

OPINION / GÖRÜŞ

Gearing Up the Urban Gardens as Disaster Parks: An Urgency for Food Resilience During Crises

Krizler Esnasında Gıda Direngenliği için Kentsel Bahçelerin Afet Parkları Olarak Düzenlenmesi: Bir Aciliyet Meselesi

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Introduction

When considering the topic of food planning for urban areas, it is typical to focus on the ordinary flow of life. However, it would be remiss not to consider what might be termed 'extraordinary' days. In the event of an earthquake, fire, flood, or landslide, for instance, or in the case of a drought, war, or economic or health-related crisis, how might the usual flow of food to the city be interrupted? What measures might be taken to ensure the continued provision of food if the normal production or supply chains are no longer useful?

The most recent example is the global COVID-19 pandemic, which resulted in a worldwide phenomenon of people rushing to markets in a state of panic, leading to the emptying of shelves. It was observed that those with greater financial resources could procure additional supplies, whereas those with limited purchasing power faced an even more perilous and destructive situation. Therefore, despite the fundamental human right to food, access to it can become problematic in times of crisis.

In this paper, I will suggest that urban parks on the one hand, and urban market gardens and orchards on the other, should be considered spaces of resilience against disasters and crises. Although urban gardens have a deep root in the history of cities

in Türkiye, excessive urbanization destroyed this tradition and most gardens are destroyed. Unfortunately, the revival of urban agriculture as a mode usually means hobby gardening whereas urban gardens might have a bigger role in disaster resilience. Urban agriculture reintegrates green spaces, providing shade, cooling the air, and supporting diverse wildlife, even small green areas can offer food and shelter for various species, inviting nature back into urban life. Last but not least, it can potentially improve community resilience to market shocks during crises.

This paper presents the argument that urban parks should be designed and equipped with the objective of enhancing resilience against disasters and crises in terms of food.

Urban Agriculture as a Means for Resilience

Urban agriculture encompasses a range of practices, from allotment gardens to large peri-urban areas devoted to large-scale farming, and from occupied public land used by citizens as a measure against famine to transformed public space by local administrations as a measure against global warming.

Urban agriculture practices can be categorized as follows:

1. According to the type and structure of the organization: guerrilla organizations, community organizations, local government-led initiatives, school kitchens, etc.

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2. According to the types of implementations: rooftop gardens, vertical farming, school gardens, urban farms, agriculture parks, etc.
3. According to users: children, disabled individuals, the elderly, urban poor and disaster victims.

It can be seen that urban agricultural practices, regardless of their scale, are largely concerned with food security. However, in that regard, we need to consider the potentiality of urban parks which generally are not considered in terms of resilience. A “park” can be defined as a green space where city dwellers are engaged in a range of activities, excluding farming. Similarly, a “garden” can be defined as a space where farming is practiced. While in some cities, there has been an increase in the number of parks that include areas of horticulture, this is not yet a widespread practice, at least in Türkiye.

Nonetheless, in this paper, I will defend the idea that parks, as well as gardens and orchards in the cities, should both be geared up to become spaces for food production and thus act as spaces of resilience for disasters and food security.

Human history is replete with food production outside the “normal” spaces of farming. In World War II, for example, Great Britain households started growing food in their backyards; in the US, Victory Gardens or War Gardens involved the establishment of private and public gardens for the purpose of food production.

Moreover, numerous more recent examples can be cited. In India, for instance, the significant impact of the COVID-19 pandemic on the food security of poor households in urban and peri-urban areas prompted a response in the form of extensive urban farming, supported by local governments in some regions in the form of the opening of the public lands to farming.

In Argentina, after the economic crisis of 2001, in Rosario—the country’s third largest city—, “residents struggled with an economy in freefall, another crisis loomed in the background. Climate change was heating the city and making rainfall more erratic, leading to both flooding and fires” to which the municipality responded with Urban Agriculture Program that “gives low-income residents access to underused and abandoned public and private land to cultivate food, originally was intended to alleviate food scarcity and provide economic opportunities. Over the years, the municipality evolved the program into a cornerstone of its inclusive climate action planning” (Maassen & Madeleine, 2021).

