horse raising, among others) carriers of an innovative proposition of
 11 sustainability and of new ways of spatiality. The *urban countryside* can be that of a more
 12 urban and rural city that will result from the articulation of the *natural*, urban and rural
 13 systems, that will result in turn in a new idea of space where its appropriation makes it
 14 inhabitable and of identity.

15 **3.2. Why allotment gardens?**

16 Nowadays, half the world population lives in cities. According to the United Nations
 17 Human Settlements Program – UN Habitat 2004, *State of the World Cities*, in 2030, this
 18 proportion will be of 60% (UN-Habitat, 2004).

19 Many cities cannot stand this massive population growth. Authorities face many challenges:
 20 creating enough employment; providing basic services, such as water supply and sanitation,
 21 health care, education; planning and maintaining open spaces; managing urban waste and
 22 sewage; decentralizing and creating a new efficient local autonomy

23 Poverty accompanies the urbanization process, gradually affecting urban areas [22]. This is
 24 an indication that cities are quickly becoming the focus of intervention and strategy
 25 planning to eradicate famine and poverty, as well as to improve subsistence means, which
 26 requires new ways to encourage local economies and strengthening nourishment and food
 27 safety. We think urban farming is one of those strategies.

28 The growth of urban poverty, famine and unemployment, as well as the special
 29 opportunities that the city provides to the farmers¹⁷, have stimulated the development of a
 30 diversity of production of the agricultural systems inside and in the outskirts of the city,
 31 frequently specialized in perishable products like fresh vegetables, milk, eggs and meat,
 32 taking advantage of the interstices inside and in the peripheries of the cities. Even though
 33 some ways of urban and peri-urban agriculture are based in a temporary use of these empty
 34 spaces, urban agriculture is a permanent characteristic of many cities, either in developing
 35 countries, either in the so-called developed ones. Also, the meaning of urban **architecture**
 36 inside the contemporary open space varies according to the city in question. The
 37 environmental benefits of urban agriculture have only recently been identified and

¹⁷ Namely the rising demand for food, greens and vegetables, the proximity to the markets and the availability of cheap resources, namely the urban solid residues and residual waters.

1 recognized, with very different meanings in the developing countries and in the developed
 2 ones. In the developing countries, urban agriculture is largely oriented around the
 3 economical needs, as in the developed countries it provides, mainly, answer to wishes and
 4 social and recreational needs. Besides the social reasons presented, urban agriculture reflects
 5 and comprehends the multifunctional dimension intrinsic to the concept of landscape.

6 In Europe the interest on urban agricultural exploration – whatever the typology – has
 7 constantly been increasing in the last few years resulting in an upwelling of food production
 8 in the urban space.

9 In [23] agriculture tends to define itself as a *bottom-up* activity, a movement of timeless roots
 10 to the *top-down* elitism of landscape design professionals. The policies – the questions and
 11 practices – whatever the perspective in which they are seen, require *top-down* and *bottom-up*
 12 initiatives. To free or reclassify the land for urban agriculture requires more than a simple
 13 desire of holding hands and planting vegetables. It requires a *top-down* intervention, by the
 14 planners and local authorities. If urban agriculture is seen as one of the various ways to
 15 make an environmentally productive landscape inside, and around and out of the cities,
 16 then the professionals of the field of the urban project – open spaces and built fabric – are
 17 vital allies in this project.

18 The urban agriculture in Western Europe can not be reproduced in the same molds as in
 19 countries like China, with a much more rooted and generalized connection to the traditional
 20 agriculture, or even in the United States, with its new immigrant population, that come from
 21 agricultural economies. For urban agriculture in Western Europe to be a part of its own city-
 22 countryside, it needs a wider coalition in the groups of interest: it needs not only to be
 23 tolerated, but to be welcomed. Any interest in the promotion of more complex models of
 24 development already introduced by Geddes and McHarg should pass by finding a place for
 25 urban agriculture.

26 As it has been referred, urban agriculture never stopped being present in the city, adapting
 27 to the different situations. The inhabitants of the cities have developed different strategies to
 28 improve their subsistence having urban agriculture been one of them.

29 In [3] urban agriculture answers in three ways to the urban dynamics:

- 30 - The first is the answer of the economically disadvantaged and unemployed population
 31 to urban poverty, to food insecurity and malnourishment. Sometimes, it is due to a
 32 temporary crisis like for example a natural disaster, a war or an epidemic. However,
 33 many of these problems related to famine and poverty have become common and
 34 structural showing that urban agriculture will have a much more extended expiration
 35 date as a social safety net for poor urban aggregates and at disadvantage.
- 36 - The second is the answer of the economically disadvantaged population, as well as of
 37 other social classes, to the opportunities and relative advantages that the urban
 38 environment provides to farmers.¹⁸ Direct access to the points of consume and markets,

¹⁸ The cities accumulate nutrients through the concentration of human population and their organic residues, be it solid or liquid. These nutrients may frequently be acquired without costs or at a low cost and can be converted into edible

1 availability of cheap *inputs* such as urban solid residues and residual waters, proximity
 2 to the institutions that provide information on the markets, credits and technical
 3 advices and new urban solicitations, among others.

4 - The third adaptation of urban agriculture is a direct answer of the urban farmers to the
 5 urban policies and programs, stimulating and enabling the urban agriculture to fill in
 6 certain requirements for the sustainable development of the city namely: the balance of
 7 the water, air and soil cycle, local economical development and food supply, as well as
 8 the recycling of residues, the promotion and maintenance of urban open spaces, the
 9 promotion of recreational and leisure services, social inclusion of minorities.

10 While some of the functions can be financially evaluated, others will have a tough time such
 11 as the emotional and aesthetic values. The sustainability of urban agriculture is connected
 12 with this multifunctional dimension. Urban agriculture adapts and develops together with
 13 the city according to the wishes of its users that represent the different functions. So, new
 14 ways of government, institutions and policies need to be implemented through processes
 15 that seek synergies and involve different actors [24].

16 Other city dynamics namely the urban and industrial traffic (that take a negative toll on the
 17 quality of the soils and irrigation waters), the new demands of the citizens (the need for
 18 recreational spaces and new products), changes in urban planning, in its norms and rules
 19 and, changes in the urban work market, among others, directly influence the development
 20 of urban agriculture and the way and where it is practiced.

21 These dynamics take place in a world increasingly open and global but that at the same
 22 time, searches for a bigger local focus, a greater decentralization and a larger maintenance of
 23 the social-cultural identity [22]. Both tendencies influence urban agriculture – globalization
 24 leads to new products entering the market, to more available information, in a general way,
 25 and to transformations in the consumer's preferences, which leads to an increase in the
 26 consumption in supermarkets; the focus on local tendencies leads to the preference on
 27 locally produced fresh food and to direct relationships of producer/consumer.

28 Since 2005 the prices of food items have skyrocketed to alarming values. Several values have
 29 contributed for this situation namely: the idea that agricultural products appear as an
 30 alternative fuel source; the rising need of food from developing countries, like China or
 31 India; a bigger cost for the transportation of the products; and the floods and droughts. The
 32 attention given to urban agriculture has increased considerably during the last two decades.
 33 The number of activities to promote urban agriculture internationally, nationally and
 34 locally, rose, but urban farmers still fight, in many cities of the world, to have their main
 35 strategy of survival recognized by the municipal authorities. Also the demand, by
 36 politicians and local practitioners, of inspiring examples of policies and successful actions is
 37 increasing.

products, vegetable or animal. On the other hand, while cities develop, there is an increasing demand of habitation buildings and of services that compete with the agricultural space. The producers need to adapt to these increasingly awkward conditions, while trying to maintain productivity through intensive production techniques.

1 Farming influences a great variety of urban themes, being accepted and used as a
 2 sustainable development tool for the city. Today, farming faces the challenge of being part
 3 of the city planning and of being easily accessible so that urban citizens can enjoy its
 4 multiple benefits [3].

5 The rising attention of political deciders and local and national practitioners is also reflected
 6 in the rising demand (to the members of – *Resource Centres on Urban Agriculture and Food*
 7 *Security – RUAF*) for inspiring examples of policies and successful programs at the level of
 8 urban agriculture, as well as practices and co-financing of programs of investigation. This
 9 fact can be attributed to several factors, namely:

- 10 - To the quick urbanization process and to the discovery that both urban poverty and
 11 insecurity about urban food are increasing. The consumption and waste landscapes,
 12 resulting from fast urbanization processes have created big problems to the urban
 13 authorities. The majority of the cities were not capable of creating enough job
 14 opportunities to its population leading to a fast development of informal occupations
 15 from which urban agriculture is a part.
- 16 - To the rising investigation staff in urban agriculture that provides data on its presence
 17 and persistence in the cities, its importance for the safety of urban food and, in the
 18 future to the urban economically disadvantaged classes. Since the beginning of the 90s,
 19 the *Cities Feeding People Programme* has encouraged an action of investigation in urban
 20 agriculture. In the beginning of 2000, the international research organizations that
 21 belong to the *Consultative Group on International Agricultural Research*, included urban
 22 agriculture in the investigation agenda and initiated a broad investigation program, the
 23 field of urban agriculture, under the name of *Urban Harvest* with activities in several
 24 countries. From that point, several research organizations included urban agriculture in
 25 their regular programs (Argentina, Kenya, Senegal and Nigeria).
- 26 - To the crescent attention given to urban agriculture and urban food safety by the
 27 international organizations such as *Food and Agriculture Organization (FAO)* and the UN
 28 – *Habitat*, and the crescent attention given to these subjects in International Summits. In
 29 1996, forty international organizations involved in urban agriculture created the
 30 *International Support Group on Urban Agriculture (SGUA)* to establish a joint agenda and
 31 coordinate activities. The *United Nations Development Programme (UNDP)* and the UN –
 32 *Habitat*, included urban agriculture in the *Urban Management Programme* (in the Latin
 33 America section) and have been working with regional town halls to integrate urban
 34 agriculture in urban policies and planning. Recently, this initiative was also undertaken
 35 by the *African Network of Urban Management Institutions (ANUMI, 2005)*. FAO has also
 36 integrated urban agriculture in its agenda and created an inter-departmental work
 37 group about urban agriculture and food safety (now called *PAIA Food for the cities*).
- 38 - To the increasing capabilities, locally and regionally, of thinking about urban
 39 agriculture. The RUAF established regional research centers on urban agriculture and
 40 food safety that have been crucial on adjusting interests and on disseminating the
 41 increasingly bigger corpus of knowledge in this matter, facilitating networking and the
 42 developing capability in terms of the city and region.

