

# Urban agriculture during economic crisis: Lessons from Cuba, Sri Lanka and Ukraine

Economic crises take different forms and occur for various reasons, such as political conflicts and pandemics. What all these crises have in common is that they cause disruption to rural-urban food supply chains, resulting in food shortages for the urban poor, with the most direct impact being an increase in food prices. It is within this challenging context that we present empirical examples of the role of urban agriculture.

In many parts of the world, urban farming has been recognized for its contribution to short food supply chains, urban food security and livelihoods, and its recreational value (de Zeeuw and Drechsel 2015; Prain et al. 2022). Despite the limited space available in urban areas, urban farming can provide important shares of easily perishable commodities, like leafy vegetables, which are grown in close proximity to urban markets, especially where cool transport chains from rural areas are not available (Karg et al. 2016). Farming can take

place at the individual (backyard, balcony) or community scale and can be for self-consumption and/or sale in the market. However, in the Global South particularly, urban farming has a long history of being seen as a fading or at best a temporary phenomenon not worthy of public attention or support (Mubvami et al. 2003; Drechsel 2022). These views often change and the importance of urban farming increases during times of an economic crisis, war, internal displacements or other shocks that affect rural-urban linkages and urban food security (Adam-Bradford et al. 2009; Adam-Bradford and van Veenhuizen 2015). This brief summarizes the main findings from a study commissioned by the CGIAR Initiative on Resilient Cities on the role of urban agriculture in the current situation in Ukraine and Sri Lanka, with comparisons to the economic crisis which hit Cuba after losing its support from the Soviet Union. CGIAR is a global research partnership for a food-secure future.



Urban farming at the Town Hall of Colombo, Sri Lanka (photo: IWMI).

## The case of Cuba

An often-cited case on the importance of urban agriculture during an economic crisis is Cuba. Following the collapse of the Soviet Union and the subsequent cessation of subsidized imports of fuel and oil-based agrochemicals, Cuba's agro-industry struggled significantly in the early 1990s (Wright 2009). The crisis was further compounded by the ongoing United States trade embargo. Food availability declined by an estimated 60% (Gonzalez Novo and Murphy 2000). A comprehensive national agriculture program tasked every

organization and municipality – large or small – to cultivate (tax-free) all unused and fallow lands, develop intensive organic farming systems, and support resource recovery from urban waste. With this backing, the previously almost non-existent urban food production systems emerged and excelled in yielding fresh vegetables, fruits, herbs and spices, and small livestock. While these urban farms were not able to feed Cuba's entire urban population, they went a long way to significantly contribute to reducing food unavailability. Even today, over 300,000 urban farms and gardens produce about 50% of the island's fresh produce (Altieri 2019).



Urban farming in Havana, Cuba (photo: Professor Abel Tablada).

## The situation during the Covid-19 pandemic

More recently, urban farming made the news during the **Covid-19 pandemic** when regional lockdowns affected urban food supply and, in particular, those people who were unable to switch to the quickly emerging online food shopping services.<sup>1</sup> Many urban citizens started home gardening, experimenting with hydroponics and vertical gardening. However, it was not only the Global South that saw a push

for urban farming. A report in 2020 by the UK's Office for National Statistics showed that 42% of UK citizens had taken to gardening to cope with the lockdowns, while a third of a million searched for tips on growing garden crops on the Royal Horticultural Society website (Howard 2020). The disruption to urban food systems as a result of the pandemic highlighted, among other things, the need to reconnect consumption via short food chains with local production (Blay-Palmer et al. 2021).

<sup>1</sup> <https://www.fao.org/in-action/food-for-cities-programme/news/covid-19/en/>



Experimenting with low-space gardening innovations during the Covid-19 lockdown in Sri Lanka (photos: Zulfi Hassim, Colombo, Sri Lanka).

