



ShowCASE

No. 119 | 26.07.2021



CASE - Centrum Analiz Społeczno-Ekonomicznych
CASE - Center for Social and Economic Research

Editorial

The Covid-19 pandemic has once again showcased the importance of the resilient food supply chains and put forward the need to re-evaluate urban environments and regenerate our streets, parks, and unused spaces.

Against this background, in this edition of showCASE, we discuss the rising trend of urban farming and its potential in establishing greener, more inclusive and resilient local ecosystems.

Contents

Editorial	2
CASE Analysis	3
Highlights	8
Trade, Innovation, and Productivity	8
Labour Market and Environment	8
Macro and Fiscal.....	9
Other CASE Products	10
The Weekly Online CASE CPI.....	10
Monthly CASE Forecast for the Polish Economy	11

CASE Analysis

Urban Farming: A Major Trend Shaping the Future of Resilient Cities

Karolina Zubeł | CASE Economist

Almost 70% of the world's population is expected to live in cities by 2050 according to the United Nations (UN) World Urbanization Prospects. In fact the RUAF Global Partnership on Sustainable Urban Agriculture and Food Systems – a consortium of experts working towards promotion of sustainable agriculture – estimates that rapid population growth coupled with global urbanisation will contribute to poverty and food insecurity if not addressed properly.

RUAF believes that urban agriculture can be crucial to feeding these new city dwellers. Indeed, according to a 2018 study published in the journal *Earth's Future*, urban farms can bring us as much as 1.87 billion tonnes of food a year – or about 10% of the global production of vegetables. Some more optimistic scenarios predict that the number could even reach up to 20%.

What is more, urban agriculture shows great potential in the fulfilment of basic human needs as it not only provides fresh food supplies, but also ensures a sustainable distribution system thereby creating new jobs and regular income for individuals. It also helps countries in environmental protection and saving on transaction and transportation costs.

Although major urban groups (i.e., elderly, youth) have already been vulnerable to growing food prices¹, the Covid-19 crisis exacerbated the vulnerability of other groups, including those who lost their jobs or part of their income and became at risk of malnourishment.

» According to a 2018 study published in the journal *Earth's Future*, urban farms can bring us as much as 1.87 billion tonnes of food a year – or about 10% of the global production of vegetables.

A Well-rooted Practice in Times of Crisis

Yet, it is worth noting that the coronavirus outbreak is not the first time that concerns about food (in)security have led to a tangible development of “kitchen gardens”. In fact, their history dates back to the beginnings of the 20th century. During World War One, the concept of “Victory Gardens” was highly promoted to prevent food shortages and losses in the United States (US) and United Kingdom (UK), among others. The effort continued during World War Two, with fruit, herbs and vegetables gardens in private and public spaces as well as the White House itself. Due to permanent food shortages, urban gardening was also common in most communist countries with some of them still being preserved (e.g. next to Biblioteka Narodowa in Warsaw).

The Covid-19 pandemic once again sparked interest in local produce and the benefits related to the community building. Experimental and inclusive endeavours where urban farms are developed indeed could become a mitigation

¹ related to transportation costs and environmental shocks among others.

action, or even a shock absorber during such disruptions, especially for those most vulnerable. In this sense, urban farming capacity becomes the city's "insurance policy" in the event of future shocks or disasters that disrupt food supply chains.

While it is agreed that urban agriculture will always be a **smaller part** of our food supply system than traditional agri-techniques, it has an important role to play in the sustainability of urban and peri-urban areas.

» Urban farming has much to offer in the wake of the pandemics and beyond. It could help local communities boost the resilience of their food supply, improve the overall wellbeing of residents, and help them lead more sustainable lifestyles, among others.

Benefits of Urban Farming

Urban farming has much to offer in the wake of the pandemics and beyond. It could help local communities boost the resilience of their food supply, improve the overall wellbeing of residents, and help them lead more sustainable lifestyles, among others. The following **five** reasons can serve as a starting point.

1. Greener and richer urban ecosystems

Bringing urban farms into the city comes with more greenery closer to urban dwellers. Despite the fact that Covid-19 lockdown helped in boosting **interest in cultivation** of vegetables and herbs at home, most of households have no access to a garden. Urban farming omits this problem as city's rooftops, walls, and abandoned containers provide a suitable space for food production, while creatively redeveloping the urban tissue in a sustainable manner.