1 As a result of these developments, as well as of the pressure of the economically
 2 disadvantaged local groups, urban farmers, the Non-governmental Organizations (NGOs)
 3 and several municipal authorities have recognized the potential of urban agriculture and are
 4 collaborating with other actors in an effort to maximize the benefits of urban agriculture
 5 while reducing the risks associated to it [3]. In [5], food production where food is being
 6 consumed, establishes a sustainable and healthy balance between production and
 7 consumption. It's an effective, practical, and beneficial way to reduce the energy currently
 8 being wasted in Western food production. This energy reduction in food production is vital
 9 for many reasons: that energy — mainly non-renewable — is currently used in the
 10 conventional food production; for instance, Europe greatly exceeds the energy use in the
 11 consumption of the food it produces. The unlimited daily use of non-renewable energy
 12 makes a significant contribution to the reduction of global resources, through the emission
 13 of greenhouse gases that generate global warming.

14 **3.3. The benefits of allotment gardens**

15 Over at least the last 50 years, *green* policies have been opposing the city growth, or limiting
 16 its disadvantages, through the preservation of *nature* spaces within the city. In Europe, those
 17 policies have safeguarded untouchable spaces in the green belt, as an expression of an ever
 18 growing interest for farming spaces for the services they render the city. On one hand
 19 because their public management costs less than that of parks and gardens, and on the
 20 other, because citizens seek specific goods and services — fresh produce, pedagogic centers,
 21 urban waste recycling capacities, and a healthy living environment.

22 Considered as a social project capable of improving the conditions of the urban life,
 23 agriculture is not reduced to the economical processes that vary according to the wealth of
 24 city, but has important motivations to convince the constructors and organisms of city
 25 management of the third millennium. Urban agriculture can and should feed and nourish
 26 the citizens bound to be increasingly numerous. However, it is not the same in every
 27 country¹⁹. In the developing nations it is not necessary to show the importance of this
 28 function, conditioned, however, by the real-estate pressure that puts farther and farther
 29 away from the urban centers the productive agricultural belt of the gardens, allotment
 30 gardens and orchards. The agriculture practiced in African cities withstands even the
 31 competition from rural agriculture and of the mass markets.

32 In the developed countries, on the other hand, besides rural agriculture, indifferent to the
 33 city, are appearing in new ways of horticultural production, orchards and flower cultivation
 34 that answer directly to the needs of the citizens, in particular to the demand of buying fresh
 35 food products, with known provenance and quality, or of searching for ornamental
 36 products, especially trees, perennial plants and seeds. These are new urban lifestyles.

¹⁹ Urban agriculture is frequently tabulated by western *standards*. In the totality of Chinese cities, 85% of the consumed vegetables by the residents are produced inside the cities – Shanghai and Beijing are self-sufficient in vegetable production. This information may seem irrelevant to the rich European countries. However, the attitudes relative to food production are based in cultural aspects more than in health aspects as, for example, the Hong Kong case demonstrates. There, the vegetables to satisfy 45% of local demand are produced in 5-6% of the total land area [23].

1 This is the fundamental difference between rich and poor countries. Once satisfied the
2 feeding needs, it gives way to a new question: the quality of the individual and collective
3 lifestyles that should have never been separated. That is, it creates urbanity in the sense of
4 better living the city.

5 Urban farming has many significant benefits, such as improving the environment and
6 helping develop ecologically balanced areas, as well as at the social and economic level, for
7 the community, and in terms of health.

8 Allotment gardens frequently connect areas with different occupations, establishing a
9 visible physical link between two spaces. In this approach, they frequently define *hidden* or
10 forgotten spaces within the city that may undoubtedly react to the landscape's
11 multifunctionality.

12 Urban agriculture also gives *scale to landscape*. The way these farming surfaces are changed
13 to accommodate planted surface links and gives visibility to the underlying topography.
14 The dimension of crops and cultivated fields offers another standard from which to measure
15 landscape, allowing people to locate and position themselves within a particular territory.
16 This capacity to read the landscape, and locate oneself becomes critical, as contemporary
17 globalization produces more uniform, compact, and timeless landscapes.

18 Despite the undeniable existence of these benefits, the positive impact of urban agriculture
19 in the character and quality of the landscape is not shared by everyone. Landscapes that
20 result from urban agricultural projects tend to share some common characteristics that are
21 not included in the dominant approaches to the project design of the urban space held by
22 landscape architects, architects and urban planners.

23 These characteristics include a subtlety, an introvert character and frequently non-planned
24 and the constant transformation of the landscape. To some they are understood as detractors
25 of the quality of the urban landscape. But to others they are some of the most desired and
26 necessary landscapes.

27 It is a fact that urban agriculture is crucial to the existence of several poor cities in the world.
28 However, just recently, the wealthy industrial nations of the world and its politicians started
29 to consider the potential benefits of urban agriculture. Nowadays, in all European cities,
30 food production faces a severe competition with the other uses of the land, namely
31 habitation, commerce and industry that frequently have a high profile and financial
32 payback.

33 While a great quantity of information on the design of low energy consumption buildings is
34 available, including examples that take into account the impacts in the life cycle due to the
35 embodied and operational energy, little bibliography is commonly made available relatively
36 to urban agriculture. It is not that surprising that professions connected with the built
37 environment have so little to do with urban agriculture. If the planning is supposed to be
38 related with the coordination of the use and of land development and public interest, then
39 the value of food production needs to be more publicized and, even included in the
40 curricula of studies related to this theme.

1 The contribution of urban agriculture to food safety and healthy nourishment is, likely, its
2 most important point. Food production in the city is, in many cases, an answer of the urban
3 poverty to an inadequate, irregular and insecure access to food, as well as to the lack of
4 purchasing power. In the urban areas the lack of income translates itself more directly in a
5 lack of food than in the rural areas (the economical income is necessary to buy food). The
6 costs of supply and distribution of food from the rural areas to the urban ones, or the import
7 of food to the cities, are constantly rising and its supply in the cities is irregular. As a
8 consequence, urban food insecurity will continue to rise [25]. To add to the reinforcement of
9 food safety and nourishment in urban farmers [26], urban agriculture produces large
10 quantities of food to other sectors of the population. It was estimated that 200 million
11 urban residents produce food for the urban market providing 15% to 20% of the food in the
12 world [27].

13 The improved access to fresh food is directly linked with health improvement. The
14 production of food in the cities can and should help improve the diet of the population
15 allowing it the access to fresh fruit and vegetables, particularly that population with low
16 income. To add to the diet, urban agriculture can provide an useful way out for the quantity
17 of regular exercise that health professionals argue to be necessary to avoid health problems
18 like obesity. Also the practice of gardening or horticulture has been widely recognized for
19 its beneficial effects in the treatment of mental illnesses.

20 Urban agriculture is an important income source to a substantial number of aggregates. To
21 add to the income of the sales of the surplus, the families of the farmers save in household
22 expenses when cultivating their own food. Given that the economically disadvantaged
23 classes normally spend a substantial part of their income in food (60-80%) [4], the savings
24 can be substantial. Urban agriculture also stimulates the development of micro-companies
25 for the production of the agricultural *inputs* needed (forage, compound and worms); to the
26 processing, packing and product marketing and other services (animal health services,
27 commercial accounting, transportation). In the developing countries it can proportion an
28 orientation for the economical life.

29 The economical value of urban agriculture can not be simply compared to the type of
30 financial flux caused by the exchange of money for agricultural products in supermarkets.
31 From a small or medium production, preferably organic and seasonal and with aim at the
32 local market, urban agriculture is a different approach to life and food that, more than to
33 compete, supplements the already existing products in the supermarkets.

34 Urban agriculture can function as an important strategy for the attenuation of poverty and
35 social integration of the disadvantaged groups (like immigrants, families affected by AIDS,
36 people with deficiency, aggregates lead by women with children, elders without pensions,
37 youth without jobs) providing them with a stronger way of integration in the urban
38 network, a decent subsistence and preventing social problems [28]²⁰. The urban and peri-

²⁰ It is a merit that the inhabitants attribute to the neighboring agriculture of the city, the permission for the existence of family gardens, the integration of social marginal groups, for example immigrant workers or unemployed people. In

1 urban farms can also have an important role having a leisure and educational play in for the
 2 citizens, having a role in biodiversity and landscape management, a bigger proximity with
 3 the natural cycles, as well as with the perceptive development of a different dimension of
 4 time.

5 Also emphasized in the urban agriculture related bibliography is its importance in terms of
 6 community development and as an agent for social regeneration, reducing the
 7 discrimination, fighting crime and generating economical benefits. In terms of urban
 8 regeneration, one of the strong points in urban agriculture, identified both in the Europe
 9 and North America related bibliography [29], is its capability of making a highly visible and
 10 practical difference in the life of the population.

11 The waste elimination has become a serious problem in several cities. Urban agriculture can
 12 contribute to solve this problem turning urban waste into a productive resource through the
 13 production of compound, worm culture and irrigation with residual waters.

