

Prospective role of local food supply and urban agriculture in providing food security of large cities

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Bi-regional STI Dialogue

Agro-food systems of large cities

- 2/3 of the world population will be living in the cities by 2050 (FAO)
- Food is not only a basic human need, it also guarantees security
- > 2 mln people yearly die due to food insecurity (FAO)
- Growing developmental gap between rural and urban areas
- Depopulating rural areas: can they maintain sustainable food production?
- Vulnerability of resources: natural, social and financial
- Increasing complexity

Intertwinned challenges

Spatial

Social

Natural

Technological



Spatial:
connections
between rural
and urban areas,
food logistics
and short supply
chains



Global supply chain



Livestock transport



Small farmers' market

Technological:
hi-tech solutions
to allow for
growing food
sustainably not
only in rural
areas, but also
in the cities



Home aquaponics



Vertical farming



Large aquaponics

Natural: urban farming and management of natural resources in the cities



Rice rooftop garden in Milan



Beekeeping in the Warsaw's city centre



Mixed rooftop cropping at the AgroParisTech

Social:
new kinds of
relations between
food consumers,
retailers and
producers



CSA advert



Box scheme in Portugal



Szimpla Kert farmers' market in Budapest

World City Populations 1950 - 2030

Circle areas proportional to populations in-

1950 1990 2015 2030

Data: [United Nations 2014](#)
Design: [D.A. Smith](#) [CASA](#), [UCL](#)

Map Guide

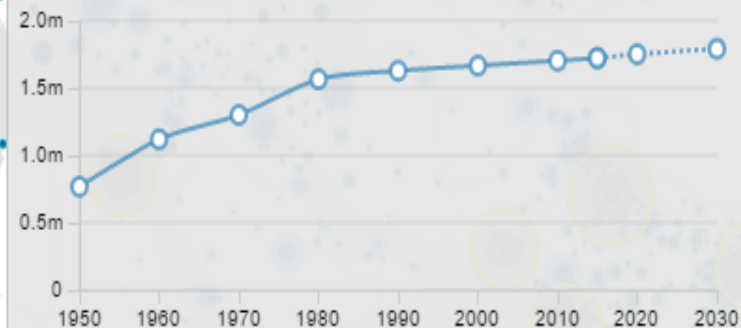
Analysis

Choose a data query to select city groups:

Largest Cities 2015

Rank	City Name	Population 2015
1	Tokyo	38.0 million
2	Delhi	25.7 million
3	Shanghai	23.7 million
4	Sao Paulo	21.1 million
5	Mumbai	21.0 million
6	Mexico City	21.0 million
7	Beijing	20.4 million
8	Osaka	20.2 million
9	Cairo	18.8 million
10	New York	18.6 million
11	Dhaka	17.6 million
12	Karachi	16.7 million

Warszawa (Warsaw) Poland



Year	1950	1990	2015	2030
Population	0.8m	1.6m	1.7m	1.8m
Global Rank	96	148	277	351
National Rank	1	1	1	1

