THEME 01

Urban agriculture

FOOD AGRICULTURE CITY

We are moving to cities in a fast pace. Rapid urbanization is taking us farther away from the countryside and the sources of our food production. This leads to costly problems such as food waste and health issues. Urban agriculture can address these problems by creating integral solutions.

Our observations

- In 30 years' time, more than two-thirds of the world's population will be living in urban areas, according to a United Nations report. Today, already more than half of the world's population live in an urban area. Rapid urbanization into cities puts serious strains on the food chain (with increasing meat consumption as the most important example of this) and municipal water supplies.
- Urban health problems are growing. High intake of energy-dense food that is cheap and available anywhere and anytime, coupled with limited physical activity, leads to rising health problems, especially obesity. Citizens of lower economic classes particularly struggle to reliably access nutritious, healthy food.
- Around the world, we waste approximately a third of the food produced. Although food is lost along the chain, most is lost towards the end of it: at restaurants or households.
- Research shows that urban agriculture, defined as the growing of crops in cities, could produce 10% of the global output of legumes, roots and tubers, and vegetable crops or 180 million metric tons of food a year. Furthermore, this study has quantified that the benefits of urban agriculture (energy savings, climate regulation, biological control of pests, etc.) could amount to $80-160 billion annually. These are encouraging findings for urban planners and local leaders to consider urban agriculture more seriously.
- Louise Fresco writes that modern agriculture can become more closely connected to nature. Although the countryside remains the main supplier of our carbohydrates and proteins, high-tech horticulture and food processing are coming to the city.

>> see next page

Connecting the dots

In modern times, we have made a transition from a rural, agrarian society to an urban, industrial society. This transition has yielded profound changes that, with the current speed of urbanization, pose challenges. The concept "metabolic rift" describes the problems of the widening urban-rural divide: people are increasingly separated from nature and from their food sources and are thus alienated from them. A rupture in the nutrient cycle between rural and urban areas leads to food waste. And finally, levels of overweight and obesity have risen alarmingly as a consequence of nutrition transitions, e.g. going from locally produced, traditional food staples to energy-dense, modern diets: our metabolism is not always capable of effectively balancing energy input-output.
Food waste and diet-related diseases are costly. However, the ubiquitous, cheap food in the city does not represent these true costs. The problematic urban reality we have created for ourselves begs the question of how to bridge the metabolic rift. Food production is key in remediating between the urban and the rural. Urban agriculture already proves an essential part in this. In what is called "agritecture", the process of infusing agriculture into the built environment, the benefits of urban spaces are used to grow plants and produce food. Examples of agritecture are found on rooftops, built-in hydroponics, aquaponics and integrated in the infrastructure of buildings as a green core. Architects are increasingly designing buildings to recycle water, to capture and grow nutrients in order to meet the demands of its inhabitants: basic needs such as food, water and clean air. This helps shorten the food chain and produce food in a way that is more attuned to the direct needs of the environments. Earlier, we wrote about how urban infrastructure could stimulate healthier lifestyles. More than building parks, agritecture can further contribute to our de-alienation from nature and food and cater to the need for fresh and vitamin-rich food in addressing diet-related diseases. While urban agriculture can increasingly provide horticulture, the production of carbohydrates and proteins will stay in the countryside. While the bulk of food production today has been moved to the periphery of urban society, the countryside and the city were historically connected, as Carolyn Steel shows in Hungry City (2013). She argues that food production actually belongs at the heart of society and introduces the notion of *sitopia* (Greek for food-place) to describe how our world is shaped by food. By recognizing the central role food plays in our lives, she hopes food can be used as a design tool to harness its potential to build cities in a smarter way. In this line of thought, in order to address the urban-rural divide, architects are looking to combine urban and rural food production in one design. As the problems of the urban-rural rift become more apparent, it becomes likelier that we will look to symbioses between the city and the countryside with food production as primary linkage.

Implications

- There is a growing appetite for online grocery shopping and having food delivered at home among younger generations. In a recent report, UBS outlines a scenario where by 2030, most meals currently cooked at home will instead be ordered online and delivered from either restaurants or central kitchens. The market for meal delivery services is growing. Some food delivery services are especially playing into the wish for healthy urban lifestyles by offering healthy meals and personal coaching in one, e.g. Euphebe.
- Cities cause enormous residual flows. At the moment, these flows are called waste, but investors are increasingly trying to gain insight into possible returns. Earlier, we wrote about how waste problems are increasingly addressed by cities as part of a more circular strategy.
- Farmers are trying to reconnect with their urban consumers. Regional networks and data platforms are built to try to remove the middleman and bring the farm directly into the kitchen, such as HalloBoer.

>> see next page