14 Urban agriculture and forest can also have a positive impact in the open spaces of the cities,
 15 in the improvement of the urban micro-climate (windbreakers; dust reduction and the
 16 existence of shadow) and in the maintenance of biodiversity as well as in the reduction of
 17 the carbon footprint in the city with the production of fresh food near the consumers
 18 reducing, consequently, the energy consumption caused by transportation, packing,
 19 refrigeration, etc.

20 Investigation developed in Holland showed that the existence of agricultural spaces, and
 21 thus built with vegetation, near the houses, has a positive effect in people's health [3].

22 **3.4. Policy and allotment gardens**

23 Due to the multifunctional and improvising nature of allotment gardens, policy development
 24 and planning actions must involve many sectors and disciplines: agriculture, health, waste
 25 management, community development, nature and parks management, and others.

26 On the other hand, urban farmers, as well as the organizations supporting them, must be
 27 involved in the planning process. In [30], the most important thing in strategic planning is
 28 the involvement of the underprivileged populations in the assessment of the situation,
 29 property definition, and the process of action planning and enforcement. These advisory
 30 processes result from development policies and planning actions, not only comprehensive,
 31 but also sustainable. These facts are increasingly acknowledged and included in urban
 32 planning approaches, as planning methodologies of the many players adopted by the
 33 *Agenda 21*, and by the *Sustainable Cities Programme*.

34 Public power has many reasons for wanting to keep farming spaces and farmers in urban
 35 areas. First of all, for food safety reasons in countries with scarce farming areas. Then, for

these domestic allotment gardens, original ways of socializing are developed, particularly on weekends and holidays. You go to the garden, mainly for food reasons, but also for the regular rendez-vous with other people and, with their families, bonds are created, talk, trade and invite.

1 civil safety reasons (fire hazards due to dry vegetation). There are also economical and social
2 reasons: the producers' geographical distance (due to costs, and also to local food safety in a
3 crisis situation), requiring short commercial circuits; the diversity of farming products and
4 their geographical origins, leading public power, for instance in Europe, to distinguish
5 quality brands in defined territories — registered designation of origin (DOC), factory
6 products or organic products; farming tourism also plays a significant role spreading these
7 products.

8 There are other environmental and landscaping reasons: landscape design, multifunctional
9 use, and identity preservation, amongst others. Under controlled conditions, urban farmers
10 should recycle a part of urban water and organic waste. Farming landscape structure, such
11 as productive farmland plots, wind hedges, wells, channels, supports, routes — these are all
12 ways to break the agglomerate density of buildings. There are other vegetable or water
13 surfaces, which also help purify urban micro-climate; farming spaces are leisure areas. Most
14 of all, they offer the population public recreational spaces kept by farmers, so long as the
15 safety of goods and people is guaranteed. Matching Donadieu's *urban field* [20], this image is
16 not spontaneously born but comes from the collective action of farmers, the population, and
17 urban public power.

18 These spaces are emerging as farming parks in South Milan, as orchards by Palermo,
19 vegetable gardens and orchards in Baix Llobregat, in the Aubagne community not far from
20 Marseille, in Delft, Holland, and as system of farming parks in Almada, also projected in
21 *Estrutura Verde* and *Plano Verde de Lisboa*. This happens in all cities re-acknowledging the
22 multifunctionality of landscapes.

23 Despite the already referred relevance of the existence of urban agricultural practices, its
24 integration in the contemporary urban economy is still a flaw in the urban policies and
25 planning.

26 Urban agriculture is an economical activity practiced for commercial reasons, by an
27 estimated number of 200 million people and informally by 600 million people around the
28 world. The innovative book *United Nations Development Programmes (UNDP), Urban
29 Agriculture; foods, jobs and sustainable cities*, identify three economical benefits in urban
30 agriculture: employment for the future generations and business development; the
31 improvement of the national agricultural sector and the supply of urban food; and the
32 economy of land use.

33 Even though urban agriculture significantly contributes to the feeding necessities of several
34 urban populations, the United Nation's Food and Agriculture Organization (FAO) informed
35 that, in the future, the 12 mega-cities (with more than 10 million inhabitants) will experience
36 an increased difficulty in their feeding. (FAO, 1998).

37 The land portion necessary for the urban agricultural activities that are commercially viable
38 will depend of a number of factors that include [31]: the quality of the land; the use of
39 natural and artificial micro-climates including greenhouses and polyethylene tunnels; the
40 type of crop growth; the combination of animals and plants, the prices of the products in the

1 markets, including the products from rural and overseas areas; its *inputs* including work
2 and fertilizers; and the distance from the place to the urban markets.

3 The urban producers can obtain a bigger efficiency with the utilization of underutilized
4 resources in the cities such as the interstitial spaces, the city compound and the labor coming
5 from unemployed people. The productivity of urban agriculture can be 15 times bigger than
6 that of rural agriculture although the incomes can suffer some *inputs*, and insufficient
7 municipal support (FAO, 1998).

8 The macro-economical effects of urban agriculture can be improved on the level of food
9 safety and of a reduction in food prices, inducing the increase of employment and
10 contributing to the industries related to the activity. It is presented as a way out for the
11 current social-economical problems.

12 **3.5. Allotment gardens in the periphery**

13 The rapid urbanization process, verified along the last half of the 19th century, has lead to a
14 continuous expansion of the city towards the rural suburbs, leaving big areas under the
15 direct influence of the urban centers. However, the current problem of the peri-urban space,
16 understood as a new way, a disperse way, of the construction of the city, corresponds to a
17 phenomenon that started developing two centuries ago²¹.

18 The process of progressive democratization brought the destruction of the traditional
19 system of symbolic value and the continuous collocation of new values and references in the
20 collective imagination. Relatively to the urban space, to its periphery and the diffuse
21 territory of the city, democracy brought not so much the destruction of the places or their
22 context, as it brought the trivialization of the shape of the public space and the repetition
23 and reproduction of the shape of the private space, favoring the appearance of a separation
24 of the idea of common good²².

25 It's common knowledge that cities go through a constant process of construction and
26 decadence. Open spaces are filled with buildings and their formal or informal temporary
27 uses are eliminated. Meanwhile, degenerate areas are demolished, creating new open spaces
28 that can stay empty for a long while, until they're given a new use with the corresponding
29 investment. These new spaces are often occupied by urban investors [3].

²¹ To be noted that even walled cities looked to, however they could, integrate inside them an area for that purpose only. For example, the *Fernandine wall*, in Lisbon, built in the 14th century, covered a wide area (a little bit over 100ha), to assure some supply autonomy in case of prolonged siege.

Also the Ebenezer Howard model, about the creation of new cities, predicted that each one of them would integrate a surrounding agricultural zone.

However, if we consider that it starts in the search for the countryside by the citizens we can say for sure that it has always existed, not only for the needs of agricultural supply, but also for leisure and contact with nature and, for sanitary and health reasons [32].

²² A perspective of the defense of the common good is particularly worthy when we talk about the Mediterranean landscape, especially the coast, where the need for a social solidarity is stronger and an environmental valuation policy without the reconstruction of a civic tradition that establishes a connection of society with that place is unthinkable.

1 As for this crescent peri-urbanization, some say that, “the city-countryside dichotomy
2 should give way to spatial integration, which process must not be seen as the countryside
3 urbanized or as the city ruralized, but as a new way of social reorganization, that should
4 reflect complementarities”²³.

5 In that same sense – of spatial integration and social reorganization – Secchi [33] revalues
6 peripheries, stating that it is less and less certain that the periphery is the place for
7 subordinated activities of degradation better representing the best place for exchange
8 between the city and the rest of the world.

9 Such opinions reflect from the start the reality of the city-countryside relationship that, with
10 the increasing dispersion, occurs in the urban surroundings. This new territorial localization
11 and the specific social relationships to it associated indicate a new way of organizing the
12 city. In its surroundings dynamic zones in expansion are seen, zones of interaction between
13 the urban and rural areas.

14 This peri-urban interface [34] is characterized by rapid transformations in the use of the land
15 and in the way of living of the populations. The traditional systems of local agriculture and
16 land distribution are interrupted by new citizens looking to acquire land²⁴ leading to a
17 raising in its price.

18 As an answer, some *traditional* farmers give up their activity²⁵ and sell the land looking for
19 more profitable and lucrative activities²⁶.

20 The interdependence between urban areas and their rural surroundings creates the need of
21 the existence of approaches of integrated development appealing to rethought areas of
22 interest, institutional changes and innovative planning approaches [35].

23 None of this happens in the peri-urban space. The old inhabitants will still have some
24 connection to agriculture, an increasingly smaller one, and shall keep social relationships of
25 proximity, but the new inhabitants are essentially urban ones. Many of these come from the
26 city, of collective habitation areas; they work in the city, in the services or in the industry
27 and live car-dependent; their leisure and realities of reference are based on television and
28 superstores; perhaps practicing some gardening; they value individuality and establish few
29 neighborly connections; sometimes relationship problems occur between younger and elder
30 residents.

31 The economical, social and demographic decomposition of the rural space makes the
32 countryside increasingly oriented towards and by the city. The countryside around the city
33 is, almost always, the most unstable place of the territory and more propitious to processes

²³ Carvalho [11] p. 189.

²⁴ To speculate: to the exploration of sand and stone, to the development of infra-structures, to the construction of installation of more urbanized types of agriculture.

²⁵ The general devaluation of agriculture is a fact and Portugal is an example of it.

²⁶ Jobs in the city; the intensification of their agricultural systems of production to a bigger adaptation to the new urban conditions – cultural changes, market orientation, the use of new technologies, namely greenhouse production, direct market, use of urban waste or residual water, among others.

1 of transformation – the soil of the future periphery, conditioning of the next votes in the
 2 process of real-estate valuation, of highways, interstitial area hard to interpret. In most
 3 cases, the destiny of the fields is the one of being defined by the dynamics of transformation
 4 of the city [7]²⁷.

