

Disparities in Community Food Environments¹

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Introduction

The community food environment (CFE) refers to the areas where people shop for and consume food (Caspi et al., 2012). Food stores, markets, food retail establishments, community and school food gardens and farms, institutional foods, and community-based food assistance programs all contribute to the abundance of or lack of healthy foods in CFEs and play a critical role in food and nutrition security. They can also be key influencers of dietary patterns (Yamaguchi et al., 2022). Disparities in food availability, affordability, and access can worsen poor health outcomes for both adults and children.

Food and nutrition security (FNS) refers to the ability of families and individuals to access nutritionally adequate, affordable, and culturally acceptable foods that are readily available in a socially acceptable way (Holben & Marshall, 2017; Simelane & Worth, 2020). In 2021, 10.2% of all US households and 12.5% of US households with children experienced low or very low food security (USDA, 2022). Food security and nutrition security are typically considered separate concepts, where food security refers to the ability to access enough food to maintain a healthy and active lifestyle (USDA, 2022), and nutrition security is focused on the “dietary healthfulness” of food (Calloway et al., 2022). However, these concepts naturally blend, and they emphasize the importance of both securing enough food and ensuring that food supports health across the lifespan. These concepts are further reflected in the 2022

White House Conference on Hunger, Nutrition and Health, where the goal is to “end hunger and increase healthy eating and physical activity by 2030 so that fewer Americans experience diet-related diseases like diabetes, obesity, and hypertension” (HHS, 2022).

Consuming nutritious foods through a healthy dietary pattern is key to maintaining lifelong health (CDC, 2021). According to the 2020–2025 *Dietary Guidelines for Americans*, a healthy dietary pattern associated with reduction of certain conditions and diseases consists of nutrient-dense forms of foods and beverages, with higher intakes of vegetables, fruits, whole grains, dairy, lean proteins, nuts, and unsaturated fats, and relatively lower consumption of red and processed meats, sugar-sweetened foods and beverages, and refined grains. Healthy dietary patterns have been linked to reduced risk of all-cause mortality, cardiovascular disease, type 2 diabetes, poor bone health, and certain types of cancer (USDA & HHS, 2020).

The effects of CFEs on community and individual FNS vary depending on social, political, cultural, and other environmental factors (Sadler et al., 2016). Improving CFEs to increase community FNS may help to support underserved neighborhoods and populations, create economic opportunities, and improve community health. This document aims to enhance understanding of the disparities that can exist in CFEs. For more information about how to assess CFEs, see the Ask IFAS publication, “Strategies to Assess and Enhance the Community Food Environment.”

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This publication reviews types of food environment disparities and their implications for FNS. This document is intended to be used by local government officials, nonprofit and community organizations, policymakers, and Extension agents involved in food and community development to identify and consider potential CFE disparities. It can also be used by the general public to better understand how CFE disparities play a role in FNS.

Food Environment Disparities

Disparities in the food environment include lack of sufficient access to healthy food, or availability of foods that are calorically dense or nutrient-poor (e.g., fast food). The ability to access healthy foods differs based on the resources available to individuals, including income, vehicle ownership, social and family networks, and time resources (Ver Ploeg et al., 2012). Community or policy-level systems, such as competing retail, governmental regulations, food taxes, and distribution systems, also play a role in the way residents interact with their food environment (Sadler et al., 2016).

Census tracts are subdivisions of cities or counties that typically consist of 1,200 to 8,000 residents. These areas are classified by the US Census Bureau according to several characteristics, including socioeconomic ones (2022). Census tracts classified as low-income, low-access (LILA) are defined as having at least 500 people living at a poverty rate of 20% or greater, more than a half mile (in urban areas) or ten miles (in rural areas) from the nearest food retail store (CRS, 2021). Food environment scholars further describe these areas as *food deserts*, *food swamps*, or *food mirages*, depending on their environmental characteristics (USDA, 2021). However, as food environment and public health researchers and practitioners have gained a deeper understanding of the social and economic nuances associated with food environment disparities, revised terminology and updated conceptions of these areas have been considered. Food justice advocates encourage reframing the terminology of food disparity in LILA neighborhoods to *food apartheid* as a way to more aptly describe the underlying social and economic reasons of why LILA areas exist, and to separate natural phenomena (deserts, swamps, mirages) from systemic social issues (Joyner et al., 2022).

