

Improving food infrastructure to create health equity: community voices on a regional food hub model for Brooklyn, NY

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Abstract

Objective: One solution for a sustainable food system is a “food hub model” where food from local farms is aggregated and then distributed to stores, farmers markets, food pantries, etc. This study, within a low-income urban setting, examined residents’ food purchases and demands for local products, and community leaders’ opinions about food hubs.

Study Design, Setting, Participants: The research area was four Community Districts in Brooklyn, New York. Residents, organizational leaders (OLs), and urban farmers participated in a mixed-method, cross-sectional study (n=141).

Outcome, Measures and Analysis: Community residents completed a 21-item survey (n=80) and participated in 5 focus groups (n=50) which collected data on food purchasing patterns and demands. Three OLs answered a 10-item regional food environment questionnaire. Four OLs and 4 urban farmers participated in semi-structured interviews asking opinions on a food hub model. Quantitative data were analyzed using descriptive statistics. Qualitative data were transcribed verbatim and analyzed with in-vivo coding to identify themes.

Results: The majority of residents shopped at supermarkets (90%), 64% obtained food from neighborhood food pantries, and 41% reported difficulties finding fresh vegetables. Focus group data indicated desire for high-quality fresh produce at affordable prices and a large variety of options. OLs identified “having a proper distribution channel” for food from regional farms and “increasing community farms and gardens” as solutions to bring more regional foods into communities. Those interviewed discussed “benefits,” “challenges,” and outlined “key-strategies” for implementing a food hub model.

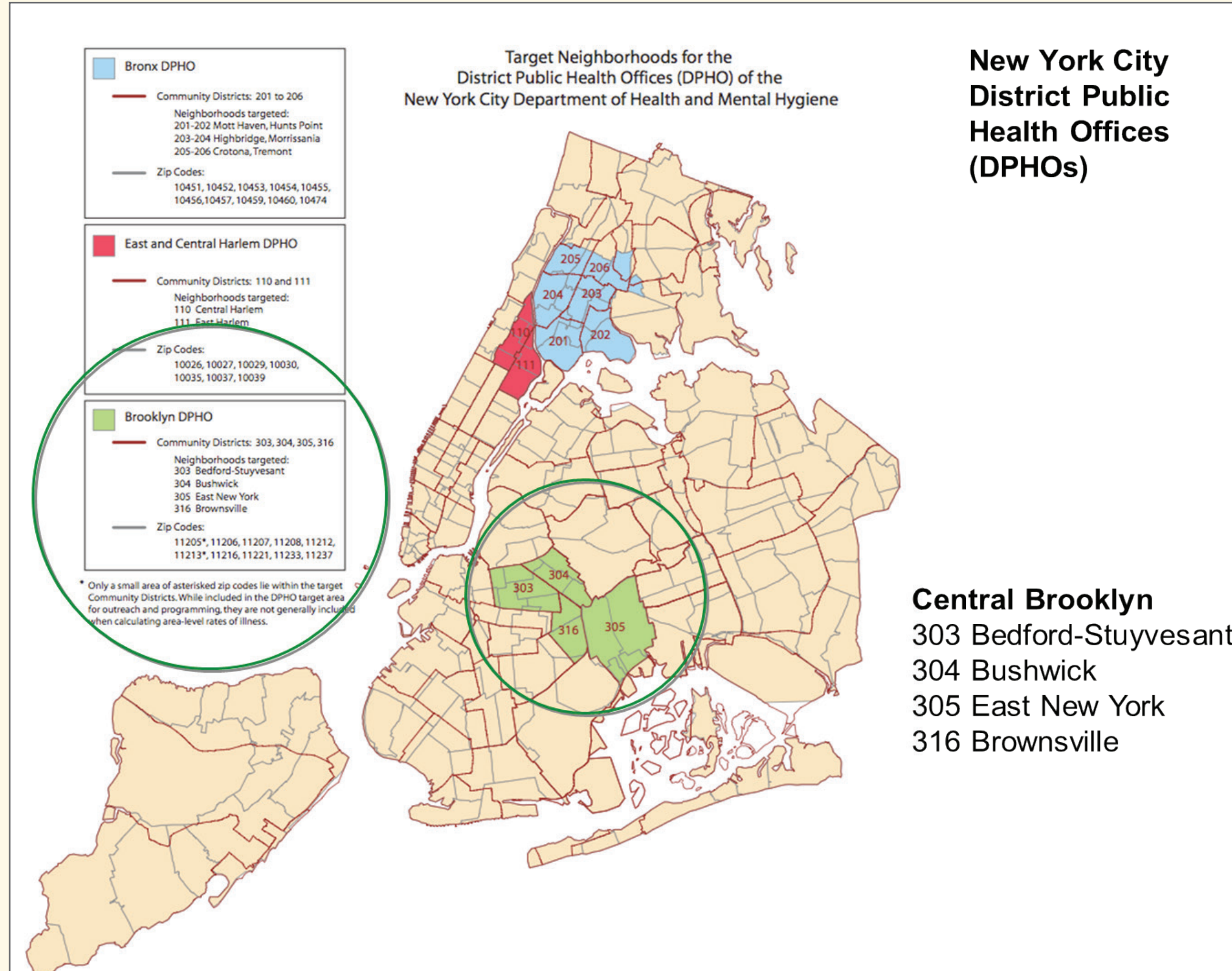
Conclusions and Implications: A food hub model could provide high-quality fresh produce to all residents and may satisfy community needs for an integrated alternative food system, policies and practices that can lead to decreased childhood obesity rates.