5 The relationships of the new residents with the space that they occupy, little has to do with
 6 rurality (although they can feel sympathetic about it). Even the older residents, with the
 7 crescent abandonment of agriculture, new jobs and displacements, will eventually be turned
 8 into citizens of this *wider city*, of this *city territory*. The peri-urban space, presented as a
 9 return to the field is, before anything else, a new process of urbanization.

10 This peri-urban interface is defined as land in an advanced state of transition from rural use
 11 to urban use – land in construction, land to which the plans for subdivision have been
 12 approved – in the end, land where there are little doubts about its orientation to and
 13 conversion into urban uses, where it is not predicted a multifunctional use of the landscape,
 14 but where it is fundamental [36].

15 Oftentimes the urban periphery is referred more as a phase than as a place [37]; the rural
 16 activities are considered as activities to disappear in the next few years, while urban
 17 activities are simply understood as precursory of the city. The substitution of a rural inclusive
 18 space for a completely urbanized area is stipulated and, the disordered landscapes of the
 19 periphery, characterized by a mixture of rural and urban activities, are regarded according to
 20 this determined succession and established as places in transition that are soon bound to
 21 disappear²⁸. The notion that urban development is the best use of the non-urban land is
 22 written in the lexicon of any urban planner or politician. The ignorance of the concept of
 23 multifunctionality and of the concept of landscape lead to the transformation of a the scenery
 24 of periphery and the notion of *no place* that accompanies it, turned into a battlefield between
 25 the efforts to preserve the rural soil and the ruthless forces of urbanization.

26 Periphery can then be characterized, by many, simply as the grave to the countryside and a
 27 birthplace to the city, while the intermediate phases of the landscape and of life have been
 28 ignored. The periphery landscape, complex and sometimes chaotic is merely described as a
 29 temporary void. Due to the landscapes in transition being neglected and simplified
 30 according to the urban-rural conflict, the transforming side of the landscape is put aside or
 31 severely reduced²⁹.

32 These hybrid spaces of the city and the countryside, or *spaces outside the order* are common in
 33 the periphery [37]. Vast areas of the periphery are waiting for projects, often for a long time,

²⁷ When the contemporary city breaks the rules of construction of its growth interrupting the continuity and adjacency with the pre-existing urban fabric, it simplifies the rules of construction of the boundary space, the *in-between* space, isolating the new settlements inside a landscape less and less recognizable as countryside, but already altered by a transformation which objectives will be real-estate valuation, a goal to which the owner aspires be it farmer or citizen.

²⁸ In [38] is referred that the periphery of the city has been, for a long time, the destination of the rural landscape of the periphery of the city, the natural material to the subdivision for residential and industrial lots and trailer parks

²⁹ In [39] is referred the artificial division between urban and rural as the primary reason for the existing difficulties when running the periphery.

1 that contribute for the qualification of the landscape. The planning, the development, and
 2 the rehabilitation of spaces are part of the contemporary society; an intermediate phase of
 3 abandonment is an inevitable stage of the contemporary city, as well as of the countryside,
 4 that also is transformed [40]³⁰; the peri-urban territory is clearly in the process of social
 5 rehabilitation.

6 The use of similar definitions, that refer the transition/indecision of a rural/urban use (and
 7 often the conflict between farmers and the population of the disperse city) have been long
 8 referred to in literature on planning, as well as the discussion around the old question of
 9 considering this as *urbanized countryside* or *ruralized city*.

10 It is certain that in both definitions it is included the idea that this space should contribute to
 11 the supply of food to the city. It is an obvious reality in developing countries, but much
 12 more complex when around the western city, where there is a type of agriculture that
 13 supplies to the big supermarkets and shopping centers, with which urban agriculture can
 14 not compete. In the peri-urban agricultural spaces there are many diverse ways of
 15 agriculture, from the intensive one to the extensive, from commercial to productive, from
 16 traditional to hobby.

17 This abundance of ways is quite positive because it indicates that, independently of any
 18 global project, these are the differentiation processes that are happening and that farmers
 19 are reacting to the demands of the new markets. The rapid advances of agrifood technology
 20 and modern rural economy management allowed to obtain benefits capable of transforming
 21 and making competitive the peri-urban space as a way of organization of the New Diffuse
 22 City. This new generation of dispersion landscape is related to the territory of peri-urbanity.
 23 In this figure, through discontinuity, a new agricultural space is introduced with
 24 unprecedented form and function. If we consider this space as a part of the new landscape,
 25 then territory and landscape must converge towards an innovative notion of values, non-
 26 measurable as trading values or economical goods, but as use values, that attribute weight
 27 to pragmatics implying a familiarity through the places they inhabit, carrying rhetorical and
 28 aesthetic values, as a premiss to an identity construction or the symbol of a renewed society.

29 The resistance of the farming space to the absorbing pressure of the neo-liberal city will
 30 depend, almost exclusively, on its own means and on the management of its resources and
 31 possibilities, as well as on the revitalization of its equipment levels and on the effectiveness
 32 of its means of transportation.

33 The enhancement and the creation of new techniques, as well as, in many cases, the farming
 34 units fragmentation, also beyond the commercial aspect, as in the case of the *Hobby Farm*
 35 movement and of some family vegetable gardens, generate a dynamic in which *part-time*
 36 *farming* includes a double occupation as social and economic reality. This generates a stable
 37 relationship between farming spaces and urban space economy. On the other hand, besides
 38 economic matters, this relationship between farming spaces and urban spaces has also come

³⁰ Witness of this process are the hesitations of local administrators, the disbelief of the farmers, the pressure of the new inhabitants and the different *lobbys*, as defended by ecologists and hunters.

1 to imply social motivations rooted in certain urban population sectors with smallholdings
 2 and small family vegetable gardens. These are often marginal and not profit oriented, which
 3 indicates to a tendency to recover connected ways of life, contrary to what we have now.

4 From an ecological point of view, nowadays, this proximity between farming and urban
 5 reality may be the most efficient vector to achieving a sustainable city, capable of giving a
 6 better use to waste production and to the growing energy consumption.

7 A policy of maximum reduction of agricultural exploration uncertainties, under the
 8 dominant influence of the urban space, does not connect well with a new neo-liberal culture
 9 utilized as convincing proof of little solidary attitudes. Nevertheless, the maximum
 10 reduction of these uncertainties on agricultural explorations is in the recommendations of
 11 the OCDE. Before this organism agriculture must assume a decisive role in the organization
 12 of the peri-urban areas.

13 The management of European space policy inscribed in the European Spatial Development
 14 Perspective – Postdam 1999 – had the merit of putting between the primary objectives the
 15 orientation of the territorial community strategy towards a balanced urban system,
 16 reachable through new ways of city-countryside relationship, aiming to the integration of
 17 the poly-centric urban space of the metropolitan areas and peri-urban agricultural space,
 18 opposing to the union of the built fabric. The challenge of the contemporary city should start
 19 from the peri-urban agricultural space, which surface varies according to the greatness of
 20 the city, and which urbanity is more reinforced the more the urban center presents itself as a
 21 cohesive space, getting closer to the peripheries, including sections of field.

22 The peri-urban field landscape, for a long time seen as productive agriculture, can become
 23 again, as in the image of the English countryside of Humphrey Repton and Capability
 24 Brown, a place of new symbols and renewed aesthetic values, with no nostalgic intention
 25 and innovative activities, be it from the city, be it from agriculture, that do not refute the city
 26 but embrace the advantages of this closeness and its inter-relationship-.The urban periphery
 27 can simultaneously be a space of predominantly rural use that assumes some urban
 28 functions without losing its sense and its agricultural economy. Transformed space that had
 29 and has, almost permanently, the necessity to adapt to technological innovations and the
 30 increases in production being in this improving capability its shot at survival. In this
 31 sequence, it can include not only small or medium explorations but also those of bigger
 32 dimension that have been and is protagonist of the *metamorphism* of the peripheries,
 33 important to understand its evolution in time.

34 The history of peri-urban agriculture shows that, in the beginning of the 19th century, it was
 35 responsible for the production of food of the city. In the end of the said century with the big
 36 developments in transportation, peri-urban agriculture was responsible for the production
 37 of food of the city and neighboring cities (golden age of the horticultural periphery).

38 In the European market of the 60s of the 20th century, an enormous real-estate speculation
 39 takes place with the peri-urban agriculture. From the end of the 90s, the peri-urban
 40 agriculture painting varies a lot from region to region, with a bigger concern in this sense

1 due to, in part, the enormous increase of the urban population and the economic crisis that
2 is globally felt.

3 The peri-urban space is today, without a doubt, the most representative landscape of our
4 post-industrial culture, setting a new expression that, in Europe, occupies almost the totality
5 of the cultivable spaces, as it were the already natural form of expression of the agricultural
6 spaces that need a high technological level and acquaintanceship with certain populations
7 and activities [8].

8 The city demands a new culture concerning landscape. The expectations rural spaces create
9 as to the location of activities already surpass peri-urban situations and the debate
10 city/periphery/rural space, revealing a growing recovery of the landscape's
11 multifunctionality, and implying a new understanding of their possible meaning as urban
12 space support. What matters most is to *surpass* the notion of dependency of the rural space
13 relatively to urban space. We believe that viewing the farming space as equal to any other
14 soil use is the greatest contribution our time will leave as a legacy for the city's future.

15 Just as the proposition of *landscape urbanism*, concerning the relationship between the
16 landscape and the city — landscape as an (infra)-structure determining urban planning and
17 development — Donadieu, and also Ribeiro Telles, suggest — instead of trying in vain to
18 control the city's growth through grids, belts, front sides, and green spaces — building the
19 urban fabric from the farming and forest space.

