

The Impact on Farmers of Selling Into Low-Income Communities

A Literature Review

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Abstract

The just and sustainable food movement that has emerged in the last two decades has been accompanied by research, data, and evidence that argues access to fresh fruits and vegetables improves the health and social capital of low-income communities. A much smaller collection of research explores the perspective of farmers, particularly those who are selling directly into low-income communities. In order to assess the viability of farmers providing fresh produce to low-wealth and rural areas, a perspective from the farmer side is necessary. The purpose of this paper is to review and summarize peer-reviewed and other research that focuses on the impact on farmers of selling into low-income communities. We explore questions of whether low-income consumers can pay a high enough price for farmers selling fresh produce and other foods directly to make a viable living, if farmers believe there is enough demand by low-income consumers to market specifically to them, and if there are cultural barriers preventing them from doing so. Furthermore, we identify gaps in current research, and how this research may open up opportunities to encourage farmers to sell into low-income communities.

Introduction

The local foods movement has been criticized for serving high-income consumers and communities (Hinrichs & Kremer, 2002; DeLind, 2011) and locating in high-wealth communities. The movement has also been centered in urban or peri-urban areas, with relatively little attention paid within the literature to the development of local food systems in rural areas (Martinez et al., 2010; Hinrichs & Charles, 2012). The experiences of farmers, their economic viability and the social responsibility they often feel have been largely left out of these debates. The goal of this paper is to better understand the motivation of, and social and economic impacts on, farmers who sell directly into low-income communities. A considerable amount of research and data – as well as experimental projects – exist on how to increase consumer access to fresh fruits and vegetables at outlets including farmers’ markets, CSAs and food hubs (Millett et al., 2013), but the viability of farmers marketing to low-income consumers or specifically targeting low-income areas as part of their business model is rarely addressed. Many policy programs and organizations link solving food security with farm security, as stated specifically in Guthman, Morris, and Allen (2006), but usually focus on the consumer, and not the farmer. In addition, much of the literature implies an integral relationship between sustainable agriculture, local food, and food security (Guthman et al., 2006), which is especially apparent in research on programs that link food access to farmers’ markets. For example, there is considerable literature on the impact of Electronic Benefits Transfer implementation in farmers’ markets (Millett et al., 2013), itself a relatively recent innovation; the development of farmers’ markets as a solution for food

deserts; and most recently some research on farmers' views of SNAP¹ benefits or incentive based programs (Montri, 2012). The idea that increasing food access through direct marketing will help both the consumer and the farmer is prevalent throughout this literature, particularly in research generated by non-profits. However, we found little data that actually reflected the views and experiences of farmers participating in these projects or serving these communities. To that end, we specifically focused our literature review on research and projects where small and medium scale farmers are targeting consumers in low-income, rural areas. This is of particular interest to us because of the increasingly challenging issue of rural food access.²

One specific tension that is apparent in the literature arises from the potentially small purchasing power of those in low-income communities, and the necessity of the farmer receiving enough return to sustain their farm. However, economics is not the only reason farmers participate in direct marketing; social interactions and sense of community are cited as major reasons why farmers choose to sell to farmers' markets (Griffin & Frongillo, 2003; Montri, 2012; Pilgeram, 2011). Farmers' markets in low-income communities are more likely to fail than other farmers' markets (Fisher, 1999; Montri, 2012). Understanding what motivates a farmer to participate in a farmers' market in a low-income community or an underserved area is critical to

¹ SNAP stands for the Supplemental Nutrition Assistance Program, formerly known as food stamps. EBT stands for Electronic Benefits Transfer and refers to the card SNAP recipients use to spend their benefits. Processing EBT requires special equipment that not all farmers' markets possess.

² Place matters in defining food insecurity, measuring food access and affordability, and in developing solutions for farmers and consumers. Two recent studies show the complexities of understanding food access in rural areas. In a study of food affordability in Missouri, Cafer and Kaiser (2015) found that "rural households have smaller incomes, spend larger percentages of their income on food, and on average have more affordable housing than urban counties." Since rural households are less likely to participate in food assistance programs, but receive larger benefits than urban households when they do, the SNAP program has a greater impact on food security for them. In a small study, Hilbert et al (2014) found in Mississippi that food costs were lowest in more populated areas, and higher in more rural areas. These geographic studies show that models will have to be adapted for place.

broadening food access, and exploring the opportunities and best practices that allow farmers to successfully market in low-income communities is equally important. An overarching theme we have found is that the market or the transactions at the market are usually subsidized in some way, by the government, private organizations, farmer self-exploitation, or by higher-income consumers. For example, some farmers' markets will receive free EBT equipment (otherwise a significant expense) to process wireless SNAP benefits, while another strategy is to offer "nutrition incentives" that double the amount of purchasing power of the SNAP benefit itself. This strategy was initiated by private foundations and the 2014 Farm Bill authorized USDA grants to communities specifically for nutrition incentive programs.