Background

Health Disparity. Many low-income, inner city neighborhoods have high rates of diet-related health problems. Obesity rates are particularly high among racial and ethnic minority groups, especially non-Hispanic blacks have higher age-adjusted rates of obesity compared to their non-Hispanic whites counterparts.

Access to healthy food. Access to fresh produce is limited in low-income neighborhoods and previous studies have shown associations between income-levels and number of supermarkets where fresh produce are accessible and available. Furthermore, inexpensive unhealthy retail outlets are more abundant in the same neighborhoods, contributing to diet related health conditions such as obesity and diabetes. For example, in New York City (NYC), low-income neighborhoods have fewer number of supermarkets saturated with processed foods and mostly with low-quality fresh produce, compared to more affluent neighborhoods, indicating an unequal distribution of fresh produce. Main reasons that halt distributing fresh produce with affordable prices to low-income neighborhoods are due to cost of labor and lack of distribution channels.

Central Brooklyn is one of the areas where health disparities are prominent in NYC. As an effort to improve health equity, the City government has designated high-risk neighborhoods in the city as District Public Health Office (DPHO) sites, including four community districts in Central Brooklyn.



NYC Food and Fitness Partnership addresses policy and systems change in Central Brooklyn, and supports an accessible, equitable, affordable food system for all residents.



Image courtesy of Local Food Hub organization

Study Design. A cross-sectional study examining community residents’, organizational leaders’, and experts’ opinions on food systems in Brooklyn, New York, and their insights on a regional food hub model as a potential solution for improving community food environment (October 2011 - June 2012).

Setting and Participants. The study took place in four community districts in Central Brooklyn (designated DPHO site). Community residents who lived in the communities participated in the survey study (n=80) and focus group meetings (n=50). Three community organizations participated in an online survey that asked their opinions on the current food system in Central Brooklyn and a regional food hub model as a viable potential solution. Eight organizational leader and urban farmers participated in semi-structured interviews to provide their experienced opinions on a regional food hub model.

(1) Community food survey and focus group

A 21-item questionnaire was administered to 80 community residents in the Central Brooklyn to assess where the residents get their food from; challenges that they face to get healthy food; and their demands for improving community food environment. Five focus groups were also conducted to discuss the same topics in detail.

Table 1. Demographic characteristics of community residents participated in the survey and focus groups

	Description
Age	
17 or under	2 (3%)
18-34	11 (15%)
35-59	43 (57%)
60 or over	19 (25%)
Ethnicity	80.3% African American 11.3% Hispanic or Latino 8.5% Others
Number of people in the household	
1-3	54.7%
4-5	28.3%
More than 6	11.4%
Average number of children under 18	3

86.1% of the participants reported a supermarket as their primary store for purchasing food, and 62% of the participants reported that they use Electronic Benefit Transfer (EBT) card for grocery shopping. 63.7% and 20% of the participants used a food pantry or a soup kitchen, respectively, as alternative ways to obtain food. About 41.3% or 33 participants reported that there are foods that are difficult to get.