20 Like many other authors — namely Corner, Donadieu, Hargreaves, Waldheim, and others
21 — Marot [41] also says contemporary context has put landscape architects in the
22 convergence of farming and urban traditions. This means they are at the core of an
23 awareness directed to both viewing public spaces (urban projects) as landscapes and
24 viewing landscapes (rural extensions) as public spaces and consequently as the projects'
25 possible goals.

26 **3.6. Allotment gardens in urban voids**

27 The process of city growth, almost always over the rural space, has produced new
28 peripheries, hiding with new urban fronts the view over the countryside, introducing in it
29 the city vocabulary, the houses, the roads, the infra-structures, substituting the agricultural
30 parceling for the regular strokes of pathways, for a hard and waterproof surface that
31 overlaps the irregular, porous and topographical surface.

32 The roles played by the countryside in their proximity to the cities were canceled, modified
33 or appropriated accordingly to meet the necessities of the city, often conflicting with the
34 diverse logic of space occupation and urban methods, nature regulators.

35 The environmental question that appeared in the second half of the 21th century, in the
36 sequence of the industrial city, was, as we have seen, target of thinkers like Howard, Unwin,
37 and Geddes, that re-elaborated an innovative culture of inhabiting, finding inspiration in the
38 *poetic of the green*.

1 The modern society interrupted the dialog with the territory introducing the notion of *void*
 2 understood as the abstract plan of the urban stereometry, imagined isolated in a space
 3 regarded as isotropic. Newton was the motivator of the space of modern society – the space
 4 of abstraction, with no time, a space that is already between the filled ones but that is
 5 neglected. But the sanitarian question, after the First War, with the valuing of the free area
 6 and the sun that, paradoxically inspired the spatiality of the modern city nullifying the
 7 values of composition that are preponderant still today in many cities, or at least parts of
 8 them.

9 The theory of modern movement on the relationship between the city and the countryside
 10 was often misunderstood. With the image of the *tabula rasa* ended an articulated reflection
 11 that proposed the recovery of the *urban green* as a social value of rurality.

12 The word play *country-cities in city-countries* with which Walter Gropius pretended to
 13 rebuild the urban city in the countryside; the carefree workers that found job in the
 14 countryside; the meticulous design of the cultivation of **Aldolf** Loos's allotment gardens in
 15 the houses of Siedlung Huberg in Vienna³¹ ; the socialization programs of the *urban green*
 16 aiming at the auto sustainability of the family centers promoted by Leberecht Miggie and of
 17 the *Gartenkultur* to the attribution of terrains attached to the house; the narrow
 18 complementarity between the urban thread and the agricultural space thought by Fritz
 19 Shumacher to the metropolitan area of Hamburg and Köln; these are just some examples
 20 that show the poetical roots of the *garden-city* in the modern movement knocking down the
 21 traditional relationship of dependence between the center and the periphery.

22 The possibility of food supply of the citizens in the planning of the countryside in the
 23 margins of the *Siedlungen* rediscovered the rural space as a part of the city and the allotment
 24 garden as new urban material.

25 The contemporary city recomposed the separation between the city and the countryside
 26 occupying the territory again, densifying the chosen places by the rich bourgeoisie, in the
 27 last century – the vacation houses, the sea, the lake, the mountain – appropriating itself of
 28 the rural space, building an enormous new city in the countryside, continuing to leave
 29 empty great portions of land in which the contemporary city project can and should take
 30 advantage of the potentiality of these empty interstitial spaces reestablishing their historic
 31 and topological value, comprising them inside a new urban space [43]. The discontinuity of
 32 the new urban territories can start with the reconnaissance of the genesis of these interstitial
 33 spaces that can be transformed to any use.

34 As it was referred, the category of the interstitial space has been an emerging problem to
 35 contemporaneity: the interstitial void renegades urbanization, it is not inserted in a project,
 36 or becomes a new product, or it is rejected by the countryside and becomes a non-cultivated
 37 and abandoned space. It results, generally, from the neglect that derives from the
 38 uncertainty of the way and the indefiniteness of the composition, left to an arbitrariness of a

³¹ "It is necessary to start from the garden. The garden is of almost importance, the house is secondary." In reference [42] (p. 109).

1 flexible pretense made infraction from the collective interest point of view and of a mono
 2 functional vision. The interstitial space calls for a vacant spot, the abandonment, being able
 3 to contain, however, the promise of valuing.

4 Similarly to the *Third Landscape* by Gilles Clément, ecology approaches the interstitial space
 5 as a space where nature applies its projectuality, returning to the uncultivated the
 6 evolutionary dynamic of a natural *habitat*, more effective if it is near or inside the city,
 7 enabling the existence of a series of species of urban flora and fauna that encounter some
 8 *naturalness* in the inhospitable urban environment.

9 The theory of Gilles Clément has the merit of keeping the spaces *empty*, regardless of its
 10 destiny of use, dissociating the value of the space from its functionality, *rushing the nature* in
 11 the abandoned area and educating a new strategy of the uncultivated.

12 Also, the studies of urban ecology indicate the importance of safeguarding margins and
 13 interstitial areas, contributing to define rules and fundamental principles, namely to the
 14 construction of the *urban countryside*³² [20] or of the CPULs.

15 The emerging city is developed **though** multiple places of life, public or private, where the
 16 pulsating of the natural systems constitutes **an** third dimension of the city.

17 The hypothesis of construction either of the *urban countryside*, or of a CPUL (underlying the
 18 practice of agriculture) can found over the new idea of emerging city, given that it invites to
 19 consider the interstitial void as a positive property of the space and, consequently to favor
 20 every means of occupation that will provide value to this void, assuming it as a structuring
 21 element of the landscape and integrating part of the urban fabric. To the citizen, *nature* is
 22 first of all, the desire of a non-city or of another city, of a providential refuge, of a break. The
 23 *city-nature* project implies that the countryside turns into city, that the *nature-countryside*
 24 urbanizes itself and that the city naturalizes itself or ruralizes itself.

25 Outside of the built space, the emerging *city-nature* territory is composed by the three
 26 *naturas*, bound by singular ties, and that haven found over the centuries, namely in the
 27 roman *villae* and in the Portuguese **quintas de recreio** (recreational farms).

28 Interpreted according to this model, the voids constitute the interstices of the city and can be
 29 considered an evolutionary and reversible system, where its natural shape assumes a spatial
 30 and social importance that varies according to the production of the space, of the local
 31 policies and of the users – for example the family garden becomes, sometimes, the frontier of
 32 transition between the second and the third *natura*; the open space that is along the road
 33 network depends, almost always, of the urban functionality and the public parks are, often,
 34 stage of decorative intention.

³² Urban countryside or rural city? Two different points of view to two complementary and inseparable concepts – city-countryside and countryside-city: a countryside that is built with the city or a city that takes form with the countryside. The peri-urban countryside should provide the city. In the urban countryside a multiple activity should be developed (multifunctionality) that satisfies simultaneously the agricultural needs of the city provisioning and the recreational activities necessary to the quality of life of the populations.

1 It is reinforced the idea that urban interstices are ideal spaces to include open spaces'
 2 projects that may contain urban agriculture and, simultaneously, spaces of ecological and
 3 social multifunctionality that are characterized by the continuity, polarity, differences in
 4 gradient and social diversity.

5 As it has been referred, *urban agriculture* is a term that refers to a description of what is
 6 pretended to be done but, can be, as well, quite conditioning. In an apparently radical idea it
 7 continues the western tendency to create meaning and to make decisions through the
 8 creation of opposite binaries [23].

9 Urban agriculture is innovative given that it is in contrast with rural agriculture. The
 10 interstices are left out of this opposition – the exterior rings of the cities, frequently
 11 neglecting and rudimentary, as well as the suburbs besides them, are often underutilized,
 12 producing a feeling of restlessness that guaranties, once again, the garbage deposit, the
 13 persistence of industrial parks with low rent warehouses, of abandoned allotments and of
 14 the existence of underutilized and insecure urban parks.

15 If we are capable of thinking in these interstices and other spaces as intense as, if not as
 16 more intense than, than consolidated areas with which they are related and connected, then
 17 the urban agriculture becomes one of the several intensification strategies, without being
 18 necessarily exclusive. It is one among many interventions of landscaping architecture.

19 The chances of building a productive landscape infra-structure may be based upon the new
 20 idea of an emerging city, for it invites us to view urban voids as a positive property of space,
 21 and consequently, to favor all occupation means valuing that void and setting it both as a
 22 structuring element of landscape and as part of the urban fabric.

23 Therefore, the notion that urban voids are the perfect spots for open space projects allowing
 24 urban farming and, at the same time, ecologic multifunctionality spaces characterized by
 25 continuity, polarity, gradient differences, and social diversity is strengthened.

26 In order for these allotment gardens to be successful, it is vital to create simple regulations
 27 ensuring that society will protect the value of natural processes, and itself. At the conceptual
 28 level, these spaces will provide an open space source essential to metropolitan areas, given
 29 the absolutely irresponsible way urbanization has been occurring (concerning natural
 30 processes and their values), generally, through the increase of the density of buildings inside
 31 the cities and extension to the peripheries, always at the cost of open spaces.

32 **3.7. Allotment gardens in the context of *landscape urbanism***

33 Despite the strong structuralism potential offered by the design of allotment gardens, the
 34 matter of urban agriculture is not included in the *landscape urbanism* debate. The most
 35 frequent typologies of this current concern the rehabilitation of old infra-structures and
 36 *brownfields*, favoring leisure and recreational activities for the benefit of users, and a deep
 37 ecological rehabilitation of these spaces.

1 However, given the potential of farming practices in urban space and their strong capability
 2 to support a conceptual structure, the subject of landscape design, *reference* must be made to
 3 allotment gardens, and to their inclusion in the scope of *landscape urbanism*.