Prevalence of LILA areas varies from state to state. In 2015, nearly 13% of the US population lived in a LILA census tract, and nearly 15% of Florida's population lived in one. The South has the highest number of LILA tracts compared to the rest of the United States. In 2019, Mississippi, South Carolina, Louisiana, and Georgia had the highest

percentages of LILA census tracts in the country, while Vermont, Hawaii, Iowa, and California had the lowest. 32% of Mississippi's census tracts are considered LILA, whereas just 6% of Vermont meets LILA census tract qualifications (Rhone et al., 2019).

To identify LILA areas by census tract across the US, visit the USDA's Food Access Research Atlas at <https://www.ers.usda.gov/data-products/food-access-research-atlas/go-to-the-atlas/>. State-level prevalence of LILA census tracts is made available by the Economic Research Service (ERS) at the US Department of Agriculture (USDA) and can be found here: <https://www.ers.usda.gov/data-products/food-access-research-atlas/state-level-estimates-of-low-income-and-low-access-populations/>.

Food Deserts

The USDA defines *food deserts* as low-income census tracts that lack accessible supermarkets or large grocery stores (Wright, 2021). Residents who live in food deserts have to travel outside of their neighborhoods and/or lack dependable transportation to acquire healthy foods (Savelle & O'Neal, 2017). In 2021, 10% of US census tracts were considered food deserts (Wright, 2021).

The existence and persistence of food desert areas in the US is attributed to a number of complex historical factors. In the early 1970s and 1980s, when affluent White households moved from inner cities to outlying suburban areas, grocery stores followed, closing nearly half of existing retail establishments (Walker et al., 2010). This reduction in food stores had an impact on residents' ability to purchase weekly groceries as well as broader implications for the socioeconomic well-being and health of inner-city communities and non-White residents (Karpyn et al., 2019). Ongoing community disinvestment brought on continued poverty, leaving communities without the purchasing power to attract retail food businesses or the financial resources to support new food retail stores (Walker et al., 2010). In addition to consistently low access to healthy foods, the socioeconomic factors have made it difficult to correct the disparity without a considerable amount of non-profit and governmental intervention (Sadler et al., 2016). In 2011, the Healthy Food Financing Initiative (HFFI) was developed through the USDA, the US Department of the Treasury, and the US Department of Health and Human Services. It was implemented as part of the 2014 Farm Bill to stimulate healthy food access in LILA areas (Moran et al., 2020). For more information about the HFFI, refer to the Ask IFAS publication, "Strategies to Assess and Enhance the Community Food Environment."

Questions have been raised about the association between living in a food desert area and the eating behaviors thought to exacerbate overweight, obesity, and their associated chronic diseases. With an established association between food desert communities and obesity prevalence (Morland & Evenson, 2009), public health practitioners and researchers hypothesized that grocery store implementation may affect community-level nutrition health outcomes (e.g., dietary patterns and Body Mass Index [BMI], a common indicator to categorize weight status) (Cummins et al., 2014). However, evidence has shown that new grocery stores, especially in areas that have experienced decades of food disparity, have little effect on changes in dietary patterns and BMI (Dubowitz et al., 2015; Li et al., 2021). Additionally, whether they live in food desert areas or not, residents often travel beyond the closest grocery store to purchase groceries, making food store proximity an insignificant direct factor of nutritional health outcomes (Li & Kim, 2022). It has been suggested that the implications of living in areas with inadequate community infrastructure that struggle economically—such as food deserts—may have more of an impact on health and well-being outcomes related to stress, depression, disordered or disrupted eating patterns, or child nutrition, rather than the absence of food alone (Karpyn et al., 2019).

While these types of LILA areas are still a major concern, access to foods has been slowly increasing, especially in urban areas (Karpyn et al., 2019). According to a 2017 report of food access trends from 2010 to 2015, the number of low-access urban areas, which uses 0.5 mile or 1 mile to the nearest food store as a proxy, decreased during that time. Low-income residents in urban areas actually lived closer to food stores than medium- to high-income residents, and most SNAP participants lived less than a mile from the nearest food store. However, in rural areas, where access is defined by having a food store within a 10-mile radius, low-income residents and SNAP participants still lived farther from the nearest food store than middle- or high-income residents (Rhone et al., 2019).

