

Productive landscapes and resilient cities

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Abstract:

Creating a resilient urban matrix has become a fundamental issue due to natural and human caused disasters, economic and ecological crises last few decades. Subsequently, integrating productivity in cities via landscape and planning tools and developing a sustainable infrastructure become inevitable. This study explores the role of productive landscapes in creating resilient cities. More specifically, the paper focuses on urban agriculture as one of the major components of productive landscapes. Pioneering models of productive landscapes and urban agriculture go back to 19th century with the works of Ebenezer Howard, Le Corbusier, Frank Lloyd Right, and Ian McHarg. Obviously, cities have been blended with nature for centuries; the only difference now is that industrialization has made food production invisible. Istanbul is presented as the case study. Through the rich history of Istanbul, food has a strong influence on city's image. It is still possible to see the traces of agricultural uses along the Theodosian Walls, and some old neighborhoods. Some foresighted organizations and individuals promote agriculture in inner urban areas. However, dealing with rapid urbanization problems, agricultural lands have been transformed into settlement areas in time. As we are in the age of sustainability, combining agriculture with the new technology and recent architectural trends as well as sustainable master plans incorporating productive landscape concepts will encourage urban agriculture in the city, hence creating more resilient urban environments.

Keywords: *Resilient cities, productive landscapes, urban agriculture, community development, social and ecological environments.*

1. Introduction

Environmental degradation and disturbance have become challenging phenomena all around the world due to triggering factors such as rapid urbanization, and population growth. UN Habitat (2010) reported that between 1950 and 2012, humankind has endured its most rapid expansion. There was an apparent change in ecological and demographic characteristics of cities. Furthermore, natural disasters have destroyed urban spaces and communities (Jabareen, 2012; Munn-Venn, 2007).

Subsequently, creating a resilient urban matrix has become a fundamental issue (Fusco Girard, and friends, 2011). "Resilience" refers to a system's

ability to absorb threats and disturbances such as disasters, wars, and poverty, and still recover and preserve its socio-ecological attributes (Pierce, Budd, & Lovrich, 2011). In recent years, resiliency represents not only disaster recovery, but also economic, social and ecological recovery (Jabareen, 2012). The lessons from the real world cases show that to reduce the risk of damage, urban systems and communities must be ready to any kind of catastrophe (Jabareen, 2012). Thus, the concept of resilience has two dimensions: ecological and social. Regarding ecologic and social aspects, landscapes play an important role in the resiliency of the cities.

Ecological resilience was first mentioned in the works of (Holling, 1973). Holling suggests that resilience is “the persistence of relationships within a system” and “the ability of these systems to absorb changes of the state variables, driving variables, and parameters and still persist”. Moreover, Davic (2004) defined resilience as a concept borrowed from studies on the manner in which ecological systems cope with stress and disturbances caused by external factors (Jabareen, 2012).

Pickett and others (2003), take resilience as an integrative metaphor and examines it with an ecological approach. Their study examines the contradiction between the two paradigms on ecological resiliency: equilibrium and non-equilibrium (S. T. A. Pickett, Cadenasso, M.L., Grove, J.M., 2003; S. T. A. Pickett, Parker, V.T., Fieder, P.L., 1992). The main idea of resilience in this approach is not targeting a certain end point or terminal condition but managing to “stay in the game”. It is possible to summarize the definitions as “the capacity of a system to undergo disturbance and maintain its functions and controls” (Gunderson, 2001). Even though, ecologists are mostly concerned with the structural system of urban environments, the non-equilibrium paradigm of ecology implies that humans are also part of ecosystems. Humans as individuals, societies, groups or communities, have a great impact on many ecosystems by influencing ecological, economic or social structure of their living environments (S.T.A. Pickett, Cadenasso, M.L., Grove, J.M., 2003; Esbah, 2009).

Social resilience implies the resistance of the community to changing environmental conditions. Institutions, policies, economy, NGOs, norms, code of conducts and community resistance are vitally important in this process. Even though the scholars support that the resiliency has its bases on ecological theories (S.T.A. Pickett, Cadenasso, M.L., Grove, J.M., 2003), it is obvious that social structure and the community cognition constitute concrete blocks of resiliency. Subsequently, conscious communities and the well-designed social and ecological environments are concrete elements of the “cities of resilience”.