4 We must also emphasize that, although this current does not include the productive
 5 dimension of landscape, and always keeping in mind our present goal to include the
 6 productive landscape system of urban space as well as, above all, the recovery of the
 7 landscape's multifunctionality, it's important to consider it in this project, for many different
 8 reasons:

- 9 - Because some *landscape urbanism* projects have successfully resisted the private sector's
 10 speculative mindset and the highly bureaucratic and technically oriented public sector.
- 11 - Due to the relationship between landscape and infra-structures being promoted.
- 12 - Because the strategies of *landscape urbanism* have given a voice to the territories'
 13 restoring of social and cultural formations — and the landscape's evocative power.
- 14 - Due to the criticism of *landscape urbanism* concerning the compromise of the classic
 15 design of urban project and planning and the need for an alternative to a new
 16 urbanism.
- 17 - Because *landscape urbanism* has emerged from landscape architecture, which explains its
 18 concerns extending to processes that include both the cultural and historical scope, and
 19 the natural and ecological scope [44], an idea that the emerging concept of *ecological*
 20 *urbanism* aims to enforce and potentiate [45].
- 21 - Because emerging practices involving *landscape urbanism* concepts teach many lessons to
 22 urban project design authors who wish to connect specific structures and flows of the
 23 population, activities, building materials, and time [46].
- 24 - Because it offers a complex program, at different levels filled with environmental, urban
 25 planning, social, cultural, ecological, technological, functional, and logistical
 26 mechanisms, and framings [47].
- 27 - Because it requires a new model of flexible and framed public spaces, caught in the web
 28 of social political, economical, and ecological currents in which they operate [48]
- 29 - Because these projects have the potential to unite the gap between ecology, creativity,
 30 and project design, so persistent since the impact of Ian McHarg's work.
- 31 - Because it opposes the random and opportunistic space composition that often rejects
 32 the landscape's organic structure.
- 33 - Because *landscape urbanism* identifies urban voids as urban space potential [49].
- 34 - And also because, in our opinion, *landscape urbanism* is a promising alternative available
 35 for the emergence of urban project design in the next decades, despite Diedrich's
 36 opinion [50] that considers that the development of the city from the landscape
 37 constitutes a practice to highlight in Europe, reason for which European landscape
 38 architects have never felt the need to, maybe wrongly, emphasize and utilize the
 39 concept of landscape urbanism.

40 The most clear proof of this are the countless prominent international landscape architects
 41 who coordinate projects proposing a great scale development in which landscape assumes
 42 ecological roles and is both a cultural authority reference and an identity mark. Among

1 these *landscape urbanisms'* examples, we can refer Adriaan Geuze, Christine Dalnoky, Florian
2 Beigel, James Corner, Joaquin Sabaté, McGregor+Partners, Michel Desvigne, Philip Christou,
3 and Teresa Galí.

4 The landscape design appear as an essential motor in an urban and regional sustainable
5 development and, the landscape architects, through their holistic and synthetic attitude,
6 should appear as the major actors in an emerging approach to the system of spaces of
7 collective use. In these spaces the landscape architect recognizes their organizing and
8 structuring skills and their qualities, that can be flexibility, reversibility, inclusiveness and,
9 above all, multifunctionality.

10 From the above mentioned principles we can therefore say that, nowadays, open space
11 projects respond to a great variety of wishes and programs, and their themes do not vary as
12 much as their users – occasional or permanent –, culminating in a multitude of
13 approaches and solutions. Urban space has many different types of open space: fantastic
14 new and old squares, urban parks, riverfronts, forests, and urban beaches. Nevertheless, the
15 idea of a *productive and continual structure* is rare [5]. However, both, as well as other urban
16 agriculture models, namely urban allotment gardens, community or pedagogical gardens,
17 allow a centered approach in the management of urban spaces in a notable way.

18 In [20] is referred that the fact of describing urban space as an urban surface does not mean
19 that it is relative only to the spaces between buildings, namely parking lots, plantation areas
20 or residual spaces. Nor just the so-called urban parks, the neighborhoods or the few
21 remaining natural spaces.

22 The landscape present in the urban space corresponds to the living and energetic structure
23 that organizes and supports a vast range of fixed and transformable activities in the city. The
24 landscape is dynamic and literally makes events happen in time. In this sense, the urban
25 surface can be considered similar to an agricultural field, assuming different roles and
26 geometries, distributive regimes and appearances, as the circumstances demand it. This
27 adaptability will be conditioned, in part, by the topography, for a smooth and uninterrupted
28 continuity to be achieved, but also for the equipment and services existent. This way, if the
29 purpose of the project design of the urban surface is to increase the support and diversify
30 activities in time – even activities that could not be determined from the start – then one of the
31 first strategies of the urban drawing is to broaden its continuity while it diversifies its range of
32 services. That is, fewer project design as passive improvement and understood more as an
33 active accelerator, establishing and creating new conditions to the uncertainty of the future.

34 For the character presented by urban agriculture, for its potentialities and its pertinence we
35 think that we can consider the agricultural space, in the broadest sense of the term, as a
36 *natural infra-structure of public interest*, in the same level of roads, dams, or electrical
37 networks; in the same level of public or private woods, for social, economical and ecological
38 reasons. The structure of the agricultural landscape, namely the productive allotments, the
39 hedges for the wind, wells, canals, pathways, vegetable and aquatic surfaces, are other ways
40 that break the mineral compactness of the agglomerate, contributing to the purification of
41 the urban micro-climate, among many other benefits.

1 The agricultural space creates the necessary voids to the comfort of their inhabitants or to
 2 their safety in case of a fire, for example. Its reversibility allows, mainly, the possibility of an
 3 open project, making available public opens spaces for leisure purposes, with the condition
 4 of being guaranteed the safety of people and their goods. It makes available a cultivated
 5 area from which the citizens can make a collective use, in the same way of a public park,
 6 that still produces food, offers walking routes and pedagogical services to the schools; and
 7 allows to recycle urban residues, namely a part of the water and urban organic garbage.

8 If they are not coordinated, these uses and utilizations are not spontaneously compatible
 9 and may even exclude one another. It is important to think in articulating them and
 10 accepting a juxtaposition by exclusion. The concept of *spatial agricultural infra-structure*,
 11 *CPULs*, or, we can say, of *urban countryside* – as it is understood by Pierre Donadieu – is not
 12 spontaneously born, it requires involvement and joint action of public administration,
 13 farmers and inhabitants. These services provide collectivity with a price that should be
 14 payed proportionally to the objectives of public interest, of private companies that provide it
 15 and of the farmers. In practical terms, the public and private services play a complementary
 16 role to keep this *infra-structure* in time and, mostly to attribute the one function deemed as a
 17 priority by the administrators: natural area, leisure space, agricultural terrain, etc. To be able
 18 to persist, the cooperation between public organizations and communities should be
 19 integrated in a contract.

20 For us, agriculture and less dense urbanization, together with the ecological and
 21 infrastructure tendencies, are part of the landscape architecture's contemporary discourse
 22 and, in this sense we corroborate the thoughts of Michel Hough, Richard Forman, Denis
 23 Delbaere and Pierre Donadieu, among others. The agriculture and gardens analogy is linked
 24 to an underlying quantifiable and infra-structural support, in which cultures follow the
 25 movements and dynamics of energy transfer demands, ever since the comprehensive and
 26 integrative conception of landscape architecture. This agricultural analogy shares
 27 similarities with *landscape urbanism* that can be very interesting at the theoretical and
 28 practical level.

29 **4. Results**

30 **4.1. Allotment gardens as a new approach to landscape project in urban space**

31 The lack of a clear reference to urban agriculture as a way to establish a clear relationship
 32 between production, safety, and leisure, and the fact that it is an essential activity in the face
 33 of the present and expected future energy and food crisis, has led us to see urban farming,
 34 not only as a production factor, but also as having a great recreational potential, under a
 35 social, economical, ecological, cultural, and aesthetic point of view. As such, we see it as an
 36 essential structure in the re-conceptualization of urban space project.

37 The project of the urban whole, an extensive metropolis, from which emerge small forest or
 38 rural islands, and the project of the city's strict containment facing a dying and inanimate
 39 countryside, are no longer sustainable nor realistic. The old utopia of the garden-city no
 40 longer promises Mumfordian functionality, and the city in the countryside reflecting

1 rurality adapted to the urban need of leisure is no longer an attraction. There's an alternative
 2 based on two compromising and not very changeable tendencies — on one hand, the
 3 urbanization of Western culture and its *need of countryside* as an alternative to urban
 4 environment; and, on the other hand, the farming economy diversification in response to an
 5 urban question not exclusively connected to food.

6 A project such as this generally and effectively contradicts the principles of open space
 7 planning that usually eliminate agriculture in urban areas, replacing it with public parks
 8 and gardens. In addition, it contradicts the principles of a planning that divides urban spaces
 9 in many specialized areas with apparently incompatible roles (farming production, leisure,
 10 industrial and commercial activity, among others). To make things worse, local entities are
 11 always less capable of sustaining the high costs of the creation and maintenance of new *green*
 12 spaces, and the social damages of urban planning zoning are very clear — space segregation,
 13 social ghettos, functional inconsistencies, urban identity crisis, among other.

14 We firmly believe that allotment gardens could and should integrate a continual structure of
 15 production and recreation. The arguments to give planning technicians and managers
 16 favoring a city with farming areas in an assumed form instead of a dense urban center,
 17 should present farming spaces, in a broader sense, as a *public interest natural infra-structure* at
 18 the same level of roads, dams, or electrical networks, and of public and private forest, for
 19 social, economic and ecological reasons [20].

20 The concept of *farming spatial infrastructure* requires cooperation between public
 21 administration and farmers. The price of these services to society from private companies
 22 supplying them, and from farmers is set according to public interest goals.