Warsaw's Agro-Food System



Modern farmers' market



Traditional farmers' market



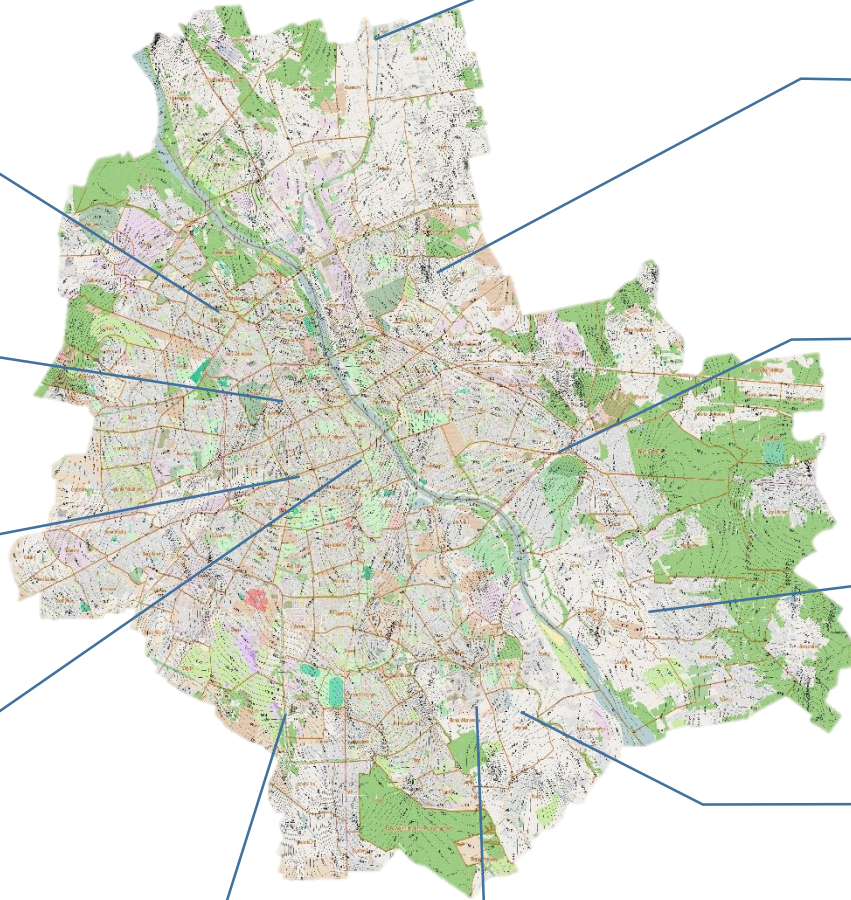
Consumers' cooperative
CSA group



Milky bar



Abandoned farm



Modernised farm



Supermarket



Allotment gardening
Building gardening



Apriary



Fatima the Hen



Lily the Pig

Key concerns of urban agro-food systems

- Semi-subsistence rather than a commodity
- More vegetables and fruit than livestock
- Low productivity vs. demand
- Pollution (air, water, soil etc.)
- Expensive technology, missing knowledge
- Lack of space, land prices and tenure
- Legal concerns, spatial planning
- Food certification, access to markets
- Lack of integrated food strategies (city-region)
- Rural-urban divide

Guardian sustainable business
 sustainable food

Is urban farming only for rich hipsters?

Farms are springing up in cities across Europe, but if they exclude lower income groups they'll do little to help shift towards sustainable food system

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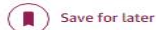
Gina Lovett

Monday 15 February 2016 12.35 GMT



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Save for later



A new wave of urban agriculture enterprises faces challenges around making the technology and produce accessible to everyone. Photograph: Mandy Zammit/GrowUp Box

Spending on ethical food and drink products – including organic, Fairtrade, free range and freedom foods – [hit £8.4bn in the UK in 2013](#), making up 8.5% of all household food sales.

By leveraging environmental credentials, such as local, sustainable and transparent production, a new wave of urban agriculture enterprises are justifying a premium price. But while a higher price point might better reflect the true cost of food production and help build a viable business, it can also exclude lower income groups, fuelling perception that local, sustainably produced food is the preserve of food elitists.

Making urban grown produce affordable

“This is a real challenge,” says Kate Hofman, CEO and co-founder of London-based aquaponics enterprise [GrowUp Urban Farms](#), which produces fish, salads and herbs in unused city spaces to sell wholesale. Unit 84 – its aquaponic, vertical farm – is housed in an industrial warehouse in east London. Launched in autumn last year, it has a projected annual production of 20 tonnes of greens, salads, and herbs (enough for 200,000 salad bags) and four tonnes of tilapia (cichlid fish). It sells its produce as wholesale to local restaurants and grocers.



Most popular



Oscars 2016: Leonardo DiCaprio and Brie Larson win as Spotlight shocks

Possible Horizon 2020 Calls	Deadline
CIRC-05-2016: Unlocking the potential of urban organic waste	8 March 2016
SCC-02-2016-2017: Demonstrating innovative nature-based solutions in cities	8 March 2016
SCC-03-2016: New governance, business, financing models and economic impact assessment tools for sustainable cities with nature-based solutions (urban re-naturing)	8 March 2016
SCC-04-2016: Sustainable urbanisation	8 March 2016
KIC: Food4Future - Sustainable supply chain from resources to consumers	14 July 2016
SFS-16-2017: Bee health and sustainable pollination	14 February 2017
SFS-34-2017: Innovative agri-food chains: unlocking the potential for competitiveness and sustainability	14 February 2017

Thank you for your attention!



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