

Food: From Globalization to Localization

We often think that the globalization of food systems, i.e., production, distribution, and consumption, brings greater product availability and diversity of food choices. However, some recent studies show that such affluence of food choices in some countries leads to the lack of food options in other geographies, resulting in place-based inequalities, food insecurity, homogenization of supply chain, and natural degradation on a grander scale.



The Rise of the Local Food Movement

Local food is a broad term that emphasizes food roots in relation to geography, history, and culture. [Gail W. Feenstra](#) defined Localized Food Systems as defined as "rooted in particular places, [LFS] aim to be economically viable for farmers and consumers, use ecologically sound production and distribution practices, and enhance social equity and democracy for all members of the community."

Farm to table and local food go hand in hand in the U.S. From a historical perspective, the U.S. farm-to-table movement, which looks similar to localized food systems, [launched with the postal system in 1914 to reach urban consumers](#).

"[The] farm-to-table movement was an ambitious postal initiative that took place during President Woodrow Wilson's administration, seeking to transport produce directly from rural areas to cities. The program entailed picking up farm-fresh products—butter, eggs, poultry, vegetables, to name a few—and taking them as directly and quickly as possible to urban destinations. It was conceived and launched in peacetime but took on additional significance during America's eighteen-month

involvement during what we know today as World War I. In the course of that bloody conflict, the experimental motor truck routes set up as part of that program were seen by many as important to the nation-wide food conservation campaign."

A shift from farm to table to processed foods happened after World War II. But, thanks to the hippie movement, the 1960s saw the return of farm to table. Chef Alice Waters and her Chez Panisse restaurant and the launch of the rise in popularity of local, organic food brought farm-to-table back to the American dining conversation.

Community Food Systems Versus Globalized Food Systems

The [New Jersey Agricultural Experiment Station](#) says four aspects make community food systems differ from the globalized food systems:

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Food security: addresses food access within a community context, especially for low-income households

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Proximity: the distance between various components of the food system. Community food systems have shorter distances than global food systems

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Self-reliance: the degree to which a community meets its own food needs. The goal is to not rely on outside sources for food or to create a community partnership that trades food.

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Sustainability: [this includes](#) environmental protection, profitability, ethical treatment of food system workers, and community development.

Are Vertical Farms the Answer to Localized Food Systems?

Vertical farms appear to be one way to tackle the need for localized food systems. But, when we look at the four features needed for community food success, there may be some challenges.

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Food security: In recent years Center for Disease Control and Prevention in the U.S. investigated several *E. coli* (*Escherichia Coli*) outbreaks and found out that all of them were from green, leafy vegetables. In most cases, the *E. coli* outbreak was related to washing practices of the vegetables, with dozens of people being affected every year. With vertical farming, this is not an issue; vertical farming is dirt-free and requires no washing of the vegetables. This alone can prevent foodborne illness outbreaks.

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Self-reliance: Vertical farming presents a unique opportunity to grow food on already developed land and increase domestic food production.

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Sustainability: may be questionable due to the large amount of energy it takes to grow crops: between 30-176 kWh per kg more than greenhouses.

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Proximity: here, vertical farms make a significant impact. If a farmer grows lettuce on an agricultural field of 1x1 meter, 3.9 kg is yielded every year. When grown in the same area in a greenhouse, 41 kg (~11 times more) can be harvested. [Vertical farms can even yield twenty times more lettuce than agricultural fields.](#)

Indoor Farming Startups in Action

The indoor farming movement is rising. We see startups entering this space daily. Some of the ones that have caught our eye include:

[AgEye](#) is an AI-powered platform for indoor farming designed to improve operations, that is, to increase yields and reduce operational costs. It provides automated data collection (via cameras and computer vision), resulting in increased time for the grower to focus on actually growing.

Turkish indoor farming solution, [Vahaa](#), combines vertical hydroponic agriculture technology with IoT to produce greens all year long in any closed environment. With the Vahaa Hanging Garden, lettuce, arugula, mint, basil, and thyme can be grown on a wall, and people can control the process with the Vahaa App. Simple - and the realization of the hippie desire of the 60s to consume local organic food – in our case, the greens- is as close as your walls.