Urban greenery can also help to **reduce flood risk**, provide natural **cooling for buildings and streets**, and help **reduce air pollution**. What is more, while rapid urbanisation has proved to be one of the biggest **threats to biodiversity**, growing food in cities is strongly believed to **support** the abundance and diversity of wildlife, as well as protect their habitats. For example, a recent study published in "**Nature Communications**" found that urban farms act as hotspots for pollinating insects.

2. Resilient fresh food supplies

Diversifying supplies will make potential risk of food-related interruptions smaller. The food supply chains disruptions encountered during Covid-19 outbreak, **predominately in developing countries**, might not have been as serious if urban farms were growing fresh and healthy food closer to city dwellers.

3. Job creation and skills development

The International Labour Office (ILO) predicts that **growing urban farms will need a growing number of employees or volunteers**.

Not only highly skilled planners can benefit from such developments. **Urban farms can offer low-skilled citizens valuable skills**, i.e. in a form of tailored trainings and workshops and effectively a steady source of income.

Hunger or malnutrition as well as poverty are common themes in world's cities but urban farms could help to support the vulnerable groups holistically and secure their social protection.

4. Health and overall wellbeing

Plants cultivation has a positive impact on citizens **mental health and overall physical fitness**. When urban citizens have greater access to fresh fruit and vegetables and getting outdoors and into the greenery, their **stress level reduces**. It has also been proved that getting involved in urban food production may lead to choosing **healthier diets** – there are **studies** proving that urban food growing directs attitudes towards sustainability so that

people place more value in produce that is healthy and organic.

5. Less waste

According to [Food and Agriculture Organization \(FAO\)](#) a significant percentage of food waste results from grocery stores' inefficient planning – they simply stock more fresh food than they can sell **before it becomes inedible**. Consumers are equally to be blamed – they buy the amounts their households are not able to consume (around **53%** of all food waste). Urban farms can limit the scale of both problems as people will harvest only what they are going to eat within a day or two. **A recent study** from Turku University confirms that restaurant waste is also reduced and that the leftovers can be used for composting purposes.

These are just few important reasons that should compel local authorities to scale up food production in their respective towns in cities. Covid-19 has given us cause to re-evaluate how important resilient food supplies and local urban green spaces are, and why we can transform and regenerate our streets, parks, and unused spaces. The opportunity is there for local authorities to consider what ushering farming to urban landscapes could offer.

» Covid-19 has given us cause to re-evaluate how important resilient food supplies and local urban green spaces are, and why we can transform and regenerate our streets, parks, and unused spaces.

Different Forms, Same Goal

Urban farming can be practiced in different forms and environments and via different technologies, depending on the city's geographical location and preferences, among others. The most common techniques are presented in the Table 1 below.

Other urban farming methods may include cultivation of microgreens or mushrooms, greenhouses, forest gardening, or tactical gardens, among others.

Experimental Governance, Transformative Thinking, and Urban Living Labs

Given local peculiarities, each urban farm should be created in a way that answers the local needs and boosts local climate adaptation and mitigation endeavours. With this rule in mind, CASE will soon kick off a project entitled “USAGE – Urban Stormwater Aquaponics Garden Environment” which aims to create the green-garden installation for the food production based on aquaponic system supported by rain and stormwater collection infrastructure in two European cities (Wroclaw and Oslo). The installations will play an educational and social role, integrating local citizens, creating the workplaces, and propagating the environment-friendly behaviours.

The project will take the [Urban Living Lab \(ULL\)](#) approach with six interrelated, feedback-driven work packages. As the ULL systemic approach is deeply rooted in the Scandinavian [participatory design movements](#) from the 1960s and 1970s, the ULL methodology within USAGE will move almost all research activities to the project sites. In this “**co-creation**” process, subject infrastructure will be developed in front of the local community and with their engagement.

What is more, two cities which will most likely encounter different problems in the pilot phase (i.e. not enough rain and stormwater in Wroclaw, bigger energy needs for the Oslo-based installation due to lower temperatures) will regularly share their lessons learnt and best practices with fellow pilot city what will most likely build their reputation of truly transformative urban centres. Follow our work to stay up to date with this experimental process insights and our main discoveries on sustainable urban farming practices.