Light (2003), argues that “the first goal of the development of an urban ecological citizenship involves the stimulation of public participation in the maintenance of natural process in cities”. He suggests that the direct participation of local residents with nature around them is an encouraging condition for protecting natural systems of environments and landscapes that they inhabit (Travaline, 2010). Concept of “productive landscapes” is a proper solution to integrate human into nature and to use the available voids in the urban context as functional landscapes.

This study aims to explore the role of productive landscapes” in creating resilient cities. More specifically, the paper focuses on urban agriculture as

one of the major components of productive landscapes. In the paper, first, the pioneering models of 19th and 20th century are introduced. And then, the case of Istanbul, with regards to urban agriculture, is presented.

2. Productive landscapes

“Productive Landscapes” is an emerging strategy of 20th century that is integrating productivity in cities via landscape and planning tools. It redefines urban open space and supports the resiliency by developing a sustainable infrastructure (Bohn, 2005). Bohn and Viljoen (2005) reveal the main idea of this associative concept as the creation of multi-functional open urban space networks that complement and support the built environment. This network consist of varieties of features such as leisure and commercial outdoor spaces, natural habitats, ecological corridors (Bohn, 2005), educational areas (zoos, botanical gardens, open-air museums), and pedestrian circulation routes. It is possible to mention urban agriculture as one of the major components of productive landscape concept. In this productivity approach, urban agriculture refers to fruit and vegetable production where the highest yields per urban square are provided. It is a more comprehensive phenomenon not to narrow down to food production, because urban agriculture is also an activity that gives opportunity to develop public participation and community stewardship. Mougeot (2000), defines urban agriculture as the agriculture that is practiced in areas close to urban centers, using primarily urban-based resources to provide certain services to urban populations. Urban agriculture provides extra green space, and improves health standards in cities (Akyol, 2011). Growing food close to settlements provides citizens to reach fresh and healthy food directly from the producers. As a result, food miles (the covered distance to bring food from producer to the consumer) may be reduced by keeping food production within the neighborhood (Smit, 2005).

Urban agriculture is a tool to reduce urban poverty, and improve the food security of households via combining nature and city life together (Bakker N. ed., 2005). Making food available for urban poor is an important component of urban sustainability. It does not only improve the income of the families in need by providing employment opportunities, but also increases their quality of life.

Furthermore, urban agriculture provides greener space, fresher, and cheaper products, and helps recycling household waste, and also contributes to the urban green system. Even though farming in urban areas is practiced for income-earning or food-production activities, in some communities it also functions as a recreation or relaxation opportunity. Besides, it provides citizens to reach fresh and healthy food directly from the producers. This is a better way for decreasing the food miles instead of driving outside the living places to big buildings of markets that sell packaged or frozen food.

The link between food and environmental sustainability inevitably has taken the attention of writers, politicians, and academicians. Subsequently, -as a popular way of thinking- “a delicious revolution” has started all over the world with growing food in cities, reducing footprint, and decreasing waste lines on urban environments. Related to this interesting food activities, an interesting urban agriculture is rediscovered, which is equivalent to technically high and sustainable architecture. This refers to the era of sustainability, in which the

landscape arises with every dimension of design, combining architecture and nature.

3. Pioneering models

Obviously cognition of people and the well-designed social and ecological environments are concrete components of the “cities of resilience”. For centuries, humankind has witnessed poor design decisions, and faced with environmental consequences associated with the decentralized city, endless suburbs and strip malls, which are well documented and widely criticized (Frank, 2003).

A few countries such as Great Britain and America, in terms of urban development, have given pioneer examples of conceptual models for urban design during 19th and 20th centuries. The success or failure of these models have illuminated the link between urban development, regulations, new built forms (decentralized suburbs and garden cities), and reforms.

3.1 Garden cities of tomorrow

During 19th century the world was very different than the surrounding environment that we live in today. This was the era when people started to develop a concern on healthy living conditions, and sustainable environments. This trend of design and planning attracted planners, architects, designers, and scholars to think about the issue on future of cities and their planning. Ebenezer Howard’s “Garden Cities of Tomorrow” was featured in England, in 1898, which focused on urban food growing in general (Figure 1). Garden cities were intended to be planned, self-contained, communities surrounded by “greenbelts” (parks), containing proportionate areas of residences, industry, and agriculture (Lucey, 1973). Ebenezer Howard, who was a 19th century British reformer and city planner, saw that the new planned towns can balance urban and rural occupations; and may include a whole range of amenities as libraries, schools, wide avenues, and mixture of commercial and residential zones.