In Greece, the economic crisis of 2007-2008 accelerated the diffusion of urban agriculture in Greek cities: “The most well-known cases of civil society’s urban agricultural exploitations appeared in 2011: the self-managed field of Ellinikon Airport in the south of Athens and PER.KA (suburban cultures) in Thessaloniki (ex-military camps). Both are part of the movement

that reclaims the free and public spaces. Since 2012, urban agriculture has been spread either by civil society or with the help of local authorities (municipalities)” (Kolokouris, 2015).

In an article aimed at exploring the adoption of urban agriculture in four different crisis scenarios, the author mentions World War II as the first example and then states the others as follows: “Urban agriculture has been utilized as a long-term solution to address food security during contemporary economic and social hardships (the case of Detroit); times of political instability, trade embargoes and economic decline (the case of Havana), as well as in post-conflict periods (the case of Sierra Leone)” (Daneshyar, 2024).

It is unlikely that urban agriculture will become the cornerstone of national food security or replace rural agricultural production. However, it does have the potential to improve the resilience of communities to market shocks that occur during crises. Beyond crisis periods, urban agriculture offers numerous advantages:

- It fosters connections among people and promotes community involvement.
- It can improve well-being, alleviate anxiety, and enhance mood.
- It supports learning about nature and healthier dietary choices.
- It creates jobs, helps preserve biodiversity, and benefits the environment.

Ecological Parks in Ordinary Days, Survival Parks in the Disasters

The paper’s conceptual framework is built on the resilience approach, defined “not as an asset but a process of change” by Davoudi (2012, p. 304) who considers resilience not only as developing the ability to recover from shocks and crises but also as acquiring the ability to be prepared for them and seeking potential transformative opportunities. As such, this paper aims to put the concept of “preparedness” at its center, defined as the development of proactive strategies and practices that go beyond the reflex of adapting to adversities and potential crises and protecting the existing system.

Based on observations and insights from two personal experiences, in this paper, I will defend the idea that the disaster-preparedness of urban parks and gardens would yield a high resilience capacity to the cities. My first experience is the Piyalepaşa Orchard, a historical market garden in Istanbul city-center, occupying a space of around 6000 m². I voluntarily work as an urban farmer assisting the gardener family who has been there for 30 years. This is a 500-year-old garden that still produces mainly green leaves and all sorts of vegetables and yearly fruits for centuries, it is an invaluable droplet of

nature in a city of cement and asphalt. The second one is a park in Hatay, one of the 10 cities hit by the earthquakes in February 2023 and the one which is the most seriously destroyed with a very high number of victims. Just after the disaster, civil society from all over the country rushed to help the survivors. This park was quite old and practically unused until that date. Still, the earthquake did not destroy it, so a few formal and informal collectives came together to create a space for children of the neighborhood and their families. I took part in that process and also, one year later, I developed a project thanks to a small grant program (from BAYETAV) to transform the park into an ecological park.¹

These experiences made me grasp the importance of these spaces for the “preparedness” of cities if they were to be designed accordingly in terms of proactive ecological strategies and practices. They would thus serve as parks or market gardens in the normal course of life and will function as survival parks when a disaster occurs.

To achieve this, they must be built on three pillars: Ecological Infrastructure, Ecological Skills, and Institutional and Social Cooperation.

The first of these is the integration of an “Ecological Infrastructure”. This pillar includes the following:

The implementation of a *water purification system* enables residents to access clean water, thereby reducing the reliance on single-use plastic bottles. This is of particular significance not only during ordinary circumstances but also in the aftermath of disasters, as evidenced by the events that transpired in Türkiye following the February 2023 earthquakes.

Solar energy systems, limiting the dependency on the electricity network, will also limit the park’s carbon footprint and enable park users to have energy during a disaster.

Rainwater collection has ecological value in both situations but will be extra significant during a disaster where access to water is limited.

