

Food As a Commodity: Network Analysis and The Des Moines Community

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Introduction/Need for the Study

Many people in the United States lack access to healthy food, especially people of color, those in urban areas, households with children, and low-income households (Alkon & Agyeman, 2011). This research delved into the meaning of food to best address issues in the food system – defined as “the aggregate of food-related activities and the environments ... within which these activities occur” (Pinstrup-Andersen & Watson, 2011, p. 4). The food system is therefore intimately tied to broad social systems. This study sought to answer the question “*what does food mean?*” at the network and community development organization levels to better understand how to integrate food into the food system planning, implement improvements, and provide food for all.

Conceptual Framework

A network analysis was used to explain the food system of Des Moines, Iowa, its community, and the relationships among food organizations. Network analyses document the “connections between and among organizations, individuals, collectives, and social structures to understand the phenomena under study” (Broad, 2016, p. 28). The analyses expose the connections among people or organizations and the flow of information, power, and influence among them. When organizations and/or people are connected, they are more likely to choose the same option or path (Granovetter, 1973). Network analyses reveal strong ties, weak ties, people, and institutions that are central in networks and can help identify areas of the relationships that can be improved or built upon (Borgatti et al., 2009). These relationships tell a story in themselves; they explain which organizations have similar goals or strategies; who or what is most established in the region; and how food justice efforts may be bolstered through development of relationships.

In network analysis, centrality is another important element that refers to the prominence of a node in the network (Borgatti et al., 2009). More central organizations have a greater potential to influence the system at large because they are important connections for many organizations. This analysis is important, for instance, an organization with many strong ties to other organizations could be utilized in a leadership position due to its influence in the network – a crucial tool that helps in strategic food justice implementation. Network analyses not only identify where organizations can improve collaboration but also where barriers to action exist (Rongerude & Christianson, 2014) so they may be addressed. Food justice initiatives may increase the efficacy of their work by making connections between everyday life and broader social, economic, and ecological issues (Levkoe, 2014). Connections among organizations are important in alternative food movements because of a lack of funding and other resources.

Methodology

A total of 44 individuals were surveyed from 33 Des Moines food organizations involved in food security measures in this network analysis. Food organizations include grocery stores, county, and state health and wellness departments; Des Moines parks and recreation; non-profits; churches involved in food charities; food banks and pantries; soup kitchens; restaurants that donate food or time; and notable community members involved in food. These organizations or companies were included in the survey because they play an important role in the food system. Though grocery stores do not often directly assist with food access, they often have relationships with organizations that perform “food rescue” and donations (de Hooze et al., 2017). Similarly, governmental agencies are important players in food access, food safety, and efforts to increase the well-being of citizens. Schools are vital organizations included in this survey, for instance,

the Des Moines school system provides free breakfast for all students. To analyze the responses to the survey and create a network diagram, we used the program – Gephi 0.9.2, an open-source software, to create visual graphics of networks (Bastian et al., 2009). We grouped organizations by their primary role, assigning specific colors to each group. The organizations were grouped as: food-oriented non-profits; food pantries (which fall under food-oriented non-profits); refugee-oriented non-profits; other non-profits government entities; schools; and vendors. Organizations are “nodes” while their connections are “ties” in this network analysis.

Results

The analysis of the Des Moines (DSM) area food system reveals strong and weak ties between organizations within the food system. The thickness of the connecting lines between organizations are indicative of the strength, or type of the tie or connection. The size of the node that represents each organization is proportional to its centrality in the region. Analysis revealed that the DSM Area Religious Council (DMARC), Eat Greater DSM (EGDM), and three refugee-oriented non-profits (Ethnic Minorities of Burma Advocacy and Resource Center (EMBARC), Refugee Alliance of Iowa (RACI), and Global Greens are the most central agencies with the strongest ties in this network. The City of DSM, Bidwell Riverside Center (a food pantry), the Polk County Health Department, and DSM Public Schools are secondarily central in the network. These results indicate that these organizations have the most influence over the food assistance landscape of Des Moines.

Similarly, while connections exist among organizations, there are just a few main “hubs” that connect the entirety of food access organizations in DSM. When asked about the most important partners organizations work with, nearly every respondent reported that DMARC, the Food Bank of Iowa, and EGDM were the most vital partnerships to their organization. This points to the success of EGDM, a food council, and also the importance of food banks in the region. Many of the central organizations are focused on the production of food: the City of DSM and Global Greens maintain garden space for residents and refugees; EGDM is a food system council focused on the production of food; others are focused on refugee services, such as EMBARC and RACI. The network illustrates that the food system of central Iowa is focused on the production of food as well as refugee services. DMARC and Global Greens’ centrality are important. It means the faith-based aid organizations are some of the most important in food access.

Conclusion

Network analysis shows the connections and their strength among food organizations in DSM. By including food-oriented non-profits, food pantries, schools, government agencies, refugee-oriented non-profits, and vendors, it shows the flow of information and the hubs of power and influence in the area. It also illuminates the focal points of the DSM area food system: refugees, production, and the status quo of pantries, where most central organizations are focused on food production for the communities.

Implications

This network analysis points to a need to develop deeper connections among organizations involved in food access in the DSM region. Greater collaboration and network development can result in better services, resources, and knowledge sharing. Understanding the network of food organizations in the DSM area food system is imperative to increasing food justice and equity, but there are still gaps in the knowledge. To address these gaps, place-based organizations need to be analyzed as well as the lived experiences of people within the community.

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