

The world is increasingly urban. It is projected that already more than half of the world's population live in cities.¹ In this context, if localizing the food system is to be a principle strategy for improving sustainability, a fundamental question when considering large cities is: "to what degree can food be produced locally?"

According to the U.S. Census Bureau, urban areas represent densely developed territory and encompass residential, commercial and other non-residential urban land uses. To qualify as an urban area, a town or city must encompass at least 2,500 people, of which, 1,500 must reside outside institutional group quarters, such as college residence halls, residential treatment centers, group homes, military barracks and correctional facilities.² Two recent studies have examined foodshed optimization in regions with urbanized areas. One study mapped potential foodsheds that could theoretically feed urban centers in New York state.³ The other explored per capita cropland requirements in an eight-state region in the Midwest, which included Iowa, Illinois, Missouri, Kansas, Nebraska, South Dakota, Minnesota and Wisconsin.⁴

THE CHALLENGE OF FEEDING BIG CITIES

Urban regions are often located outside of areas that have ample available cropland for food production. This means they are estimated to have zero production capacity relative to the needs of their populations and cannot generate enough food to feed the people who live there. Given the food needs inherent in big cities, feeding big cities may require food to travel great distances.

LAND AVAILABILITY AND FOODSHED POTENTIAL

When examining the foodshed of New York, studies show that New York City is poorly positioned geographically to compete in a model that is designed to minimize the transport of food. New York City has an enormous population, and even if it received all of the food that could theoretically be produced in the state, the state would meet just 55 percent of its total food needs.⁵ These findings reinforce the notion that local food production is not always the best or most realistic solution and suggest that regions with densely populated urban areas must rely on broader foodsheds to meet dietary needs.

A study exploring cropland requirements in the Midwest found that larger cities like Chicago, Minneapolis, St. Louis, Kansas City and Des Moines could be sustained by foodsheds extending relatively small distances. The Chicago area, for example, which represents the largest concentration of consumers in the study area, could meet the food needs of its population within a 76-mile radius. Minneapolis, St. Louis and Kansas City could all become self-sustaining in under a 40-mile range and Des Moines within a 10-mile radius of the city.⁶

In the Midwest, the study concluded that reducing the size of foodsheds is an important goal of sustainability and resilience for any region, but not at the expense of human nutrition.⁷ Both studies reinforced the importance of considering geography of food consumption and agricultural production simultaneously.

Foodshed potential is determined on a scale, which is based on both population demand and production supply. Midwestern cities tend to have smaller populations and production infrastructures close to the urban centers. However, the methods used to reach optimal potential are the same. To learn more about which foods should be grown locally when land is limited, visit the [limited land fact sheet](#).

1 United Nations Population Fund. (2007). State of world population 2007: Unleashing the potential of urban growth. New York: United Nations Population Fund. Retrieved from <http://www.unfpa.org/swp/2007/english/introduction.html>

2 U.S. Census Bureau. (n.d.). 2010 census urban and rural classification and urban area criteria. Retrieved from <http://www.census.gov/geo/reference/ua/urban-rural-2010.html>

3 Ibid.

4 Hu, G., Wang, L., Arendt, S., & Broeckenstedt, R. (2011). An optimization approach to assessing the self-sustainability potential of food demand in the Midwestern United States. *Journal of Agriculture, Food Systems and Community Development*, 2(1), 195–207.

5 Peters, C. J., Bills, N. L., Lembo, A. J., Wilkins, J. L., & Fick, G. W. (2012). Mapping potential foodsheds in New York state by food group: An approach for prioritizing which foods to grow locally. *Renewable Agriculture and Food Systems*, 27(2), 125–137.

6 Hu et al. (2011).

7 Ibid.