Scarcity in the Land of Plenty
North American food deserts and how they are being mended

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Introduction

A food desert is a geographic area with limited access to supermarkets and affordable nutritious food. Food deserts are defined by physical access, affordability and availability of healthy foods. It is a low income rural county or a low income urban neighborhood. The world produces enough food to feed its inhabitants but access through the uneven food distribution system creates unequal access. The economics of grocery store locations and retailer economies of scale are also a growing factor in the existence of food insecurity throughout the United States. This paper will define food deserts explain why they exist, and give examples of what being done to alleviate them. The case studies are an urban and a rural location (New York City and Marin County, California) where government planning and policies as well as grassroots interventions are working to improve food security and access.

What is a food desert?

A ‘food desert’ is a geographic area with low food security that is measured using physical distance, availability or price. “Food insecurity means that a household had limited of uncertain availability of food, or limited or uncertain ability to acquire acceptable foods in socially acceptable ways (i.e., without resorting to emergency food supplies, scavenging, stealing or other unusual coping strategies (Imhoff 47). In 2005, food insecurity affected 12 percent 35 million people) of US households (Imhoff 47). Food insecurity affects adults and children, especially in low income areas (Figure 1).

Not all neighborhoods and counties have supermarkets, which means residents a greater distance to travel to get food products. Families and disabled persons living in food deserts without cars or access to convenient public transportation also have more difficulty reaching supermarkets.

In 1995 a standard shopping trip for the average U.S. family involved a six-mile drive lasting no more than 12.5 minutes. In rural counties, residents generally have further to travel, ...rural counties in the [Lower Mississippi] Delta traveled thirty or more miles to purchase groceries at supermarkets in an effort to avoid high-priced smaller grocers and inadequate quality food sold at convenience stores and gas stations. (Hinrichs and Lyson 201).

Smaller grocery stores, bodegas and convenience stores rarely carry healthy food options and the food products they do carry are generally more expensive than the same items carried at supermarkets (Hinrichs 201-202). Physical access to healthy
foods is a very significant factor in identifying food deserts. In rural locations good access to a grocery store is considered a 10-mile radius (Pearson). In urban settings mileage is not as significant, access to transportation is the physical barrier to reaching supermarkets. When there isn’t a large grocer nearby, the prices and selection at smaller markets, bodegas and convenience stores become another barrier to food access.

The cheapest calories available in the U.S. are found in fast food. Many areas that are considered food deserts have easier financial access to fast food restaurants than to grocery stores (Figure 2). The price of healthy foods, is increasing; the change in food prices between 1985 and 2000 went up 38% for fruits and vegetables meanwhile the cost of red meat reduced 3%, poultry reduced 5%, sugar and sweets reduced 8%, fats and oils reduced 15% and soft drinks reduced 23% (Imhoff 94). The foods that are cheap are unhealthy. When grocery stores are far residents without access to transportation in food deserts are forced to purchase food at smaller retailers,
where prices tend to be higher, as well as food options are limited. “Persons receiving food stamps stand little chance to achieve food security without convenient access to food retailers… the Food Stamp Program limits total assets held by program participants to no more than $6550, limiting the ability of a family to simultaneously own reliable transportation and receive food stamp benefits,” (Blanchard and Lyson 6). This phenomenon of financial inaccessibility is perpetuated by the transportation and available options for people without cars and areas without public transit.

“Originally coined to describe inner-city urban areas with no green grocers or fresh-food options, [food desert] is a fitting description of many rural areas (Halweil 32).” The concept of the food desert began as a way to define places without grocery stores, but the definition has been expanding. The concept of a food desert is fairly clear to understand in rural locations where the physical distance is an obvious barrier to food access. In urban areas food deserts exist but the more significant explanations for their existence are affordability and availability of quality food options. There have been many studies recently of major metropolitan cities exposing urban food deserts including Chicago, Philadelphia and New York. Rural studies have been done for the entire country as well as individual states. Most states have food desert counties and urban areas (Figure 3). Connecticut and Pennsylvania, while not considered rural overall, have several counties each without supermarkets (Pearson; Hartford Food System 2). California is one of the largest producers of produce in the country and it is surrounded by areas of severe food insecurity.

Figure 4. Food Desert Counties in the Nonmetropolitan South. Blanchard and Lyson, 3.
**Why do food deserts exist?**

Enough food is produced to feed the people of the world (World Hunger), but the distribution system creates locations of over-access and places of completely inadequate access. The reasons have to do with economies of scale, cost of retail space and neighboring competition.

