What do we know about THE FUTURE OF URBANIZATION IN RELATION TO FOOD SYSTEMS?

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Key messages

- The world is urbanizing rapidly. The global urban population increased from 2.87 billion in 2000 to 4.38 billion in 2020, a 53 percent rise, and is projected to reach 6.57 billion by 2050, representing 68 percent of the world's population (World Bank 2024a).
- Urbanization is often associated with structural economic transformation, marked by a growing share of nonagriculture sectors (that is, industry and services) in gross domestic product (GDP) and employment, as well as increased productivity and incomes – ideally driven by high-productivity industries.
- Rapid urbanization typically leads to significant growth in market volumes (Reardon and Timmer 2014; Minten et al. 2020). However, this growth can result in declining diet quality due to reduced availability of fruits and vegetables. Additionally, improving sanitation and food safety becomes a major challenge.
- Excessively rapid urbanization can lead to the development of urban slums and increased poverty, and it often coincides with underinvestment in agriculture and the rural economy, exacerbating rural poverty.
- More research is needed, using detailed spatial data to link biophysical and socioeconomic outcomes, to better understand the ongoing urbanization-driven transformation of food systems.

RECENT TRENDS AND CHALLENGES

Although annual global population growth slowed from 2.1 percent in 1970 to 1.2 percent in 2022, the total world population continues to rise, increasing by 27.3 percent between 2000 and 2020, from 6.14 to 7.82 billion. The world's rural population remained nearly constant, increasing by just 0.2 percent over the same timeframe. As a result, by 2020, 56.0 percent of the world's population lived in urban areas, up from 46.6 percent in 2000.

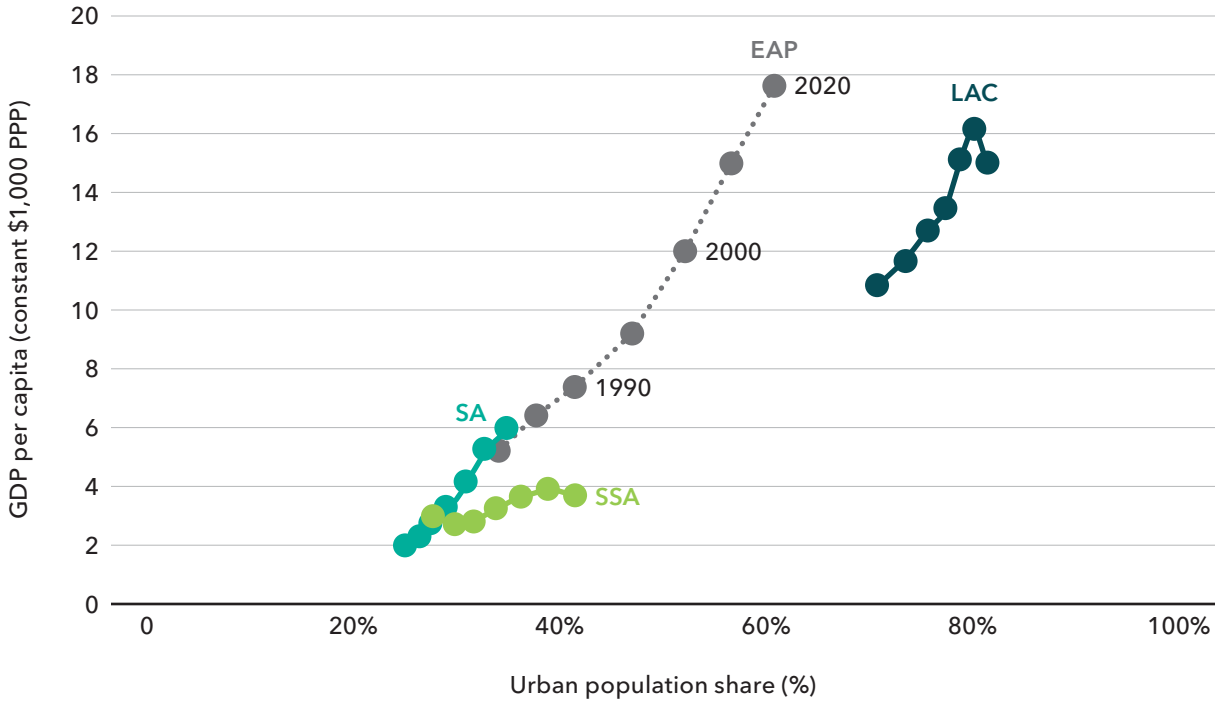
In many countries, increased urbanization has coincided with and contributed to rapid economic growth. This is partly due to structural transformation of the economy, where the share of nonagriculture sectors (that is, industry and services) in GDP and employment rises. Labor productivity in industry and services is typically higher than in agriculture, so shifting resources to these sectors boosts overall productivity and income levels. Moreover, the concentration of economic activity that accompanies urbanization can lead to further productivity gains through positive agglomeration effects due to economies of scale in infrastructure (for example, electricity and water supply), lower transport costs within cities, and improved information flows (Fujita, Krugman, and Venables 1999; Henderson and Wang 2005; World Bank 2009).