## The case of Sri Lanka

In Sri Lanka, the effects of the Covid-19 pandemic were followed by a larger economic crisis in 2022, with food and fuel shortages. People responded by changing their eating habits, which included consuming less preferred foods (68%), limiting portion sizes (40%) and reducing the number of meals (37%) (WFP 2023). However, responses moved beyond individual adaptations. In the largest city of the country, Colombo, the Mayor, supported by the Colombo Municipal Council (CMC), called for the cultivation of food crops on over 240 hectares of demarcated public land within the city. To set an example, the first farms were established around the Town Hall.<sup>2</sup> This mirrored the events in Havana, Cuba, 30 years ago when crops were grown on the front lawn of the Ministry of Agriculture (Gonzalez Novo and Murphy 2000). CMC also developed a dedicated webpage<sup>3</sup> ('Urban Harvest') and encouraged schools

and residents to cultivate every inch of unused bare lands, home gardens, balconies and rooftops to fight back against food insecurity. This was a remarkable transformation because it was difficult to identify any department within CMC working on urban agriculture or city region food systems before the pandemic (FAO 2018), besides those working on food safety and veterinary issues. These positive efforts were supported by the central government, allowing all public servants to stay home on Fridays to grow crops,<sup>4</sup> and even the army was mobilized to produce organic fertilizer and cultivate unused state lands including abandoned paddy fields (Jayasinghe 2022). The private sector supported the momentum by erecting a Christmas tree<sup>5</sup> made entirely from different vegetables in central Colombo. Other efforts to address the food crisis were initiated by the CGIAR Initiative on Resilient Cities,<sup>6</sup> which works on dietary patterns, nutrition and food rescue operations in Sri Lanka.

<sup>2</sup> <https://fb.watch/h2LVn7n1kF/>

<sup>3</sup> <https://www.colombo.mc.gov.lk/urbanharvest/>

<sup>4</sup> <https://www.theguardian.com/world/2022/jun/15/sri-lanka-government-workers-get-fridays-off-to-grow-food-as-shortages-loom>

<sup>5</sup> <https://ceylontoday.lk/2022/12/23/christmas-tree-made-of-vegetable-plants/>

<sup>6</sup> <https://www.cgiar.org/initiative/16-resilient-cities-through-sustainable-urban-and-peri-urban-agrifood-systems/>



Photograph taken from the Town Hall of Colombo, Sri Lanka, showing the irrigated crops that had replaced parts of the lawn area (photo: IWMI).



The private sector showed their support for urban agriculture by erecting a Christmas tree made entirely from different vegetables in central Colombo, Sri Lanka (photo: IWMI).

## The case of Ukraine

The ongoing military conflict in Ukraine has initiated a reorientation to self-sufficiency in response to the collapse of rural-urban food supply in war-affected areas due to blocked roads, lack of fuel and an absence of remaining civilian truck drivers. In other parts of the country, gaps in local food supply were met through imports. However, this did not prevent vegetable prices from rising by 85% to 150% (Gordiychuk and Kyrylenko 2022), while the price of eggs doubled (Zanuda 2022). According to agricultural market analysts, Ukrainians now spend up to 70% of their income on food whereas it was about a third of that amount before the war (Yakovets 2022a). With reduced rural food supply, nongovernmental organizations (NGOs) call for more self-sustainability, not only in rural areas but also in urban areas. Through several public and private initiatives, and support from the United Nations Development Programme (UNDP) and Canada, new urban farming activities have been reported from Kyiv, Lviv, Odesa, Dnipro, Ivano-Frankivsk, Poltava, Lutsk and Vinnytsia. These activities built on existing projects linked to, for example, zero waste and organic food movements (Yakovets 2022a) or were new initiatives (Yakovets 2022b).

For example, the initiative ‘Posady!’ (in English: *Plant!*), led by the NGO Ekoltava,<sup>7</sup> offered vulnerable segments of the Ukrainian

population seeds to cultivate vegetable gardens around their homes and on their balconies. This NGO was supported, among others, by the Ukrainian-based campaign ‘Victory Gardens’<sup>8</sup> which, like its historic predecessors,<sup>9</sup> encourages citizens to access all the available land and mobilize every resource at their disposal to ensure the country stays food secure during this time of war. The support includes providing special guidance on urban farming. For instance, within the urban area of Chigyrna, 2,000 households followed the call for an increase in urban farming and generated about 1,000 tons of vegetables on private and communal land, which helped to smoothen price hikes and share food with internally displaced persons as well as the Armed Forces of Ukraine.<sup>10</sup>

In the case of Kharkiv (Kharkov), residents have cultivated cucumbers, tomatoes, potatoes, zucchini and pumpkins, complementing food packages provided by humanitarian aid agencies. This front-line city is just 30 km from the Russian border. People started cultivating recreational plots between large apartment blocks as they also provide some physical security in the face of frequent shelling (Lytovchenko and Nekhaienko 2022). Urban farming has also become a means of therapeutic relief, as social support networks fade and social entropy among Kharkiv’s citizens increases, similar to the morale boosting co-objective of the Victory Gardens in World War I and World War II.