Productive landscapes within the Howard’s garden cities have also become key elements of landscape. In each city, 5/6 of the area was devoted to food production. The residential plots were generous enough to feed a family of five people (Akyol, 2011). While focusing on the human, Howard aimed to keep a balance between the people’s needs and nature. Within the book, he put forward design proposals for “social city, which link individualist system (capitalism) to the ideas of socialism.

As a response to the socially and naturally critical conditions, Howard proposed a realistic and achievable design scheme for development of cities that are in the danger of industrialization. Subsequently, the motto of “Garden Cities of Tomorrow” created a strong influence on urban planning approach in 20th century, particularly after World War II. Therefore, in the history of planning, Ebenezer Howard stands as one of success even though he was not well understood by the society of his time.

3.2 The city of tomorrow and its planning

Howard’s theories could not reach the whole Europe towns, and cities but following Howard’s studies, America gave birth to new ideas such as Le Corbusier’ s work of “The City of Tomorrow and its Planning” in 1924 (Figure 2). Le Corbusier pointed out that people prefer living in suburbs rather than

in cities, and thus he based his theory of urban planning on the idea that the center should be for public services, and two belts of residential areas should surround it. He defined one of these belts as blocks of dwellings on a cellular system, and the other belt as the outer garden city.

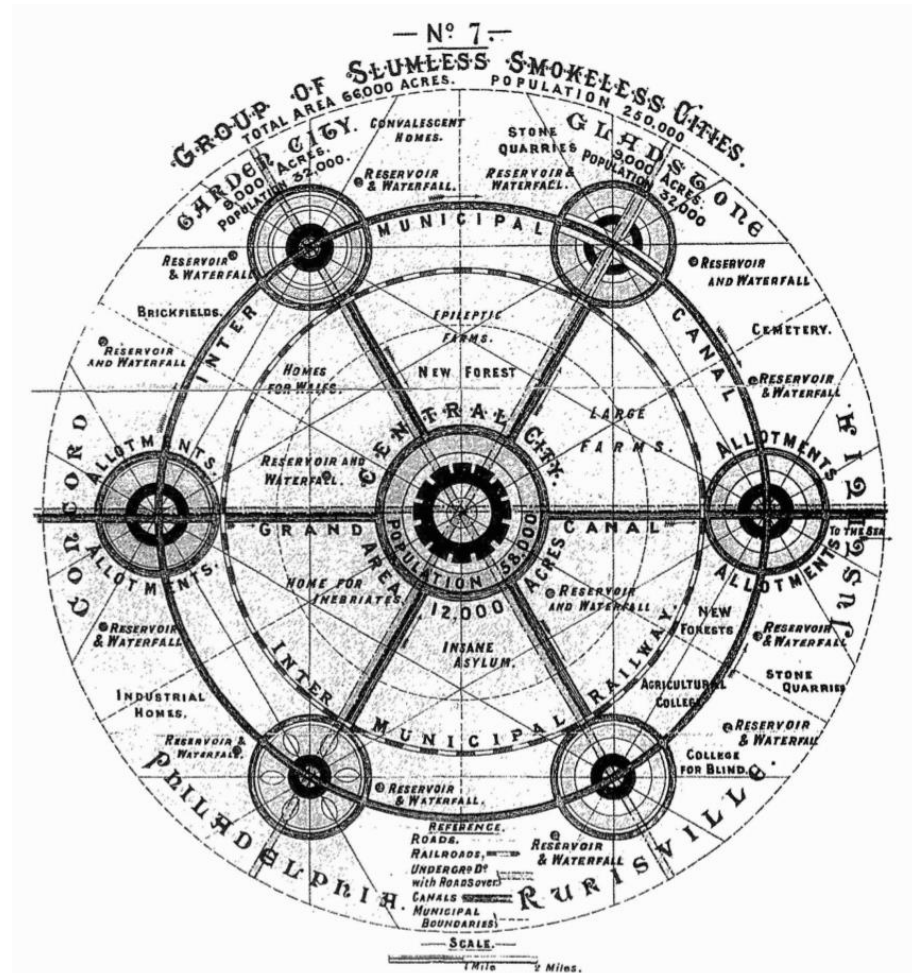


Figure 1. Garden cities of Tomorrow (Howard, 1969).

In Corbusier's urban plans, agriculture had an important role as well. He proposed 150 m² to a communal market which refers to farmers' market of today, for a typical suburban housing plot of 400 m² (Bohn, 2005). Following his studies, he mentioned the following in 1971;

"There would be a farmer in charge of every 100 such plots and intensive cultivation would be employed... Orchards lie between the houses and cultivated land." Corbusier, 1971 (Bohn, 2005) (Tokus, 2011).