In the Southeast United States the number of grocery stores is unevenly distributed across the landscape creating disparities in access throughout nonmetropolitan counties (Blanchard and Lyson 1). The Southeast has the highest concentration of food desert counties in the U.S. (Figure 4). Additionally, over 70 percent of the low income populations in this region must travel 30 or more miles to access the lower food prices offered by a supermarket or large grocery store (Blanchard and Lyson 1). The way that food is distributed throughout the country is what creates the areas of abundance and scarcity.

The economics of retail space and economies of scale between small grocers and large supermarkets also have a huge impact on food access. As the cost of space increases in urban areas, large retailers move to suburbs leaving cities underserved. In suburban and rural areas Wal-Marts are erected and neighboring towns lose business because the economies of scale for small groceries stores cannot beat the low prices of big-box supermarkets and Wal-Mart Supercenters. Jimmy Proscia, the co-manager of a Key Food in Flushing says, “the business has gotten a lot harder in the 33 years since he started. Competitors cut costs by hiring nonunion workers. Big-box stores buy in bulk and further eat into his sales. “You got gas stations now selling milk for $2.99,” he said. “Go to the drug store and they’re selling what we have. It’s ridiculous.” (qtd. in Gonzales). In rural towns, “as Wal-Mart expands rapidly into groceries, it is causing upheaval in yet another corner of the economy. When a Supercenter moves into town, competitors often are wiped out, taking high-paying union jobs with them” (Goldman and Cleeland). If families do not have access to transportation, they are left to shop at the smaller grocery stores, if they are able to stay open, paying higher prices. In urban settings there are rarely large grocery stores, in many low-income areas the number of bodegas is much higher. “(A) June 2006 City Department of Health and Mental Hygiene study found that 80% of food stores in low-income communities are bodegas, but only a
third of those stores sell reduced-fat milk, and only a tenth of them sell leafy green vegetables." (The City of New York). Even with physical access to grocery stores, the prevalence of fast food restaurants selling cheap fats, salts and sugars are frequented because as one family pointed out in the film Food Inc, it is cheaper to buy a meal for a family of four at McDonald’s than it is to buy enough fresh vegetables for a meal at the grocery store.

The USDA food pyramid tells us that we should eat 11 servings of grains, 9 servings of fruits and vegetables and 6 servings of protein a day (Figure 5). Government subsidies do not support eating the foods they tell us to eat. Federal Subsidies support the production of corn, which is then sold below the cost of production to meat producers. Through this system meat is highly subsidized creating an abundance of meat, which used to be eaten on rare occasions is now standard at several meals a week in the average American household. The cost of food is a significant factor affecting even people who can get to a grocery store.

Figure 5. Why Does a Salad Cost More Than a Big Mac? http://www.pcrm.org/magazine/gm07autumn/images/pyramid.jpg
What are the consequences of food deserts?

The current conventional food system produces cheap abundant unhealthy calories and has lead to an increase in diet related health issues. “Food deserts may compound ongoing and severe nutritional problems and further exacerbate the socioeconomic gradient in health status,” (Hinrichs 214). People who are in food deserts are more likely to be stuck in the relationship between food and their health. Financial expert Suze Orman, as guest on The Biggest Loser, said American spending in obesity related issues is $147 billion dollars annually. Health care spending is on the rise while spending on food has been steadily decreasing (Figure 6), however the price of healthy calories has been rising. Calories are getting cheaper but the accessibility of healthy food in terms of affordability is going up.

Obesity was historically sign of wealth, and today “a perversity of the way our food comes to us is that it’s now possible for people who can’t afford enough to eat to be obese,” (Patel 4). Obesity in America is an epidemic on the rise. Access to healthy food options plays a role in fighting against diet related diseases like diabetes II and heart disease. A report on health relating to food access issues in Chicago showed that living in a food desert will likely increase “premature death and chronic health conditions” (Gallagher 32). Obesity in children is on the rise as well (Figure 7). “One research team recently suggested that if consumption patterns stay the way they are, today’s US children will live five fewer years, because of diet-related diseases to which they will be exposed in their lifetimes” (Patel 4-5). The cost of calories is going down, but medical expenses

![Figure 6. Food, A Shrinking Burden. Household food expenses used to take up far more of consumers' income than housing or medical care. Now food's share is half of what it was in the 1950s](http://www.nytimes.com/imagepages/2008/05/18/weekinreview/18martin-chart.html)
are going up. Reducing the rates of diet related diseases would reduce medical spending, saving the country and health insurance holders (and carriers) money. The catch-22 nature of food deserts is that without assistance they create predetermined outcomes of food insecurity because of the cost of food, increasing medical expenses due to diet related diseases such as diabetes II, coronary heart disease and cancer. Living in a food desert it is hard to improve access without change thereby leading to the continuation of food insecurity. Diet related disease like diabetes affect food budgets and food choices. The food causes health problems and inaccessibility to fresh produce and then because of the distance and cost required to travel to eat healthy, not everyone who is sick can afford to fix their diet. The health of low income and disabled people in both urban and rural settings is severely impacted by access to healthy food options.
Case Study: New York City