Components related to food are invaluable aspects of an ecological park. In *Urban Gardens*, various examples of urban agriculture are meant where park users produce one-year or multi-year crops in raised beds or open ground. This can have various sizes and forms: it can be a market garden tended for subsistence, it can be a community garden taken care of by a small or large group of persons, it can have small plots for leisure purposes, or it can have an education-oriented function. In *Food Forests*, fruit trees are integrated into a system of food production at different levels (for example, herbs on the ground level, greens, and berries under the trees, etc), in disaster times food production of all sorts would have vital

importance, in the proper sense of the word, and along with stored durable food, they will serve the survival of the nearby community. In *Medicinal and Aromatic Plant Gardens*, esp. local species produced for healing purposes are cultivated. For food autonomy and food security, food production at the scale of a neighborhood (even better if most of the residents are involved) is extremely important.

Linked to food production in the garden as well as in terms of waste management in the neighborhood, composting is a crucial element to be integrated, so a *Compost Corner* should be implemented.

A *Compost Toilet* (or at least, a *Dry Toilet*) has to be added to this scheme, which would be essential in demonstrating to the citizens that a waterless toilet system is possible, it becomes vital in the post-disaster period when sewage systems are broken.

In addition to these fundamental components, it is essential to consider the incorporation of a social center designed as a *Passive Energy Building*, obviating the necessity for supplementary heating or cooling systems. This is a crucial aspect in the context of disaster management, as the building will be utilized to provide essential shelter.

Last but not least, a *Seed Library* needs to be added to the overall structure.

The second pillar comprises the “Ecological Skills”, which complement the first pillar. Through the acquisition of these skills during their daily lives, residents will not only be better prepared for disasters but will also become integral members of the park community. It is essential to provide ongoing instruction in these skills through workshops and hands-on learning programs, with a focus on all age groups but with a differentiated approach according to age. These skills must be diversified, particularly in the context of a post-disaster period, when individuals with these skills will be entrusted with responsibilities.

These skills encompass, but are not limited to, the following:

- Simple water filtering mechanism
- Sun oven
- Root cellar
- Rocket stove
- Insect repellents
- Basic gardening & recognition of edible herbs
- Seed saving
- Simple rainwater collection
- Composting & Compost toilet making
- First aid, fire building, shelter & food preparation

¹ See Yılmaz & Yıldırım (2025) for a guidebook of “Life Parks” model, developed after these experiences and summarized in this paper.

The first two pillars constitute the Climate Action Component, while the third, the “Institutional and Social Cooperation”, is of equal importance in the park’s implementation. The local administration must be included from the outset to provide the necessary layout and ensure the flow of action. Organizational Aspects and Community Building are two components that tie all three pillars, without which, the park area or whatever green space is reduced to a simple *Gathering Area*.

Hence, the *Administrative Unit* is extremely important not only in the organization during the pre-disaster and post-disaster periods: in this latter, it can be used for the emergency medical response. Temporary shelter materials and units of food and kitchenware storage should be foreseen to allow collective cooking and eating areas. Once again, ordinary days are days during which the *Spaces – Materials – Persons – Tasks* should be minutely examined and organization schemes for the extraordinary days should be prepared. Japanese disaster parks serve as excellent case studies for organizational preparedness in the pre-disaster period. This preparedness is evident not only in terms of material and construction but also in terms of community tasking (McKean, 2014).

Another extremely important part is the WASH (water, sanitation, hygiene) area of the park, which should be specially designed with safety features for female and LGBT+ users. The lack of this feature was disastrous during the 2023 earthquakes.

To end this brief note, I would like to underline once again the potential of urban gardens and parks for crises: pandemics, economic crises, wildfires, flooding, earthquakes, and wars... Their impact on humanity is a significant concern in the near future. In countries such as Türkiye, where preventive measures and post-disaster preparedness are not yet sufficiently calculated nor prepared for, these risks are particularly elevated. In light of these risks, which become even more lethal when coupled with the challenges of accessing food in the immediate aftermath of a disaster, it is imperative that we, as citizens of a locality, collaborate to ensure food security through the utilization of green spaces. Furthermore, we must exert pressure on local governments to facilitate this endeavor.

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