Even though Corbusier gave extra attention for creating a self-supplied city, he suggested applying the garden city outside as a surrounding belt. However, he spared the city center just for commercial use. As for his Garden City, it is sure that his visions are different from Howard's. His garden city was to be purely a geometrical kind, and contrastingly, he designed the garden cities with curvilinear streets. The building that he proposed to build in the central area would only house for business and

commercial use. Residential building would have hanging gardens and look onto parkland. The generalization of his concepts is geometrical in layout, opposed to the trend of industrial standardization, and irregular creativity.



Figure 2. *The City of Tomorrow and its planning* (Corbusier, 1971).

3.3 Broadacre city

Among all the concern in developing a model for healthy, sustainable, and resilient environments Frank Lloyd Wright proposed a utopian vision covering the city as a landscape. His objection for the demoralizing city that pressures the individual with the concept of rent for land, and traffic invention resulted as one of his master works. He published “*The Disappearing City*” in 1932 with the series of essays from the 20th century. He was mostly influenced from the Great Depression that occurred right after the Great War (1914-1918). He argued against the dehumanizing conditions of large American cities, and proposed a life for inhabitants in generous spaces, which generated comfort, safety, and productivity.

He also valued productivity and proposed to integrate agriculture into the suburban settlements for increasing the productive landscapes in the city. His work and his ideas about agriculture and architecture were constructed as a response to the architecture trend that was coming from Europe, and to the machine age. The common vision of Corbusier and Wright was the personal transportation that they have employed in their urban plans. In addition to their approach, Wright proposed the generative power of landscape concept in 1970;

“Architecture and acreage (agricultural land) will be seen together as landscape, as was the best in antique architecture, and will become more essential to each other.”

Obviously, Wright was the product of an agrarian society, and his interest in architecture possibly fuelled by an early interest in geometry. Contrary to the Garden City of Howard, which was surely traditional, the Broadacre City was much more radical and geometric even though both of them focused on the vision of decentralization. In the Garden City Howard mentions the idea about combining the urban and rural though they are still separate. The urban and rural is next to each other where they are joined in the Broadacre City (Figure 3). Besides, the boundaries and the certain locations of urban and rural were not defined in Wrights study. He mixed the environment in rural and dissolved it in the center of the city and made it a part. He

proposed hundreds of homestead (farms) instead of the compact districts of the Garden City. His model was not a success however it was an influential work for linking built environment and nature. Wright's work has inspired many planning efforts such as Ian McHarg's.

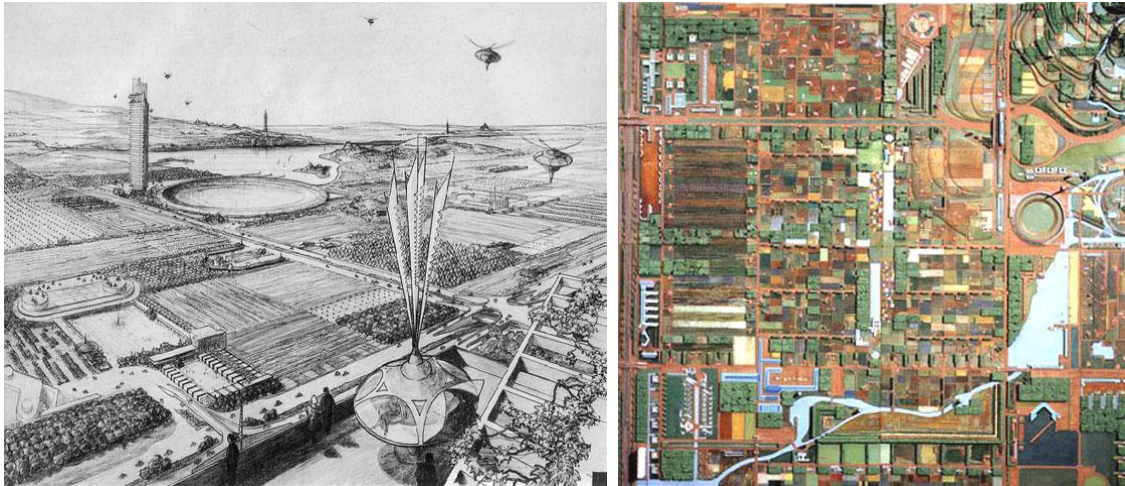


Figure 3. Sketch and plan view of the model for Broadacre City by Frank L. Wright describing what was proposed in a square mile section of American land (Wright, 1934).