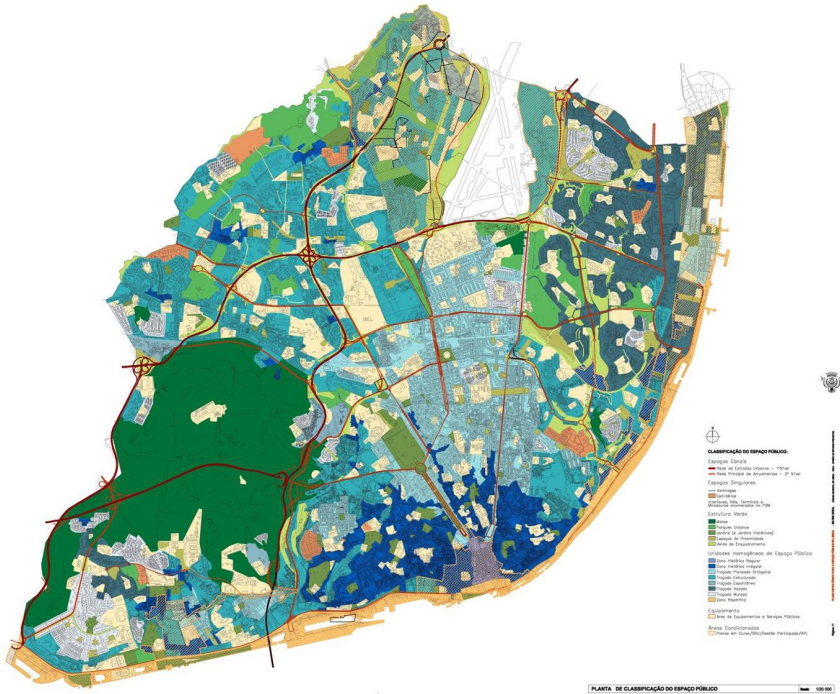
23 In practical terms, public and private services should assume a supplementary role to keep
 24 that *infrastructure* in time, and most of all, to confer the role privileged by administrators:
 25 natural areas, leisure space, farmland, etc. In order to last, the cooperation between public
 26 organizations and communities must be ruled by an agreement.

27 Both the concepts of *urban field* in [20], and of *continual productive urban landscapes* in [5], are
 28 included in this concept of *farming spatial infrastructure*, in turn approaching the concept of
 29 *landscape urbanism* and, consequently, of landscape architecture philosophy and practice.

30 Although the implementation of productive landscapes can start at a small scale, the goal is
 31 to develop a productive and continual urban city. At the largest scale, it should include a
 32 network of open spaces throughout the urban fabric, which in turn includes farmlands in
 33 the continual landscape, as suggested in *Plano Verde de Lisboa* (Figure 1).

34 Mainly following models of gardening centers, and gardens, and influenced in the last 20
 35 years by the concept that links the ecology paradigm, open spaces, and the system they
 36 form, they should be now the tissue and the net on which the organization of *continual*
 37 *productive urban landscapes* or *the urban field* are based [20]. Not as inert spaces, but as living
 38 farmland, and forests, in a slow or quick, cyclic or continual future. The tool to build that
 39 future is the landscape project capable of mobilizing the people's community in that sense
 40 [52].

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Source: Lisbon City Hall (CML)

Figure 1. Lisbon's Green Plan - Strategic masterplan for the open spaces.

4.2. Practical examples — *Plano Verde de Lisboa*

Presented in 1997 by the landscape architect Ribeiro Telles [1] and now set in motion, *Plano Verde de Lisboa* is a system of corridors connecting recreational and production areas seeking the establishment of a *continuum naturale* (Figure 2).

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11 Source: Lisbon City Hall (CML)

12 **Figure 2.** Lisbon's Green Plan – Articulation between pathways and open spaces

13 This plan makes it possible to obtain a continual landscape in which the productive aspect is
14 strongly considered with the inclusion of existing urban vegetable fields and suggested
15 farming parks, namely Quinta da Granja (Figure 3 and 4) and the Parque Hortícola de
16 Chelas (Figure 5 and 6). This productive side is articulated with recreation and circulation,
17 in a structure of open spaces extending all over the city.

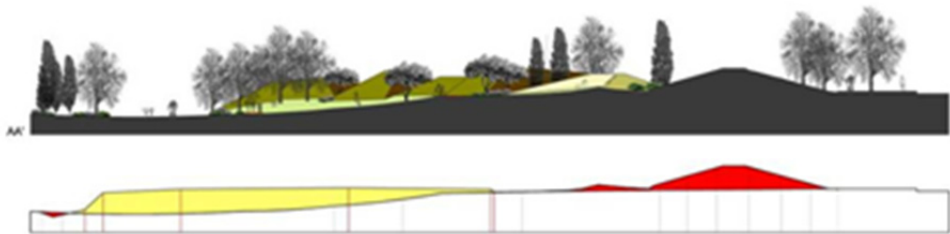
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Source: Lisbon City Hall (CML)

Figure 3. Figure 3 - Landscape design masterplan for Quinta da Granja



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Source: Lisbon City Hall (CML)

Figure 4. Section of Quinta da Granja landscape design

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Source: Lisbon City Hall (CML)

Figure 5. Landscape design masterplan for Horticultural Park of Chelas



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Figure 6. Section of Chelas valley

8 In the first stages of the implementation of these *landscapes*, a series of interventions leading
9 to a network of linked spaces were made. In time, this approach will create a sense of
10 opening inside the urban space that would otherwise be uniformly occupied by buildings.
11 The implementation of this strategy makes underused and/or abandoned spaces become
12 active and used in a socially and environmentally productive way. A new meaning and
13 sense of opening are locally introduced through the definition of *outward* sights and great
14 panoramic views, as opposed to the series of isolated, disconnected, and largely underused
15 land plots they would form.

16 The benefits occur regardless of the intervention scale. Linear spaces can provide routes
17 connecting different public or private spaces. Making that connection visible encourages
18 movement among them. The relationship between the routes and the landscape can be seen
19 as an intervention emphasizing it and highlighting. In Quinta da Granja and in Parque
20 Hortícola de Chelas, daily routes become adjacent to spaces where food is grown (Figure 7).



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Figure 7. Pathways on Quinta da Granja

3 Each walk among cultures accentuates the experience of seasonality and intensifies the
4 notion of time, due to the density of space where nature is experienced. Time is intensified
5 — more *nature* for its time.

6 *Productive urban landscapes* will be part of the idea of building from the *natural*, like parks
7 and gardens, which are frequently understood as *natural*. Allotment gardens in particular
8 will represent the idea of countryside, of rural life, and through that image, *nature* is also
9 represented.

10 One of the most important characteristics of these landscapes is the way in which a great
11 variety of occupations occur simultaneously, such as gardening, farming, sports, and leisure
12 activities (Figure 8), practiced by many occupants, that can be articulated with one or more
13 occupations found. The variety of possible permutations between an individual occupant
14 and their activity, or the several activities or occupations is generally larger than in many
15 public types of facilities, namely leisure centers. *Continual productive landscapes* combine the
16 peaceful qualities of a park with physical activities. They expect to be occupied, both by
17 someone looking for a place to relax and read, and by someone who wants to practice
18 physical exercise.

19 The economical profits of land use can be measured in two ways: first, by the direct
20 quantification of economical benefits, resulting from new jobs and companies; secondly, and
21 following an argument that becomes more relevant in the long run, by measuring the
22 reduction of environmental degradations through the action of *productive urban landscapes*.
23 These benefits result from the reduced environmental impact and cut future costs of
24 environmental correction work.



1

2 **Figure 8.** Pathway and sitting on Quinta da Granja

3 Farming practices can generally be used as part of a strategy to increase development.
 4 Consequently, the increase of development will combine economical and environmental
 5 strategies. Those strategies are acquired by surveying, planning, designing, and articulating
 6 urban voids, parks, and recreational areas.

7 The introduction of these *landscapes* will increase the number of *habitats* for animals and,
 8 therefore, biodiversity — an example of ecological intensification. At the same time, the
 9 development of composting systems as the base of organic farming will improve the soil
 10 and reduce the traffic of cars. Therefore, the improvement of biodiversity will reintroduce
 11 the chirping of birds, the buzzing of insects, and the sounds of nature in general.

12 **4.3. Implementation strategies**

13 The open spaces of a city *embracing a continual productive landscape infrastructure* will change
 14 the physical landscape and its occupation. Superficially, farmers will sculpt a new urban
 15 infrastructure, constantly changing, but always familiar, as crops come and go (Figure 9).

16 At the same time, a landscape of circulation and movement, and multifunctional, emerges as
 17 the populations move and interact in and with the farming landscape. Theoretical studies
 18 and practical applications will be adjacently rediscovered, not to destroy the city or let
 19 nature be conquered, but to enhance both sides through the acknowledgment of their
 20 interdependence.



1

2

Figure 9. Allotment gardens on Quinta da Granja

3

In this context and in order to assure and increased the chances of success, farming in urban spaces requires:

4

5

- A considerable organization to acquire adequate lands and its farming, so as to allow lands not used or underused to be turned into areas with environmentally productive uses, namely the production of bio-fuel. The essential prerequisite of any attempt to change in that sense is to start understanding the city, the periphery, the suburbs, and the countryside as part of a *continuum* extending from the more densely populated areas but still ecologically active to the less densely populated areas and therefore more ecologically active.

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- Simple regulations ensuring the safety of the community and of the values of natural processes. In a well-thought way (the lands where those processes occur) will provide a source of open spaces for the metropolitan areas. Ideally, the metropolitan area should include two systems — on one hand, the natural process preserved in the open space, and on the other hand, urban development. The fusing of these two systems could satisfy the provision of space for the population [53].