The city of New York has recently had food access come into the forefront on the policy level but grassroots organizations have been aware of the inadequacies of food distribution and availability (Figure 8) for quite some time now. Mayor Bloomberg has taken a person interest in food, not only in access but in availability of healthy food and the information to make informed decisions about food choices. The City of New York

recently passed the Food Retail Expansion to Support Health program. The organization Just Food has been connecting residents with fresh food since 1995 and community gardens and urban farms have been created in low income areas to increase the availability of fresh produce.

Mayor Michael Bloomberg is an advocate for healthy eating. In his time as mayor he has banned transfats, implemented required calorie listings in fast food establishments. There has been talk of a soda tax. In 2006 Bloomberg created a Food Policy Taskforce and a Food Policy Coordinator with the goal of increasing access to healthy foods in low-income communities.

In October, 2008 the New York City Department of City Planning, NYC Health and the New York City Economic Development Corporation released a study entitled “Going to Market: New York City’s Neighborhood Grocery Store and Supermarket Shortage.” The report found that the shortage of grocery stores and supermarkets was affecting 3 million New Yorkers, undeserved areas were constantly facing abandonment of large chain grocery stores and were left with pharmacies, convenience stores and discount stores that do not typically sell fresh foods. With an outlook of improving quality of life, property values and creating jobs the city proposed rezoning areas that were determined to have the highest need for a grocery store. These zoning and tax incentives were born into the Food Retail Expansion to Support Health (FRESH) program. Stores that are created with the FRESH program will primarily sell food products intended for home preparation and consumption. including fresh and frozen vegetables, fruit, meat and dairy products. The store selling area will be 6000 sq. ft. minimum, with a minimum 30% devoted to dairy, fresh produce, fresh meats, poultry and fish and frozen foods; this includes a minimum of 500 sq. ft. for fresh produce. If a store is built using the FRESH program, the store will be required to post on the exterior that is it a FRESH store and any future grocery retailers in the space will be required to meet the same guidelines. The FRESH program is an incentive program for developers to create new grocery stores with incentives such as: increased floor area in a residential building, a reduction in the required parking, redefined light manufacturing zoning regulations which reduce the permitting requirements- saving money. Sales tax exemption, mortgage recording tax waivers and property tax exemption are additional tax incentives. Energy efficiency incentives can be combined with the FRESH program.
through the New York State Energy Research and Development Authority. Along with the new FRESH program, the ‘Green Carts’ and healthy bodegas programs will also continue to exist. Prior to the government acknowledging the issues of food access, residents of the city have been combating food insecurity on their own, one of the organizations at the forefront of increasing food security in New York City is Just Food.

Just food was started in 1995 with a mission to “unite local farms and city residents of all economic backgrounds with fresh, seasonal, sustainably grown food” (Just Food). The largest and most well known program at Just Food is the Community Supported Agriculture (CSA) program. Participants pay the farmers at the beginning of the season (there are installment plans with some farmers for low income participants who cannot get the lump sum together in advance) and then are invested in the farm. Every week CSA members pick up a box of their share of the bounty. This brings farmers to the city and reduces the middlemen of stores, marketing and packaging. Other programs include: City Farms, encouraging people to grow food in the city; Community Food Education, teaching people how to cook local foods that are in season; Fresh Food For All, working with soup kitchens and food pantries to acquire locally grown food and Food Justice, policy and advocacy work in the realm of local food and

![Figure 9. Map of community gardens (above) and Map of median incomes of New York City (below), darker green is higher income.](http://www.urbanresearchmaps.org/oasis/map.aspx)
the local food system. Just Food is a Not For Profit and one of the goal in their programs is connecting NYC residents and farmers for lasting relationship that become sustainable, no longer needing Just Food to partake in the relationship.

Another effort in NYC to alleviate issues of access to fresh food is in community gardens and urban agriculture (Figure 9). Many of these gardens cluster in low income neighborhoods. Some projects, such as East New York Farms! and Added Value Farm, offer youth programs teaching gardening skills and sell produce at local farmer’s markets.