3.4 Design with nature

Ian McHarg published "Design with Nature" in 1969. McHarg, a landscape architect from Scotland, was interested in garden design and believed that homes should be planned and designed with good private garden space. His study supports that soil, climate, hydrology, etc. should be analyzed in order to define problems clearly. Design with Nature was the first work of its kind to define the problems of modern development and present a methodology or process prescribing compatible solutions (Schnadelbach, 2000).

With its environmental impact assessment, new community development, coastal zone management, brown fields restoration, zoo design, river corridor planning, and ideas about sustainability and regenerative design, the book created a respectable impact on different design fields (Steiner, 2004). He mainly argued with the destructive heritage of urban-industrial modernity which he described as Dominate and Destroy (Schnadelbach, 2000). Following the publication of the book, environment-based master plans for few cities in America emerged that led to a new urban design movement started in the US in the early 1980s. McHarg's ideas about the cities were revolutionary. According to him, the cities were not 'natural' but he believed that they could be better aligned with nature (Steiner, 2004).

Ian McHarg wasn't only the father of ecological planning but also a strong landscape architect and a city planner who encouraged interdisciplinary work (Steiner, 2004). Not only McHarg but also Rachel Carson, Barry Commoner, and Jane Jacobs have established inspiring works during the 1970s. If we think about 21th century towns and cities, it is not absolutely mandatory to interpret these places strictly influenced by them but their respective works are the reminders of where we have been and what has changed since then.

4. Case of Istanbul

Obviously, cities have been blended with nature for centuries, the only difference now is that industrialization has made food production invisible, increasing the scale of our delusion, and the scale of our destruction. With cities already consuming an estimated 75% of the world's resources, and the number of people living in them doubled by 2050, we need to stop seeing nature down a one-way telescope (Steel, 2009). Food is one of the main veins that connect the city to the countryside; therefore it has to be well preserved.

With the rising attention for nature, urban agriculture appeared as a system that shows how cities can be transformed from being only consumers of food and other agricultural products into important resource-conserving, health-improving, sustainable generators of these products.

Istanbul is analyzed as the most crowded metropolitan city of Turkey. With an official population of 13.255.685 (TUIK), rapidly expanding Istanbul is providing shelter for people more over than the available employment opportunities and public infrastructure can sustain. Even though 25% of the province is covered by agricultural land (Report by the Ministry of Agriculture's Istanbul Branch, 2010) the city mostly depends on the surrounding areas for the food supply. Since the population growth and urban density have brought new typologies and urban landscapes to Istanbul, the challenge to the practice of urban planning decisions with regional planning strategies, which embrace both the city's historical and traditional potentials and natural resources, must be developed for the future sustainability (Baser & Tuncay, 2010).

Through the rich history of Istanbul, food has a strong influence on city's image. It is still possible to see the traces of agricultural uses around the old living quarters of the city. Some of these historical landscape remainders are used as cultivated plots. 'Theodesian Walls' and the agricultural plots surrounding them are the main evidence of this heritage (Figure 4).

Immigration and rapid urbanization cause a decrease on agricultural lands. In other words, urban expansion causes devastation in ecologically valuable areas. According to the analyses of United Nations, Istanbul's rank among the world's urban areas is 23rd. With the rapid rising population, the city takes the lead in immigration from other parts of Turkey, and the percent of country's total population living in Istanbul is 14.3%.

Istanbul covers a fragmented pattern of high density settlements, a sloppy topography, forests and valleys together (Table 2.3, TUIK, 2010). The north forests which cover a 2.164 km² area represent 40% of the whole city (Istanbul Metropolitan Planning Report, 2005). Additionally, the city has a Mediterranean climate with cool, wet winters and dry, hot summers. The prevailing northeast winds, come from the Black Sea, sometimes bringing extreme cold to the city.

Currently, the city covers 552.354.660 ha area while the urban agriculture covers only 25% (136.401.023 ha) of the urbanized area of Istanbul (Table 1) (Ministry of Agriculture's Istanbul Branch, 2010). The city involves the urban core combined with settlements, agricultural lands, forests and woodlands, and also lands covered with water. According to the statistics of Ministry of Agriculture's Istanbul Branch (2010), these areas are mainly

utilized for producing Wheat, Tomatoes, and Apple Crops. Their surrounding environment includes types of land uses as residential areas, forest and woodland, pasture lands.