Food Swamps

The term *food swamp* is used to describe LILA areas with an abundance of unhealthy and inexpensive food options such as fast-food outlets, liquor stores, and non-nutritious foods. Food swamps are measured by calculating a given area's percentage of unhealthy food establishments (full-service restaurants, corner stores, and convenience stores) to healthy food establishments (supermarkets, grocery stores, and farmers markets) (Cooksey-Stowers et al., 2017), or

by areas with four or more unhealthy food establishments within a 0.25-mile area (Hager et al., 2017).

Calorically dense foods tend to have a longer shelf life, are more affordable and convenient for consumers with low income, and are economically viable products for gas stations, convenience stores, and dollar stores to stock. Similarly, fast food restaurants—which are more prevalent in lower-income ethnic and racial minority areas compared to middle- to high-income areas—provide foods that are more calorically dense and nutritionally poor than foods prepared at home (Fleischhacker et al., 2011).

Food swamps are associated with increased obesity rates, particularly in areas where residents are less likely to drive or use public transportation (Cooksey-Stowers et al., 2017). In some cases, higher hospitalization rates in populations with diabetes have been associated with food swamp areas; however, the causal pathways for the relationship between environments and health outcomes are not well understood (Phillips & Rodriguez, 2019).

Food Mirages

Food mirages are areas where grocery stores and healthy food exist, but high prices or other social factors (e.g., cultural appropriateness or a lack of community participation) make the foods inaccessible to residents (Breyer & Voss-Andreae, 2013). These environments can occur when low-income neighborhoods rapidly gentrify, and the influx of new or comparatively higher-income residents creates market opportunities for food establishments that address only those residents' needs. This is sometimes referred to as food gentrification. These types of healthy food establishments—especially large, high-end supermarkets—are unaffordable for existing and sometimes long-term residents, and can also be unwelcoming, unfamiliar, or misaligned with existing populations' cultural food needs. In these instances, new food establishments may theoretically improve food access, but actually further marginalize food- and nutrition-insecure populations (Sullivan, 2014).

Food Apartheid

The term *food apartheid*, coined by food activist Karen Washington, points to the policies, systems, and political actions that have exacerbated the economic disparities and racial discrimination often associated with food deserts, swamps, and mirages—or LILA areas (Schlangen, 2021). A lack of economic investment in healthy food systems in communities with low income or a high proportion of racial minorities at local-, state-, and federal-government levels is described as the primary cause for the myriad

disparities that are found in these areas (Karpyn et al., 2019). The concept of food apartheid incorporates the fact that practices like redlining—a discriminatory federal banking and real-estate practice that denied racial minorities access to loans and real estate in certain geographic areas—have contributed to the lack of generational wealth and the poverty among racial minorities that further spur food environment disparities (Morland, 2015; O'Hara & Toussaint, 2021). It points to the racial and socioeconomic factors that are associated with food and nutrition insecurity and describes how prolonged community disinvestment can exacerbate poor individual and community health and wellbeing (Joyner et al., 2022).

Conclusion

The CFE plays a functional role in supporting FNS across diverse communities. Environmental disparities in food access have historically been named for geographic analogies. However, a shift in terminology towards *food apartheid* encompasses the underlying politically- and socially-based causes that have contributed to the proliferation of food-disparaged areas across the US. The USDA has tracked food environment disparities since 2009 and made data widely available through the Food Access Research Atlas, allowing researchers and public health practitioners to better design targeted community-level interventions that improve the CFE (Karpyn et al., 2019).

Strategic implements for availability, affordability, accessibility, and acceptability may aid in improving healthy food consumption and support a reduction in poor health outcomes among participating community members (Caspi et al., 2012). However, while associations have been made between the food environment and health outcomes, the strength of these associations or ability to make causal inferences in research is limited (Woodruff et al., 2018). Implementing policies and programs that promote healthy foods in the community requires comprehensive input from multiple stakeholders and persistent dedication to improving the food environment (Engler-Stringer et al., 2019). Ensuring that the food environment has plenty of healthy foods that are affordable and accessible to all residents is a critical undertaking in making food environments equitable and improving community health.

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