Issues of food security are being address at both the government and grassroots levels in New York City. The policies and incentive programs will help bring healthier food options to people who currently have few options. Grassroots programs are important as well because they can get things done on a smaller neighborhood scale by creating local gardens in vacant sites as well as working with Just Food to create lasting relationships to the productive agricultural land outside of the city.

Case Study: Marin County, California

Marin County is a mix of suburban and agricultural land (Figure 10). Home to 250,000 people, the county is roughly 43.5% agricultural, roughly 10% of the agricultural land is public agriculture land in the Golden Gate National Recreation Area (Raja 34). Marin County has included food in its comprehensive plan in order to facilitate the production of healthful foods and food security (Raja 34). Despite many efforts to protect them in the county, “…agricultural lands, especially the working ranches, are threatened by development” (Raja 35). In 1980 a croup of citizens created the Marin Agricultural Trust (MALT), the first land trust in the country to “focus on the preservation of agricultural conservation easements on farmland in voluntary transactions” (www.malt.org).

The residents of Marin County worked in a volunteer based Food Policy Council alongside the planning department to come up with how to deal with issues in the local food system. In 2007, the a Marin Countywide Plan was created to address issues of “the preservation of agricultural lands and resources, improve agricultural viability, and increase community food security” (Benveniste). According to the plan “these goals can
be accomplished through a wide variety of measures including minimum lot size zoning, preventing conversion to non-agricultural production, and prohibiting uses that are incompatible with long-term agricultural production; enhancing the viability of farms, ranches, and agricultural industries; increasing the diversity of locally produced foods to

Figure 10. Marin Agricultural Land Trust has permanently preserved more than 41,500 acres of Marin County farmland, but 60,000 acres are still at risk. http://www.malt.org/about/map.php
give residents greater access to a healthy, and a nutritionally adequate diet.”

(Benveniste). Some of the goals in the plan are:

- Preservation of Agricultural Lands and Resources (Goal AG-1, Marin Countywide Plan, 2007)
- Improved Agricultural Viability (Goal AG-2, Marin Countywide Plan 2007)
- Address Community Food Security (Goal AG-3, Marin Countywide Plan 2007)
- Support local food productions (AG-3.1)
- Promote local and organic food (AG-3.2)
- Enhance food security education (AG-3.3)

Issues of Food Security are the most significant goals for the alleviation of Food Deserts. The following policies are outlined under Goal AG-3.

**Encourage community gardens (AG-3.a)** Allow community gardens on underutilized land or where such use would complement current use, and amend the Development code to require space for on-site community gardens in new residential development of 10 units or greater. Work with community-based organizations to manage such gardens using ecologically sound techniques and to provide on-site water if available.

**Provide Community Education (AG-3.b)** Provide community education regarding organic and other ecologically sound techniques of farming and the benefits of its produce. Raise awareness of farmer’s market dates and times.

**Promote Edible Landscaping (AG-3.c)** Encourage fruit trees or other edible landscaping when possible in new development and when renewing planting on County property where appropriate. Include the replacement of irrigated ornamentals with drought-resistant edible plants, as appropriate.

**Use Locally Grown and/or Organic Foods in County Services (AG-3.d)** Develop and adopt a food policy and procurement program that incorporates organic and locally grown foods into cafeteria services, the jail, and County-sponsored events.

**Promote Organic Food in Schools (AG-3.e)** Support school programs, including on-site gardens, that incorporate organic foods into school meals.

**Support Local Groups (AG-3.f)** Support the efforts of local groups such as the Marin Food Policy Council that make recommendation and support forums addressing sustainable food systems. (Raja 39).

By incorporating the food system into the comprehensive plan for the County, Marin is ensuring healthy eating and food security in the future of county residents. “The County’s efforts, with the collaboration of local organizations, Food Policy Councils, and
local citizens, show that comprehensive plans can be used to achieve…” (Raja 41) food security and agricultural preservation.

Conclusion

Increasing food security and the alleviation of food deserts is an important topic that planners have been realizing is part of the responsibility as sustainable and responsible designers. Grassroots efforts and education about nutrition are also important factors in reducing widespread diet related diseases but when access to healthy food options doesn’t exist, it severely limits the options of individuals, regardless of how they would like to eat. As issues of sustainability become at the forefront of the US and world, food planning will begin to be understood as a vital part of sustainability. New York City and Marin County, California are just a couple examples of how planners and grassroots organizations are addressing the physical, quality and financial barriers to access of healthy foods.
Bibliography


‘Residents do without in America’s ‘food deserts’: Many forced to buy groceries at gas station convenience stores’ [http://www.msnbc.msn.com/id/5353901](http://www.msnbc.msn.com/id/5353901)