Figure 4. Theodosian walls and urban agriculture plots in Istanbul.

Table 1. Istanbul province, land use types (Ministry of Agriculture's Istanbul Branch).

Land Use Type	Total area (ha)	%
Agricultural land	136.401.023	25%
Pasture and meadow	8.406.360	2%
Forest and woodland	270.946.828	48%
Other than agricultural land	136.600.449	25%
Total Area	552.354.660	100%

Dealing with rapid urbanization problems, agricultural lands are being transformed into settlement areas in time. Nevertheless, foresighted organizations, and individuals provoke creating agricultural lands in inner urban areas, which are closer to their living places. For instance, the 'Çengelköy Nature Garden' (Figure 5) is a special case because it does not use pesticides but organic solutions for dealing with insects and diseases. The garden is established by local people of Emek district and Nature Association volunteers. It has 25 individuals, who share the management of the garden, and involve in agricultural production (Akyol, 2011).

Furthermore, the citizens, who are tired from the urban life and missing the natural country life, found their own way of creating green spaces in the city. The difficult urban conditions and financial problems pushed people to grow



Figure 5. *Çengelköy Nature Garden, in Istanbul (Url-1).*

their own food, and sell the surplus to the citizens, which prefer to eat fresh vegetables from the farmers. The allotment garden in Kasımpaşa district in Istanbul (Figure 6) is also an example for these non-governmental gardens. The common characteristic of the locations of these gardens, which was preferred to be next to a church or a school, has taken place near a mosque in Istanbul. This is an obvious adaptation of the allotment gardens to the culture and region of the country.



Figure 6. *Allotment gardens examples in Kasımpaşa district of Istanbul (Akyol, 2011).*

The produced crop type is also important for consumers. Istanbul produces high amounts of wheat just like Turkey in general. The crop types that are produced in Istanbul are shown in the table below (Table 2).

The city still contains agrarian areas especially at the urban fringe, rarely at the core urban part of the city. But the main problem seems to be the disorders of planning and policy about urban agriculture, considering the usage of these areas, and the lack of serious studies that focus on agricultural lands.

Table 2. Istanbul province crop types (2009).

Type	Total area (Da)	Production (ton)
Field Plants Production	712.385	400.017,65
Fruit Production	28.303	7.662,029
Vegetable Production	36.315,5	84.211,735
Protective Cover Production	1.239	8.586,602
Ornamental Plants	---	1.649,18
Total Area	552.354.660	100%

5. Discussion

In Istanbul's case, the aforementioned urban agriculture activities are the main signs of the urgent need for food, green space, recreation, and stewardship in cities. Therefore, urban agriculture should be considered more carefully not only in 1/25.000, 1/50.000, or 1/100.000 scale city plans but also in neighborhood scale development plans and strategies (Akyol, 2011).

Despite Turkey being an agriculture-based country, the agricultural lands cannot be preserved. The codes and regulations relating to the sustainable utilization of the agricultural lands within the city are not complied due to ineffective institutional environment.

The first document having mentioned urban agriculture was the report compiled under ninth development plan (2007-2013) which was prepared in 2007 by the Special Commission on Settlements and Urbanization.

As it was emphasized in the report, integrating the urban agriculture concepts to the planning system has significant importance. The following arrangements are required according to the report in terms of regulation amendments and improvements:

“The community gardens, allotment gardens or allotments, rooftop gardens, city farms, city farms etc. related with the urban agriculture have to be distinguished in terms of their methods of use and the terminology must be clarified and they have to be available and be placed at the city plans” so as to contribute to the sustainable urban development (Anonymous, 2007, pg. 56). This report clearly emphasizes the need for the special regulations and laws for urban agriculture in Turkey.

Urban agriculture is a multi-dimensional concept that depends on the coordination of different institutions. Currently, there is no official body to conduct this coordination. Subsequently, all the related government institutions focus on their main duties and overlook their responsibilities in terms of urban agriculture. Currently, there are two Ministries directly dealing with urban agriculture: 1- Ministry of Food, Agriculture and Husbandry, and 2- Ministry of Environment and Urban Planning.

Based on the statutory decree (No.639), it is the responsibility of the Ministry of Foodstuff, Agriculture and Stockbreeding to establish agricultural policy; to carry out work aiming at the production of herbal and animal production and

aquatic resources, food production and protection; to support rural development; to protect soil, water resources and bio-diversity and to promote productive use of them; to organize and raise awareness for farmers and effective management of agricultural supports; to control and inspect agricultural markets; and furthermore to generate policy for food, agriculture and livestock.