Both the urban population share and GDP per capita rose sharply in East Asia and the Pacific (EAP) between 1990 and 2020 (Figure 1). South Asia is on a similar trajectory, with its urban population share and real GDP per capita in 2015 and 2020 projected to be comparable to those of EAP. In Latin America, urban population shares have averaged nearly 30 percentage points higher than those in EAP. However, due to rapid economic growth, EAP now has a higher per capita income. Sub-Saharan Africa, which had urbanization and per capita income levels similar to those in South Asia in 1990, saw urbanization rise sharply from 27 percent to 38 percent, while its per capita GDP increased by only 25 percent.

LATEST FORESIGHT RESEARCH

Reardon and Timmer (2014) describe five interlinked aspects of the agrifood system that "are occurring rapidly

FIGURE 1 Economic growth and urbanization by region, 2000–2010



Source: Thurlow et al. (2019) and World Bank (2024b).

in Asia, and are well along in Latin America, and emerging in Africa": urbanization, diet change, agrifood system transformation, rural factor market transformation, and intensification of farm technology. Dietary changes — such as increasing diversity and rising consumption of non-grain foods, processed products, and prepared foods — typically accompany urbanization. As urban markets expand, food supply chains and markets are also transformed as, for example, in the case of teff in Ethiopia (Minten et al. 2016). In the later stages of this transformation, large-scale retail and secondary processing sectors emerge, frequently supported by substantial foreign direct investment. Rural factor markets, especially non-farm labor markets, develop along with input markets to enable intensification of agricultural production and increases in productivity.

In most of Africa, where urbanization rates remain low, structural transformation has been limited. Investments in infrastructure, such as transport and Internet connectivity, are needed to help small towns expand downstream processing and marketing services. However, excessively rapid urbanization can lead to the growth of urban slums and increased poverty, particularly when underinvestment in agriculture and the rural economy drives rural-to-urban migration at a pace that exceeds investments in the urban infrastructure necessary to support rapid economic growth in the urban economy (Dorosh and Thurlow 2014, 2018).

Diet quality may decline with increased urbanization due to lower availability of fruits and vegetables in urban centers. Improving sanitation and food safety is another major challenge, requiring the development of effective governance mechanisms to implement and enforce regulations and standards to limit the spread of noncommunicable diseases (Resnick and Swinnen 2023).

Several recent studies have used detailed spatial data to analyze the biophysical and socioeconomic outcomes of food systems. Liu and colleagues (2023) examine variations in dietary water footprints (DWF) from household consumption patterns in China, finding that while plant-based foods dominate consumption, animal-based foods have higher DWF and contribute to regional inequalities. De Vos and colleagues (2024) combine spatial projections of urban expansion in Africa with a partial equilibrium economic model to estimate the future increases in rice production, consumption, and agricultural methane emissions. Model simulations by Dizon, Sherwani, and Su (2023) show that Africa will experience the greatest overlap between food-producing areas and urban expansion, particularly under a scenario of significant challenges to climate change adaptation. Using a very different approach, Rusca and colleagues (2022) construct a socioenvironmental scenario of the possible impacts of an unprecedented drought in Maputo, Mozambique, and argue that "future droughts in Southern Africa will probably polarize urban inequalities, generate localized public health crises and regress progress in water access."

KEY GAPS AND OPPORTUNITIES FOR FORESIGHT RESEARCH

More research is needed to explore the impacts of evolving market structures that accompany urbanization in most developing countries, particularly in promoting competition and preventing excessive concentration of market power for perishable commodities. Work on policies and investments aimed at improving urban diets and food safety — especially regarding fruits, vegetables, and meat products — could have major positive impacts on nutrition for urban households. Spatial analysis and policies to promote economic growth in small towns are essential for preventing excessive rural-to-urban migration. Finally, potential exists for new uses of artificial intelligence to deepen our understanding of changes in employment, food markets, and consumption patterns linked to ongoing urbanization.

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Related chapters on the future of food system drivers and impacts, regional and national perspectives, food commodities, and foresight tools are available in our Table of Contents.

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