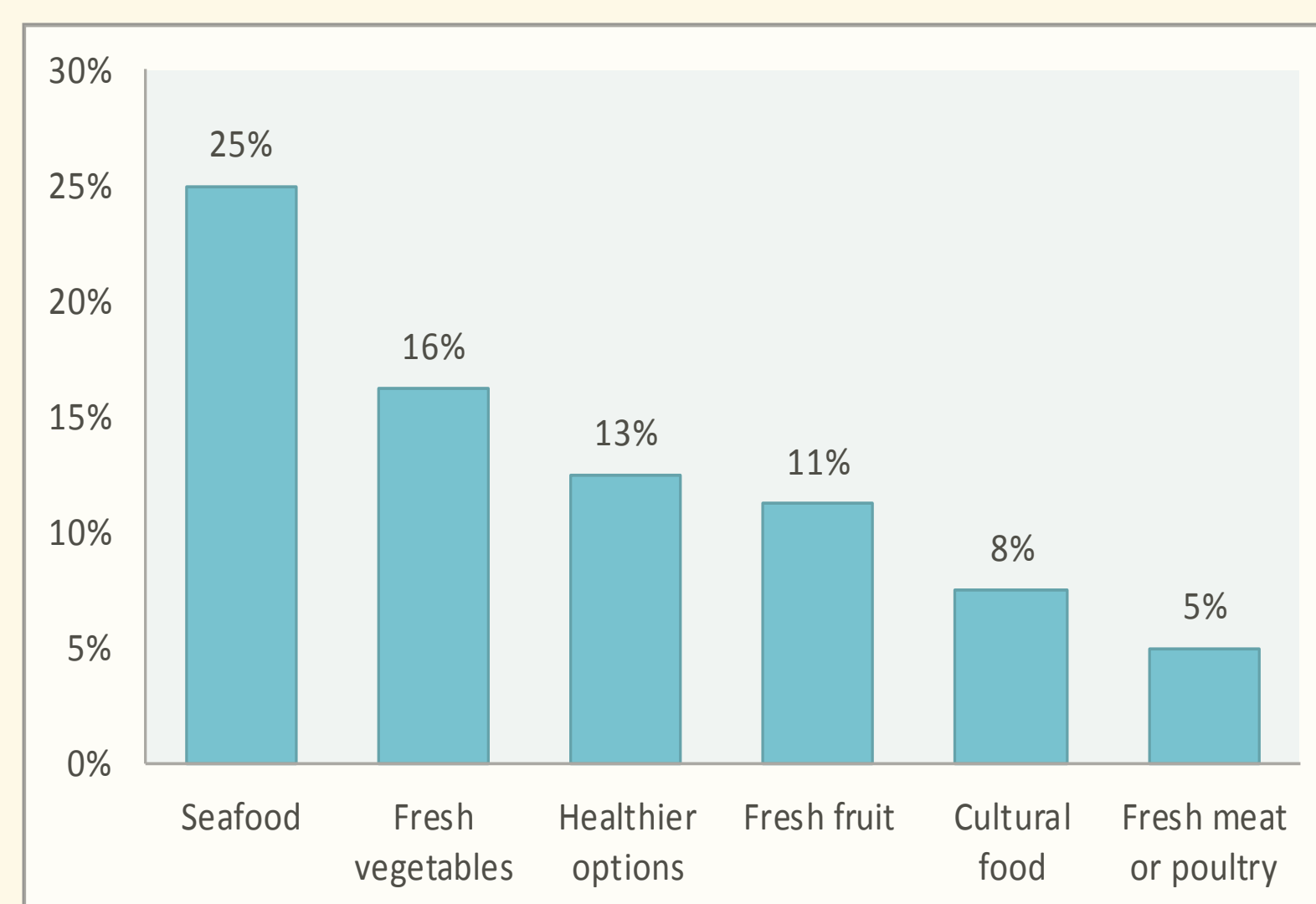
(2) Community organizational leaders survey

A survey for the community organizational leaders was developed to collect their opinions in key areas of the local food environment. The survey elicited information about the regional food system in the community, other community food-related issues and potential solutions for change. The survey included 10 questions and was distributed online through *SurveyMonkey.com*.