Based on the statutory decree of the Ministry of Environment and Urban Planning (No. 644), the duty of the Ministry is to prepare the development and building, settlement legislation regarding housing and environment. In this scope, the role of Ministry of Environment and Urban Planning presents significant importance in terms of urban agriculture.

Even though the responsibilities and duties of both ministries are defined, it is still not clear which ministry is to manage the work directly relating to urban agriculture, which is responsible from generating policies to promote and safeguard urban agriculture, and how the authority conflict will be solved. Thus, this vagueness causes the urban agriculture not to be adopted by any relevant institutions.

Moreover, insufficient emphasis is put on urban agriculture in the master plans prepared by the municipalities. The agricultural lands remain at the scale of rural areas or at the urban periphery. Land use decisions over vacant lands mostly favor development rather than promoting productive landscape uses due to property right issues in the urban core. Moreover, urban infill areas are designed as public spaces but the design does not incorporate urban agriculture concepts, hence undermining the efforts in terms of community development.

6. Conclusions

Environmental and social challenges as the industrial revolution, world wars, migrations, earthquakes, or floods have pushed city planners, architects, landscape architects to design more resilient cities with its built environment and communities. The attempts to create sustainable and resilient cities have proposed a variety of ways, strategies, and visions through history. Some of these proposals have succeeded where some of them have failed. As Howard explains in his words people have to learn from their faults and failures to understand and form a plan for success.

"The pathway of any experiment worth achieving is strewn with failures. Success is, for the most part, built on failure." (Ebenezer Howard).

On the basis of agricultural sector problems lie the failure of institutional environment and the relevant deficiencies. Even in the countries, whose economy is based on agriculture, the agricultural lands can be in danger of extinction. The insufficiency of codes and regulations relating to the utilization of the agricultural lands and lack of authority and coordination emerge as common problems on ecological landscape planning.

It is clear that the combination of architecture and nature strengthens the agriculture and nature in cities. For keeping urban agriculture movement on the agenda, not only citizens' support, but also governmental support is required. In fact, governmental regulations are critical in sustainable urban agriculture system. Even though there are social and political actions for

improving urban agriculture in cities, there is still a lack of policy and planning about urban agriculture. As we are in the age of sustainability, combining agriculture with the new technology and recent architectural trends as well as organized development plans including urban agriculture concepts will encourage urban development with agriculture inside the city, hence promoting ecological and social resiliency.

The metaphor of “cities of resilience” is a promising tool to examine the linkage between built environment and community’s sense of nature. Communities shape the resilient cities of future, and creating socially and ecologically resilient environments shape conscious communities within them. Therefore urban planners, landscape architects, and developers are not only responsible for the design of the physical structure of urban environments but they are also responsible for the design of the communities which will be living in them.

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Üretici peyzajlar ve dayanıklı kentler

2010 yılında, birleşmiş Milletler İskân Programı (UN-HABITAT) insanoğlunun nüfus artışı ile 1950 – 2010 yılları arasında en hızlı kentleşme oranına eriştiğini açıklamıştır. Bu kontrolsüz büyüme ve kaynak tüketiminin doğurduğu olumsuz yaşam koşulları giderek durdurulamaz bir hal almış ve tüm toplumları bir çözüm arayışına sürüklemiştir. Bu arayış bizi daha dayanıklı ve kendi kendine yetebilen şehirler oluşturarak, tüketici bir toplum olmaktan kurtarıp üretici bir toplum olmaya teşvik etmiştir. Bununla birlikte yirminci yüzyılın sonlarından itibaren yoğunlukla görülmeye başlanan doğal ve insan kaynaklı felaketler nedeniyle dayanıklı kent matrisleri yaratmak büyük önem kazanmıştır. Bu nedenle, peyzajı ve planlama araçlarını kullanarak sürdürülebilir kentsel altyapı sistemleri oluşturmak, üreticiliği, kent yapısına entegre etmek kaçınılmaz hale gelmiştir.