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Although urban farming is conditioned by many social and political circumstances and political regimes, urban legislators and support institutions may make a substantial contribution to the development of a safe and sustainable farming through:

19

20

21

- -The creation of a guiding environmental policy and the formal acceptance of allotment gardens as an urban feature;

22

23

- The strengthening of the access to urban voids and to the safety of farming use;

24

- The strengthening of productivity and economic viability of allotment gardens, by improving the access of urban farmers to training, technical advice, and credit;

25

26

- The support of the establishment and the strengthening of urban farmers' organizations;

27

1 - Measures preventing environmental and health hazards associated to farming.

2 As we have already seen here, and contrary to the common belief, in densely urbanized
3 areas a surprising number of urban voids can be found and used for farming on a
4 temporary or permanent basis. City governments can ease the access of urban farmers to
5 these interstitial spaces by several means:

- 6 - Surveying the number of the city's urban voids and studying their farming potential;
- 7 - Creating a *Municipal Land Bank* connecting those who need farmland to the landowners
8 who need to give a temporary or permanent use to their properties.
- 9 - Encouraging the owners of urban voids (including institutional owners) to offer their
10 lands in a mid-term concession to organized groups of farmers, with tax benefits.
- 11 - Creating regulations to organize the (temporary) use of voids in the city.
- 12 - Granting the use of municipal urban voids to organized groups of farmers.
- 13 - Taking steps to improve the availability and the conditions of the land (for instance,
14 removing debris or providing access to drinkable water for irrigation).
- 15 - Defining areas for allotment gardens in a permanent basis and integrating them in the
16 city planning. Those areas will usually be more sustainable when located in lands not
17 destined for construction or not adequate for construction, namely wetlands, under
18 high voltage lines, and in parks and nature conservancy areas. Effective guidelines
19 should be created with the active involvement of farmers, including management
20 practices to be adopted by urban farming in several locations.
- 21 - Giving assistance to relocate urban farmers, especially those who are not in a favorable
22 position and, therefore, who are exposed to serious health or environmental hazards.
- 23 - Including space for individual or community gardens in the new public housing
24 projects, and upgrading plans for poor neighborhoods.

25 Government organizations and the private sector should be encouraged to provide training,
26 technical advice, and services to urban farmers, with a strong emphasis on ecological
27 farming, adequate health risk management, farming development (for instance,
28 intensification and diversification), company management and advertising. Cost sharing
29 systems (among farmers, local authorities, sector organizations, and private companies) will
30 be needed to ensure the system's sustainability.

31 Municipalities can also encourage the city's universities, non-governmental organizations,
32 and community organizations, to actively support farmers' organizations, their
33 development capabilities, and their connections to other groups of farmers, private
34 companies, consumption organizations, and support organizations.

35 The municipalities and other local participants can communicate the research and
36 technology development needs of their urban farmers to research institutes and to the
37 national government. On the other hand, there should be a better promotion of the
38 coordination of research institutes, farming organizations, non-governmental organizations,
39 and urban farmers groups.

40 An increasing number of Portuguese cities are creating urban farming policies and
41 programs, with the establishment of multi partnerships in planning approaches to find

1 effective ways to integrate it in urban planning and sector policies and to promote the
2 development of safe, sustainable and multifunctional farming practices. An example of
3 these initiatives is the regulation made by Lisbon's City Council legitimizing the existence of
4 its vegetable gardens in order to safeguard them from political whim.

5 Besides measures such as these, we think it's necessary to explore the relationship between
6 urban agriculture multifunctionality and sustainability. This involves the positive or
7 negative study of environmental roles, as well as their collective impact. In [3], it is also
8 important for the effectiveness of farming in urban spaces: to research and develop subjects
9 such as land ownership, legislation, and planning, concerning urban land use; to develop
10 work methodologies with all the participants, namely research actions with urban farmers
11 or planners to include agriculture in planning (as part of green belts, city parks, and open
12 spaces); to create new institutions or institutional structures, such as urban and peri-urban
13 institutions; and to create means of support (commercial and of subsistence) for horticulture,
14 aquaculture, and systems involving animal raising.

15 Such research and development actions require an institutional framework providing
16 allotment gardens with an institutional foundation, and involving active direct or indirect
17 players in the formulation and implementation of urban farming policies and action programs.

18 Once accepted, urban farming will become sustainable and adapt to the ever-changing
19 urban conditions, and to its demands, strengthening its productivity and diversifying its
20 roles in the city, while reducing the associated health and environmental hazards. This is the
21 way to win political and social acceptance. In certain parts of the city, the typologies of the
22 existing farming practices can fade away or drastically change their methods and actions,
23 while new methods may develop in other parts of that same city (Figure 10).



24

25

Figure 10. Organic allotment gardens on Cascais

1 In the long run, allotment gardens become sustainable through the acknowledgment and
 2 the full development of their multifunctional use potential. Their sustainability is strongly
 3 connected to the development of a sustainable city, that is, an inclusive city, ensuring food
 4 safety, productivity, and a healthy environment [54].

5 5. Conclusion

6 In short, urban areas are generally characterized by their organic growth, resulting in a
 7 multitude of different public and private open spaces. The design and management of those
 8 spaces depend on many factors. Although some have been planned and continue being
 9 positively managed, others were *forgotten* in terms of a clear sense of ownership and
 10 responsibility, and are left in a natural or artificial wild state, requiring respect and
 11 protection. These are transitional, landscapes, made of time, and registering its passage. The
 12 past becomes the present, and as the future draws near, acquiring larger and larger
 13 dimensions, we see a magnificent and silent presence, which is a kind of empty spot within
 14 the storm.

15 Finding positive uses for these spaces has been one of the challenges facing urban planning
 16 from the late 20th century on, with a growing number of architecture, landscape
 17 architecture, and *landscape urbanism* projects now proposing the inclusion of urban farming.

18 We need to go towards more efficient, and cyclic urban systems; a perspective which
 19 naturally includes land use within the cities and in their peripheries for food production.

20 We also believe the inclusion of allotment gardens in landscape projects reflects a new
 21 landscape, new symbols, and renewed aesthetic values, setting new patterns reaching from
 22 the memory of the past to the future, where nature, culture, leisure, and production are
 23 present, mutually complementary, and giving birth to public spaces with a strong
 24 involvement of the population. The development of these spaces may be suggested as a
 25 reference illustrating a seemingly contradictory response to contemporary callings, and
 26 which is both the cultural strengthening of the truthfulness of humanization processes, and
 27 the creation of a nature that is simultaneously wild and familiar, near and distant, planned
 28 and spontaneous, dangerous and comfortable, tedious and ordained, alive and waste free.

29 Our approach to urban design is founded on a global and multifunctional concept of
 30 landscape, through the fulfillment of the idea of *cultural and natural continuum*, and its
 31 intermingling with the built space, materialized in a complex and dynamic landscape,
 32 structured both by technological networks, and by heritage, ecological, continual,
 33 productive, and active networks. Therefore, it matches a global design inspired by *nature*,
 34 culture, and landscape, with the fundamental goal to recreate the city-countryside unity, to
 35 reinvent the landscape multifunctionality, and to develop forces allowing life, in the sense of
 36 an ever-growing biologic activity of systems integrated in the landscape, and responding to
 37 the aesthetic restlessness and to current social and cultural needs.

38 In urban configurations, and the resulting landscapes, through an active interpretation, the
 39 system of urban voids and the city peripheries matches the genuine *infrastructure* of the city,

1 through which it's structured and organized. Those spaces are no longer considered
2 fragments, residual elements, or discontinuities, and are acknowledged as spaces that being
3 part of the new model of organization and territorial management, unite, interconnect,
4 create continuity and articulation. They're active.

5 Therefore, the strength and vitality of the urban void and the periphery emerge, not as
6 abandoned areas — a residual space of buildings and urbanizations — but as continual,
7 adequate, felt, and experienced spaces with ecological, cultural, recreational, aesthetic,
8 productive and economical purposes, as valuable as the spaces with buildings, articulating
9 different parts and promoting connections in the urban area [55].

10 Capable of significantly changing current mobility trends, and of integrating the existing
11 urban fabric without causing a great impact, this new approach is directly linked to urban
12 sustainability and to landscape sustainability and multifunctionality. The employment of the
13 sustainability and multifunctionality concept and principles underlying the advised design
14 model implies a process in which the continued use and preservation of resources, the spatial
15 organization and management, and the associated institutional changes are consistent with the
16 goal to perpetuate in time the quality of life and the environment, the cultural heritage, the
17 landscape identity and balance, and the ecosystems' social, and economic roles.

18 By sharing the idea that the world includes complex, interdependent, and interlinked social
19 and natural systems that, reconciled and sustainable, provide a set of principles centered in
20 the organization of soil uses according to their ecological capability which help preserve
21 natural systems and resources in the long run, and create strong, well-knit social
22 communities, we seek a systemic view of a multifunctional, productive, and recreational
23 landscape, emphasizing the multifunctional landscape. The landscape is transformed into
24 something different: a place sensitive to different transformations that records the
25 movements and the events that occur. An active entity structuring conditions to new
26 relationships and interactions between the elements that constitute it. In this new concept
27 the landscape is no longer based on a naturalist image, suggesting instead a continuous
28 structure where we can operate through the occurrence of different activities. It is not only
29 the space between the two buildings or the platform in which the process of construction is
30 organized, but a true energy field, a sensitive and dynamic membrane. It is constituted of
31 systems that establish relationships, flows and process that occur there [55].

32 On the other hand, 21st century urban design should start by getting closer to the design of
33 natural ecosystems. We should learn with the natural systems' metabolism, where all waste
34 is recycled in resources for future growth [56]. This is a matter for politicians to deal with,
35 but that also concerns the public in general, because we all need to pressure central and local
36 governments as well as investors to adopt practical views.

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