Table 1. Urban Farming Techniques

Technique	Characteristics and benefits	Interesting example
Shipping container farms	Useful in colder climates with higher temperature amplitudes. Containers can fit in almost everywhere, even just in an unused corner of a parking lot, and can be powered by renewable energy sources (RES). Special systems can be installed to create an optimal growing environment.	Freight Farms in Boston, US
Backyard gardens	Involves growing food on one's property. Backyard gardens are a great example of community building practice with the produce being often shared among friends, family, neighbours, or co-workers.	Greenmeadow Community Farm in Cwmbran, UK
Rooftop gardens	Some densely populated cities already have an extremely limited space. This is where rooftop space comes in. Their advantage is that this form of farming can help in reducing urban heat island and improving the air quality. Rooftop gardens can also be used to beautify common urban spaces.	Lufa Farms in Montreal, Canada
Vertical farming	Vertical farming involves growing plants in layers that are deployed vertically i.e. on shelving, or on specially modified pallets against fences or walls. Vertical farms can be housed in abandoned constructions, inside buildings still used, or in above mentioned shipping containers. They are usually combined with other innovative techniques like aquaponics or hydroponics.	World Food Building in Linköping, Sweden
Hydroponics	A system for cultivating plants without soil. Instead, nutrients are added to water in which plants are immersed with materials used to support plants' growth. Hydroponic systems can use organic matter like manure to promote healthy produce. Since water in hydroponics systems is recycled and reused, it can save on water usage – while a traditional farm uses about 400 liters of water to grow a kilogram of tomatoes, a hydroponic system can grow the same amount using only 70 liters of water.	Sfera Agricola in Tuscany, Italy
Aquaponics	A practice of bringing up aquaculture and animals like fish or shrimp with vegetables or herbs. It involves the use of a system that captures rain and stormwater from within the city which can then create a self-sustaining, recirculating system. Aquaponics is a highly elaborated technique, but it can be one of the most efficient ways for vegetables, crops, and a protein alternatives cultivation.	Pauline Farm in Lormont (in the Bordeaux area), France

Source: own elaborations.

Conclusions

The Covid-19 outbreak is a reminder that disruptions to food supplies can take place at any time making a strong case for urban farming uptake in towns and cities around the world. As the public interest in cultivating edible plants at home has soared, combined with heated discussions on **bottom-up climate adaptation and mitigation strategies**, a timing for local authorities to pursue tailored initiatives promoting urban farming has never been better. Cultivation of vegetables and fruits closer to urban dwellers is not only a requirement for a **resilient city of the future**, but could also improve communities' overall health and fitness and help them in leading more sustainable lifestyles.

Highlights

Trade, Innovation, and Productivity

According to the **latest European Commission forecasts** published on July 7, the EU economy will return to its pre-pandemic level in the last quarter of 2021 or one quarter earlier than expected in the **previous forecast**. This shows an expected higher EU economic growth compared to the spring projections. According to the new forecast, the EU economy will grow by 4.8% in 2021 and 4.5% in 2022. The improvements in growth prospects can be attributed to the progress made in vaccination and other virus containment strategies that led to a revival of economic activity. However, the inflation rate is expected to reach 2.2% in 2021 and 1.6% in 2022, which are respectively 0.3% and 0.1% higher than projected by the spring report. The new forecast also records the economic sentiment indicator (ESI) in May 2021 at the highest level since February 2018 – which implies a high optimism among consumers and businesses about the EU economy.

In Poland, the economic growth is expected to reach 4.8% and 5.2% in 2021 and 2022, a rate comparable with other countries in Central and Eastern Europe. Therefore, compared to the spring forecast, Poland's economic growth rate is expected to be relatively higher in 2021 (above 0.8%) and lower in 2022 (0.2%). Poland's inflation rate – the second highest in the EU after Hungary in both 2021 and 2022 – is projected at 4.2% for 2021 with a drop to 3.1% in 2022.

Labour Market and Environment

On July 14, the European Commission unveiled the **“Fit for 55” plan** – a main tool for achieving the target of reducing emissions by at least 55% by 2030 (with 1990 as a benchmark) and achieving climate neutrality in 2050. Among other things, the package consisting of 13 detailed legislative proposals and following assumptions for the period starting from 2035: (i) 40% of energy will come from renewables while the overall energy consumption will decrease by 9%; (ii) stricter national emission reduction targets in the transport, agriculture and construction sectors will need to be in place; (iii) all new registered cars will be emission-free; and (iv) free allowances will disappear in the European Union Emissions Trading System (EU ETS) and countries will be obliged to spend 100% (currently 50%) of the ETS revenues on the energy transition.