Kentlerin doğa üzerinde yarattıkları ekolojik ayak izini azaltmak için birçok öneri getirmek mümkündür. Bu önerilerin başında eski ve geleneksel sayabileceğimiz fakat günümüzde yeni bir kavram gibi algılanan 'kentsel tarım' gösterilebilir (Esbah ve Akyol, 2011). Kentsel tarım kavramı, 1996 yılında İstanbul'da yapılan Birleşmiş Milletler Habitat Programında gündeme gelmiş ve kent içinde bitki kültür varlarının ve hayvansal ürünlerin yetiştirilmesi, büyütülmesi, geliştirilmesi olarak tanımlanmıştır (UN Habitat, 1996). Bununla birlikte kentsel tarım kendi kendine yetebilen "dayanıklı şehirler" metaforunun önemli bir bileşenini oluşturmaktadır. Bu çalışma üretici peyzajların dayanıklı kentler oluşturmadaki rolünü ortaya koymayı amaçlamaktadır.

Bu kapsamda, özellikle bir üretici peyzaj aracı olan kentsel tarım üzerine odaklanılmıştır.

Kuşkusuz ki kentler yüzyıllar boyu doğanın pastoral yapısı ile bir uyum içerisinde gelişme göstermişler ve bunu kent imajlarına da yansıtmışlardır. Bu birlikteliği tarihi gravür ve eskizlerden, plan, model ve haritalardan izlemek mümkündür. Doğa ve kent ilişkisini, bu kapsamda yapılmış olan ve günümüz kent modellerinin öncü örnekleri olarak nitelendirilebilecek Ebenezer Howard, Frank Lloyd ve Ian McHarg'ın 19. yy.'a dayanan çalışmalarında da görmek mümkündür. Bu çalışma kapsamında kılavuz niteliğindeki bu kent modelleri de peyzaj-kent ilişkisi kapsamında incelenmiştir. Her çalışma kendi dönemi içerisinde değerlendirildiğinde örnek gösterilebilir olsa da, Endüstri Devrimi sonrası kent ve doğa ilişkisinin bozulması ile özellikle üretici peyzaj alanlarının daha çok kent çeperlerine konumlandırılması ile kent içi tarım alanlarının yok olmuştur. Üretici ve tüketici arasına giren bu mesafe, yiyecek kaynaklarına ulaşım için ekstra enerji, daha fazla iş gücü ve daha fazla maliyet ihtiyacı doğurmuştur. Günümüz metropollerinin artan nüfusun yiyecek ihtiyacına cevap verememesinin sebebi olan yanlış kentleşme politikalarının başlangıcı da bu döneme dayanmaktadır.

Türkiye'nin en kalabalık metropolü olan İstanbul'da yiyecek üretiminin ve yiyecek kaynaklarının kent dokusu içerisindeki dağılımının, zengin tarihi geçmiş içerisinde kent imajının oluşmasında büyük etkisi olmuştur. Bu etkileşimin izlerini ise hala İstanbul Surları'nı çevreleyen bostanlarda ve bazı eski semtlerde görmek mümkündür.

Kentsel tarımı, Türkiye'deki kurumsal çevre kapsamında incelemek gerekirse, Gıda Tarım ve Hayvancılık Bakanlığı, Çevre ve Şehircilik Bakanlığı, belediyeler ve yerel yönetimler gibi devlet kurumları, Tema, Yeşil Ev, Permakültür Türkiye gibi sivil toplum örgütleri ve bireyler, kentsel alanda tarımı uygulamalarını destekleyici girişimler yapmaktadırlar. Buna rağmen, hızlı nüfus artışı ve kentleşme problemleri ile tarım alanlarının büyük bir kısmı zamanla yerleşim alanı ve konut yapılarına çevrilmiştir. Maalesef kalkınma planlarında dahi tarım alanı olarak gösterilen bölgelerin kamu yararı dahilinde farklı bir kullanıma dönüştürülmesi yasa ve tüzük çerçevesinde mümkün kılınmıştır. Bu çalışma kapsamında da tarım alanları ile ilgili Türkiye'deki mevzuatın, yasa ve yönetmeliklerin tarihi süreç içerisinde gelişimi irdelenmiş ve sonuç olarak kentsel tarım uygulamaları kararlarının planlama sürecine dahil edilmesi ile ilgili yetki karmaşası olduğu görülmüş, tartışma ve öneriler geliştirilmiştir.

İçinde bulunduğumuz sürdürülebilirlik çağı doğrultusunda, üretici peyzajlar ile günümüz teknolojisini, mimari trendleri ve sürdürülebilirliği amaçlayan kalkınma planlarını birleştirmek, kentsel tarım uygulamalarını destekleyeceği gibi daha dayanıklı ve kendine yetebilen kentler oluşturulmasını sağlayacaktır.