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Analysis of Food Deserts in Urban America

For my problem analysis paper, I chose to investigate the sources of food deserts in urban environments and how they are currently being combatted across the globe with an emphasis on urban environments in the United States. Food deserts within America are defined as an area without access to nutritious, high-quality, affordable food and it is currently estimated that as many as 54 million people are impacted by this issue in the United States alone. I found this problem interesting and important because all people need to eat, and although you would think that in urban environments people would be surrounded by healthy and accessible food options it is currently the opposite. I was unintentionally exposed to this problem through an independent study that I did focusing on designing a hydroponic system, and by learning more about the hydroponic space I learned that the underlying issue being addressed by urban farming companies is the lack of affordable healthy food options. People of low income in urban environments face many challenges, and I believe that by actively addressing the concerning volume of food deserts not only will their health improve, but there will be a variety of other positive side effects within their communities.

Upon receiving the prompt for this paper, I knew that I wanted to analyze food deserts, but I was initially unsure of what the best method of understanding them would be. My first step was to understand the why behind the existence of food deserts, so I first went back and looked at the history of the communities currently existing within food desert zones across the globe. The cause of food deserts varies dramatically depending on the country, for example in many African countries' food deserts exist due to rapid urbanization whereas in the United Kingdom they are caused by a variety of socio-economic reasons including poor physical access and planned local authority housing. However, unlike other high-income nations, the food deserts in the United States are often concentrated in areas of low-income and

historically marginalized communities. The primary reason there is a lack of food security within these areas specifically is the lack of supermarkets within the area. In countries such as the United Kingdom the lack of supermarkets is supplemented by an increase of local grocers and marketplaces, whereas in the United States the supplement is lacking and in urban areas is often substituted with corner stores that lack the healthy food options seen in supermarkets. Because of this, it is usually those who are already disadvantaged due to income being given an even greater disadvantage of having poor quality food to provide for their families. This negative feedback loop of poor food access and low-income results in these communities having a disproportionately large amount of health problems relative to the remainder of the country including a lower life expectancy, increased risk of diabetes, and increased medical costs.

Another factor that has led to the increase of food deserts across the country are farm subsidies provided by the government. Less than 1% of farm subsidies support the creation and cultivation of healthy foods and are instead focused on producing staple products such as wheat and corn. While on face value that may not seem like a bad thing, these products are primarily used as animal feed in factory farms and as ingredients in processed junk foods, both of which actively work against providing healthy and accessible food to people across the country. Like the lack of supermarkets mentioned previously, the subsidizing of staple crops has a negative domino effect on the health of those living within food deserts, since they are eating more nutrient-poor foods and are more likely to have additional medical costs due to underlying medical conditions.

Due to the variety of negative side effects associated with food deserts in the United States, many companies are combating their existence. These groups range from grassroots efforts such as the Michigan Urban Farming Initiative (MUFI) which provides fresh produce to thousands of homes to large organizations that lobby for legal change such as Wholesome Wave. MUFI is an all-volunteer non-profit which has focused on engaging members of Detroit's North End community in sustainable agriculture [3]. Their primary focus has been on the development of a 3-acre garden in the city which has space to grow

vegetables, a fruit orchard, and interactive agriculture where children and residents can learn more about healthy food practices. Since its founding in 2011, the land has been used to grow and distribute over 50,000 pounds of produce to over 2,000 households within 2 square miles at no cost to the homeowners. I believe that MUFI has been largely successful because they have prioritized creating a sense of ownership within the community. They have developed a system where people work together to provide food for themselves and their neighbors, and across the country, there are other non-profits and local grassroots organizations following in their footsteps.

Wholesome Wave takes a different approach to eliminating food deserts across the country as they aim to show with private funds what could be done if public funds were used properly. Like MUFI, they believe that people in poverty want to feed their families well, so they have raised funds that double SNAP (Supplemental Nutrition Assistance Program) benefits when they are spent on fruits and vegetables, thereby increasing their accessibility. By proving that families of low-income will purchase healthier foods when it is within their purchasing power, Wholesome Wave then went to Congress and secured \$100M through a bill called the Food Insecurity Nutrition Incentive (FINI), which in 2018 was expanded to a \$250M baseline and renamed the Gus Schumacher Nutrition Incentive Program (GuSNIP). This program has been written into the Federal Farm Bill and requires the funds to be used within the food equity field to provide affordable access to fruits and vegetables for low-income Americans.

Analysis of the solution landscape for food deserts shows that there are a variety of different ways to successfully combat food insecurity within the United States, however, one thing that is not addressed by any solutions that I was able to find was the importance that time plays in the lives of low-income households. Often, members of low-income households are working multiple jobs, or having to take care of family members which takes away time that could be spent volunteering and obtaining food from organizations such as MUFI, or simply being able to shop and use the SNAP benefits rewards that are provided by Wholesome Wave. Because of this, I believe that a passive solution that provides easy access

to healthy foods would be the most beneficial to these families living within food deserts. Examples of spaces where I see potential in eliminating the existence of food deserts within the United States include vertical farming groups and urban farming companies which are doing great research to decrease the production costs for healthy foods. By decreasing production costs, companies such as Plenty and OnePointOne hope to provide their fresh produce at a fraction of the cost often seen within supermarkets and other commercial stores.

If I was to develop an innovative solution to this problem, I would want to first speak with people living in food deserts about their experiences trying to purchase healthy foods for their families and whether they have the time to do so. Although I have learned that policies that were in place only a few decades ago and competition within supermarket chains have had dramatic effects on the health of those living within food deserts, I would want to get a first-hand understanding of that problem. I would want to do this because by speaking with those who I am intending to help, I could potentially learn about a more important underlying problem similar to what Melinda Gates did in her novel “Moment of Lift” when she began advocating for family planning in developing countries. By getting an understanding of what problems are directly impacting a family’s ability to obtain healthy foods, I believe that I could then develop a solution that addresses as many of their identified problem areas as possible. The current solution that has been running through my mind is a low-cost autonomous hydroponic system that can grow things such as leafy greens, vined fruits, and root vegetables. This would allow for those within food deserts to grow foods within the comfort of their own homes without having to spend the time necessary to take care of a garden through traditional means such as done with MUFI. I understand that this solution idea may be sub-optimal, so I would want to test this idea with those who would be using it to see whether it addresses their needs and if any improvements could be made so it is more effective. My goal would be to provide this solution to those living within food deserts free of charge so that they can grow the healthy

foods of their choice without having to deal with supermarket transportation costs and expensive fruit prices.

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