As we began our review, we anticipated finding research detailing barriers for farmers to sell into low-income communities. We projected uncovering concerns that would prevent farmers from selling into low-income communities, especially in rural areas, such as price-point, insufficient customer volume in rural and lower income areas, unwillingness on the part of farmers to travel into impoverished areas, or limited outlets to sell their farm products. However, almost all of the research we found focused on the benefits of farmers' markets and expanding EBT access, or motivations of farmers to sell at farmers' markets generally. For these reasons, we organize our review based on major findings, rather than data on specific barriers for farmers selling into low-income communities.

First, we examine the fairly extensive research on EBT access for SNAP recipients at farmers' markets and identify existing gaps in the data. Then we delve into literature that focus on farmer motivations and what keeps them from participating in certain types of farmers' markets. The last major section briefly covers current projects that farmers and organizations are

undertaking to serve low-income communities, but for which we have been unable to find evaluation or research overviews. Finally, we conclude with a summary of the research findings, and what future research should focus on in order to fill apparent gaps.

Methodology

To prepare this literature review we examined scholarly articles, (including dissertation research), literature reviews, reports prepared for foundations and food movement organizations, community-based organization reports, and government reports. We used academic search engines to identify articles dealing with farmers and direct marketing, as well as selected appropriate articles from a bibliography of over 2,000 articles developed at the University of California-Davis.³ Multiple reports contain primary, mainly qualitative data, based on farmer interviews. Quantitative data exists where community-organized programs examine the amount of SNAP benefits redeemed at farmers' markets. We also sent email inquiries to two listservs with subscribers who are interested in community food systems and food security (COMFOOD listserv and the listserv serving eXtension.org's Community, Local, Regional Food Systems Community of Practice). These inquiries mostly provided examples of the many projects that farmers and organizations have created to serve low-income communities. A few of the projects are mentioned in this review.

Farmers' Markets and Electronic Benefits Transfer (EBT)

One major area of research is focused on Electronic Benefits Transfer (EBT) access at

³ This bibliography was developed by the University of California-Davis to help researchers and others interested in community food systems. The bibliography "gathers published literature on local and regional food systems and categorizes the literature by key topics. Our broad purpose has been to understand the range of concerns that have emerged as geographically bounded food systems are envisioned and enacted." Accessed at <http://www.sarep.ucdavis.edu/sfs/CFSresources>.

farmers' markets for recipients of the Supplemental Nutrition Access Program (SNAP). In 2015, over forty-five million Americans participated in SNAP, with a total of more than 69 billion dollars allocated in benefits (USDA, 2016). There is an obvious potential for farmers oriented to local food production to find a viable market among SNAP recipients, particularly as many of these farmers are producing fruits and vegetables, which public health advocates are attempting to make more available in low-income neighborhoods. However, the question remains whether or not farmers selling at markets which accept SNAP benefits perceive this as a business opportunity and experience an impact in revenue generation.

Of the current 8,670 farmers' markets existing in the United States today (USDA AMS, 2016), only thirty-seven percent are authorized to accept SNAP benefits (USDA, 2015)⁴. We examined the barriers to EBT implementation at farmers' markets in order to understand why such a relatively small percentage of markets provide EBT access when its absence is an obvious barrier to low-income consumers attending markets. Most markets do not have sufficient funding without outside support for equipment, supplies, and staff time, and have difficulty training volunteers, vendors, and market managers on the EBT system (Millett et al., 2013; Local Food Research Center, 2012).