Questions included

- Name and functions of the organization;
- Whether they serve food to the community;
- % of regional fresh produce served in the organization;
- Challenges to provide regional foods;
- Food-related issues in the neighborhoods;
- Opinions on a food aggregation point (a regional Food Hub model);
- Other solutions to support regional food system in the community
- Comments

Figure 1. Percentages of participants indicating food items that are difficult to get from their neighborhoods



24% to 45% of the participants travel to stores outside of their neighborhood, such as discount stores/warehouses, in search of bulk, sales, and better quality food items to purchase. 90% of them answered that it would be easier for them to shop if there was a wider variety and quality food at the stores where they shop.

Definition

“A regional food hub is a business or organization that actively manages the aggregation, distribution, and marketing of source-identified food products primarily from local and regional producers to strengthen their ability to satisfy wholesale, retail, and institutional demand.”

- from the USDA Regional Food Hub Resource Guide

Methods

(3) Interviews with organizational leaders and urban farmers

To gather in-depth opinions on a regional food hub model in Central Brooklyn, semi-structured interviews were conducted with food-related organizational leaders and urban farmers.

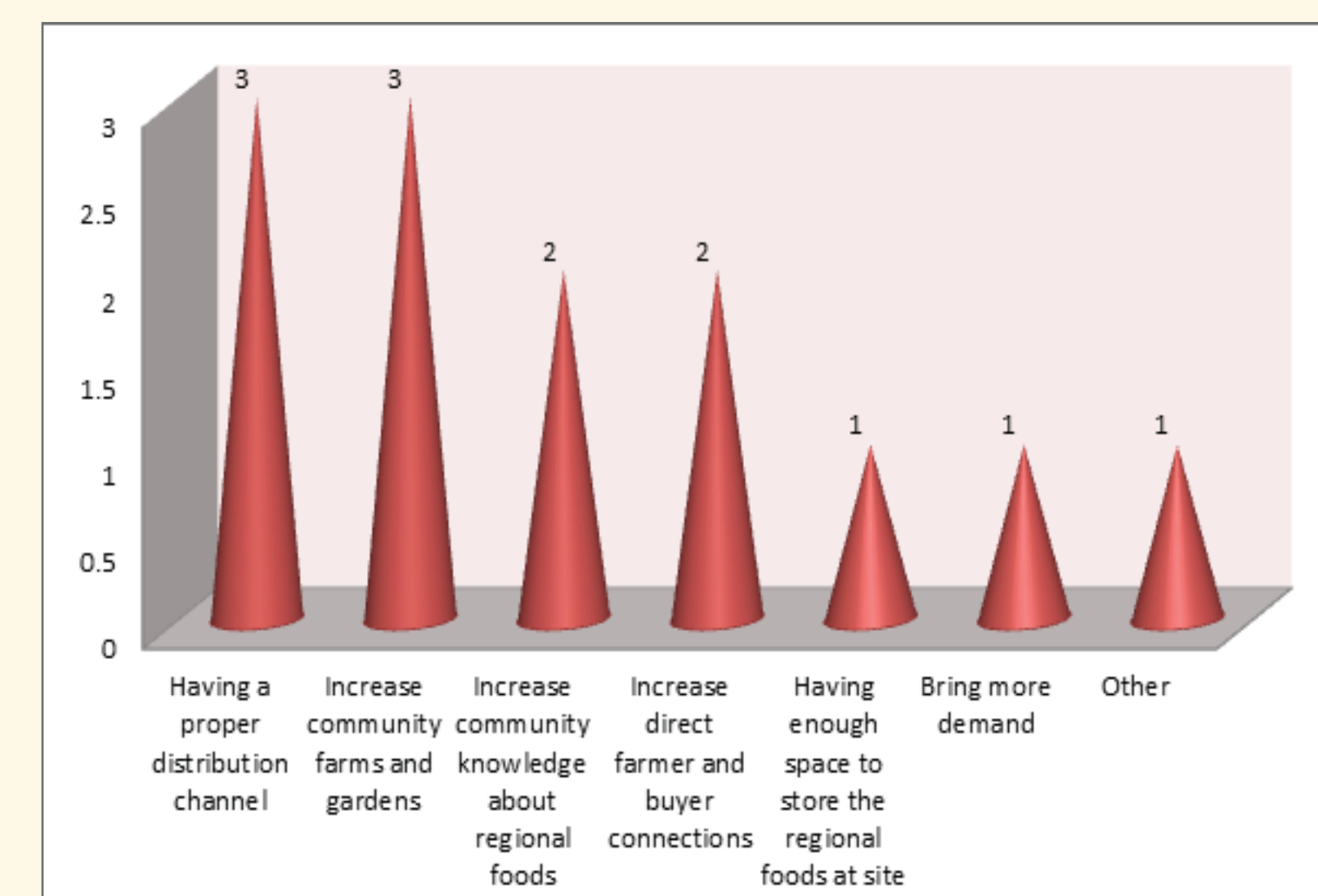
Examples of the interview questions

- As a local business owner and longtime community resident what do you believe would improve the fresh food landscape of the community given its current political leadership and culture?
- Who do you believe are 2 important community residents we need to speak to or get on our team to move our food systems/ food hub work forward?
- We have gathered a lot of information from community consumers and organizations. What do you think about a centralized wholesale/retail food outlet? Could be a solution to improve the food environment in Central Brooklyn and to support local farmers?
- What is the biggest challenge do you think Central Brooklyn neighborhoods have to support local farmers and improve food distribution channels?
- What problems other than food related issues exist in Central Brooklyn? For examples, safety, economic profiles, or housing problems...etc? Please list the most problematic issues in the neighborhoods.
- Do you know/or work with any farmers in Brooklyn?
- Which location(s) do you think would be potential Food Hub physical locations in Central Brooklyn?
- As a community leader and expert, would you be interested in participating in the Food Hub project? What additional information do you think we need to move this project forward?

Results

Organizational leaders (OLs) reported that “too many bodegas selling cheap, processed, unhealthy food items” and “quality of fresh produce” are the most common food-related issues. One OL wrote, “we need a hub in order to store more quality food for the community. There are very few places to store food for community food sources.”