Despite much criticism from climate-oriented organisations for not being ambitious enough in certain proposals, there are also some voices supporting the EC's initiative. The latter are particularly relevant when the Polish perspective is considered as the package meets the needs of Poland in many ways, especially when it comes to providing additional funds for transformation. These include an enlarged Modernisation Fund and a new targeted social fund that targets to eliminate energy poverty.

Macro and Fiscal

On July 1, 132 countries, including Poland, issued a **joint statement regarding the new rules of taxation of the, so-called, "Digital giants"**. The announcement follows more than two years of work at the OECD as part of the project against tax base erosion. The first part of the consensus refers to the world's largest digital corporations. These companies will be determined based on the volume of revenues (above USD 20 billion) and profitability (above 10%). Multinationals that meet these criteria will have to partially reallocate their residual profit, i.e., excess profit, to countries where they sell goods or provide services. The second part deals with the introduction of a minimum global tax of at least 15% of the effective rate. Tax mechanisms created to achieve this goal will apply to those international companies that have achieved global, consolidated revenues of at least EUR 750 million.

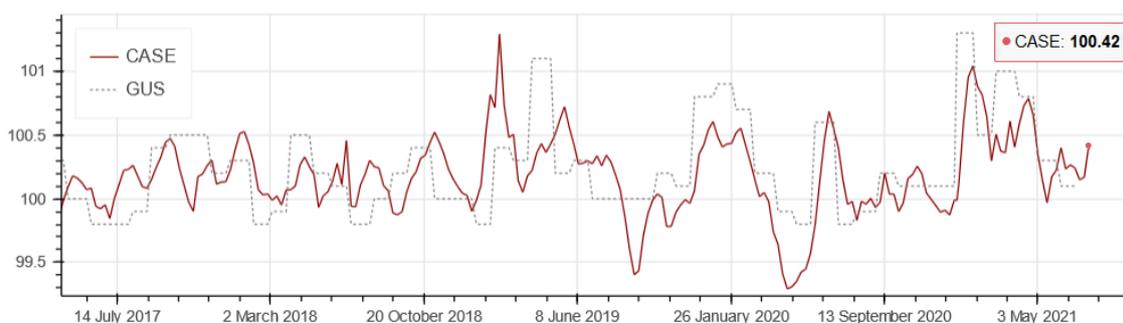
Other CASE Products

The Weekly Online CASE CPI

The online CASE CPI is an innovative measurement of price dynamics in the Polish economy, which is entirely based on online data. The index is constructed by averaging prices of commodities from the last four weeks and comparing them to average prices of the same commodities from four weeks prior. The index is updated weekly. For more information on our weekly online CASE CPI, please visit: <http://case-research.eu/en/online-case-cpi>.

Mid July read-out of Online CASE CPI shows that average prices keep increasing, albeit at a slower pace compared to the first half of 2021. Prices in two of the main categories which drove the index up in previous months – “Transportation” and “Costs Associated with House and Utilities” – have somewhat stabilised yet, once again, experienced the highest m/m increase among all categories (2% and 0.7%, respectively). A moderate increase in average prices – 0.4% m/m – could also be observed in the “Food” category with substantial variations in certain subcategories. These include, for example, prices of ice cream and deserts that went up by more than 6% m/m which was undoubtedly related to higher average air temperature in July.

Our Weekly Online CASE CPI



Monthly CASE Forecast for the Polish Economy

Every month, CASE experts estimate a range of variables for the Polish economy, including future growth, private consumption, investments, industrial production, growth of nominal wages, and the CPI.

CASE economic forecasts for the Polish economy					
<i>(average % change on previous calendar year, unless otherwise indicated)</i>					
	GDP	Private consumption	Gross fixed investment	Industrial production	Consumer prices
2021	4.1	4.5	3.3	7.5	3.7
2022	4.0	4.5	6.5	5.9	3.3

Contributions: Machteld Bergstra, Jan Hagemeyer, Kateryna Karunska, Agnieszka Kulesa, Izabela (Styczyńska) Marcinkowska, Grzegorz Poniatoski, Katarzyna Sidło, Adam Śmietanka, Tomasz Tratkiewicz, Mehmet Burak Turgut, Abdoul Karim Zanhouo, Karolina Zubeł

Editors: Katarzyna Sidło and Kateryna Karunska

Communications: Monika Rębała

***Any and all opinions expressed in showCASE are those of the author(s) and do not necessarily reflect the views of CASE