Inner-urban vegetable farming in Kharkiv, Ukraine, sheltered between high buildings during the war (source: Lytovchenko and Nekhaienko 2022).

<sup>7</sup> <https://www.ekoltava.org/>

<sup>8</sup> <https://sadyperemohy.org/en/>

<sup>9</sup> <https://virginiahistory.org/learn/victory-gardens>

<sup>10</sup> <https://www.facebook.com/chigirinskaotg.gov.ua/posts/pfbido2XqPXnLZWs3HCWTGGMuPY9FzFx2BW6s1zXCyujJRPkKc6UrnXkquq5D88R8bb1Ql>

## Promoting the uptake of urban agriculture

The examples above highlight that urban agriculture can have multiple benefits, such as physical activity, therapeutic relief, waste valorization, organic farming, short food chains, etc., along with its key role in helping to mitigate, or even eliminate, food insecurity. For the urban poor, harvesting small quantities of food on a regular basis from their own backyards or rooftops can become significant during times of an economic crisis and when there are reduced food supplies.

The approach followed by the city of Colombo (Sri Lanka) in granting public access to land for the cultivation of food crops was an important component of its successful urban agriculture program. Such a process can be facilitated by local authorities as well as private landowners. It does not require changes in land tenure regulations or policies, as temporary access can be granted on a case-by-case basis with simple agreements put in place by the relevant parties. Through such an approach, the available land area, which is a major constraint to urban farming, can be multiplied to scale urban agriculture.

The ability of urban farming to extend its production to school fields, parks, lawns or grey sites (balconies, rooftops, yards), for example, through the use of plant containers, is an important strength of this farming system. Another key factor is its decentralized nature where thousands of small backyards can constitute a key contribution while directly reaching the most vulnerable populations during times of a crisis. Thus, in urban agriculture terms – *small is beautiful*.

Urban agriculture is not a magical solution, but it can contribute to building urban resilience and ensuring food security, while offering significant social and therapeutic benefits, as highlighted in the reports from Ukraine. While urban farming has various advantages that also apply under normal conditions, it is particularly important during times of disrupted rural-urban linkages. During such periods, individual action, often supported by NGOs, can play an important role. However, to achieve impact on a larger scale and, in particular, for the most vulnerable, political leadership is an immense advantage. The following steps summarize the key lessons for maximizing the contribution that urban agriculture can make to food security:

1. Existing urban farming initiatives and expertise significantly help to facilitate its up- and out-scaling, which should be a reminder for many city administrations to support urban farming.
2. The development and implementation of an urban agriculture strategy and action plan to maximize the production of fresh and nutritious food should be led or at least supported by the urban authorities based on multi-stakeholder dialogues (FAO 2007).
3. The identification of, and access to, 'green' and 'grey' (public and private) urban sites and plots suitable for agriculture is key, and should be complemented by the provision of inputs, such as seeds, tools and compost, and access to irrigation water or rainwater harvesting.
4. Capacity building in urban agriculture for interested households, extension workers, teachers, lecturers and public sector workers is important, including technical capacity in the safe recovery of greywater and compost produced from organic urban wastes. Where cities have no agricultural extension officers, experienced urban farmers can help build local capacities.
5. The most food insecure, particularly female-headed households, children and other marginalized low-income groups, should be prioritized. Therefore, school farming and low-space/no-space urban agriculture, such as farming on balconies, rooftops, backyards and vertical gardens, should be supported. CGIAR has supported related field manuals (e.g., Ranasinghe 2009; Gunjal 2009).
6. Recycling urban waste for crop nutrients and water should be monitored to safeguard public health, in particular where crops are irrigated with used water (Drechsel et al. 2015).

The CGIAR Initiative on Resilient Cities aims to support urban resilience through applied research and capacity development for the vibrant, although often largely informal, urban and peri-urban agri-food sector. Improving its performance with a view to ensuring food security and balanced nutrition can take advantage of circular economy solutions for urban waste, while taking care to safeguard human and environmental health.

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Urban farming in Cuba (photo: Reinders/RUAF).

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