Figure 2. Organizational leaders’ opinions on solutions to support regional food system in Central Brooklyn communities



Results

Community residents’ reasons to travel outside of the communities.

“We are used to traveling to get what we need, but it would be more convenient if things are available in the neighborhood.”

Challenges in Central Brooklyn food environment.

““It is luck of the draw, some days you get lucky, some days you don’t. Some days you have good stuff, some days you don’t...”

“...don’t see good quality meat, seafood, chicken, colors look off, you don’t know what you are getting, color looks wrong. Think they put it on sale when it is about to expire.”

The community OLs and urban farmers who participated in the interviews universally agreed upon the importance of a food hub model for Central Brooklyn. Notable reasons mentioned by our participants included the ability for a Brooklyn food hub to build community connections, improve nutrition and health within the community, and provide a low-risk way for farmers to sell and distribute products to local consumers and merchants.

“...in some of these areas...there’s not really that many places for people to go and buy fresh food wholesale or retail...if they had a place where they could come and buy fresh food wholesale or retail, that would really help the community out and people they could benefit from that and they will be getting fresher food...”

“...it was not economically viable for farmers from upstate New York to come, there were no economic benefits. And because of that, there was a deficiency in the ability to sell certain produce. the Food Hub...a centralized place where there would be an economic benefit for all participants involved...”

“We have to carry the message to the people, and have the people force the political will and the politicians to make the moves necessary to bring in the food. It needs to be community wide.”

“Elected officials have to play a major role in identifying a site, and identifying properties that used to be owned by the city that can be used to initiate this project. So on the groundwork, you need to lay that foundation.”



Conclusions

- The findings of this study support the idea of a regional food hub as a viable solution to overcome current food system challenges in Central Brooklyn.
- A food hub could satisfy consumer demands by providing quality foods at reasonable prices, and satisfy market demands by creating new distribution channels in the area. It could support local farmers to sustain and improve infrastructure for urban agriculture in New York City.
- With careful planning, help from experts in the field and strong community support, a food hub model may be a viable direction for future efforts to minimize health disparities in at-risk communities.

Contact Information

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