A series of federal and private programs are working to provide EBT access to all farmers' markets and vendors by subsidizing the cost of EBT machines. In 2013, the USDA

⁴ Anyone wishing to accept SNAP benefits must apply and become authorized by the USDA's Food and Nutrition Service (FNS) to accept SNAP as a form of payment. Since SNAP benefits are electronic they must also have access to a wireless device that can connect to the EBT account of the consumer. Because it is expensive and time consuming for each market vendor to become authorized by FNS and to have their own device, many markets become authorized and purchase the device on behalf of their vendors. Markets usually use a system of tokens that customers spend at vendor stands, which individual vendors can then redeem at the market booth. The cost of tokens and an approved wireless device combined with monthly wireless fees can be costly for a market, thus many states have subsidized markets wanting to implement EBT.

provided an additional four million dollars (on top of four million previously allocated) to increase EBT access at farmers' markets (Maclovio, 2014). The Farmers Market Coalition now administers a program with three equipment providers, MarketLink, MerchantSource, and TSYS, to recruit markets without EBT access and provide the necessary equipment to implement EBT, with most costs covered (Farmers Market Coalition, n.d.).

In 2015, SNAP users redeemed \$17.5 million of benefits at farmers' markets, indicating that only .02 percent of benefits overall are redeemed at farmers' markets (USDA, 2015). One strategy for increasing SNAP usage at farmers' markets has been the implementation of consumer incentive programs, variously referred to as "double-up food bucks", "double value coupon program", "health bucks" and more. An evaluation was conducted in 2013 by Community Science on the effect of four such incentive programs (Millett et al., 2013).

Wholesome Wave, Roots of Change, Fair Food Network and Market Umbrella all implemented programs that offer SNAP participants an incentive to shop at farmers' markets. Most of these programs match SNAP purchases, usually up to a certain limit; for example, if a SNAP recipient spends \$10 at the market, they could receive an additional \$10 of incentives that allows them to buy \$20 worth of fresh produce. Programs can match at various ratios, from twenty percent of their purchase to a one hundred percent match. In general, these programs are trying to stretch the customer's food dollar so that they have greater access to fruits and vegetables while attracting new customers who can support small farms and farmers' markets. Sixty-four percent of vendors in the Community Science evaluation reported their revenues increased and that they sold more produce because of this incentive program. Seventy-four percent of farmers claimed they gained new and repeat customers and a diversified clientele. Overall, vendors responded

positively to the incentive program, with the main complaint from vendors and managers being that the token system took more time to exchange and redeem at the end of a market day. In 2012, of the 31 farmers' markets evaluated, vendors received between \$49 and \$328 SNAP benefits per month, and between \$36 and \$259 in matching incentives. The report did not indicate what percent of total vendors' sales that SNAP represented (Millett et al., 2013).

Research examining farmers' attitudes toward a central terminal EBT program in Michigan found that farmers had a positive attitude towards these programs overall (Montri, Behe, & Chung, 2013). The farmers who viewed it as a positive change indicated that SNAP benefits were an important source of revenue for them. Farmers also felt the program was important to address the needs of the community around them. Ease of use was also a major determining factor for viewing the system as a positive addition to the market. In general, farmers in the Michigan study believed that the implementation of EBT access increased the customer base of the farmers' market.

Advocates of local food systems hope that there is large potential for farmers to add a new revenue stream through increasing access for SNAP customers at farmers' markets, especially using SNAP-based incentive programs. The problem we found is that limited data exists on how participating in these programs affects farmers' incomes or livelihoods. In a study in Michigan, it was predicted that if the amount of local produce bought in Michigan tripled, than as many as 1,889 agricultural jobs would be created as well as \$187 million in additional personal income (Hagan & Rubin, n.d). Multiple sources reported the positive economic and social justice impact farmers' markets and healthy food has on communities. Flournoy (n.d.) writes about the positive impacts healthy food access has on a community's health, lowering

major health problems such as diabetes and obesity, which improves the community's quality of life. According to a study in Iowa, if consumers purchased five locally produced foods products each day for three months, it would generate \$6.3 million dollars in labor income as well as create 475 jobs in that region (Hagan & Rubin, 2013). The same study also shows that buying local can keep dollars circulating in a community, improving the economic viability of underserved urban and rural areas. However only one study (Young, Karpyn, Uy, Wich, & Glyn, 2011) takes into account the perspective of farmers participating in these markets. It provides various strategies to sustain markets in low-income communities, and argues that the markets must address the needs of its surrounding community, including vendors pricing food affordably for the area. Young, et al argue that EBT acceptance is crucial to attract low-income customers, and that programs to increase purchasing capacity on the part of consumers should continue to be supported. USDA's Women, Infants and Children Farmers' Market Nutrition Program (WIC FMNP)⁵ benefits are more widely accepted at farmers' markets than EBT, and generated \$20 million in farmer revenue in 2009 (Young, et al., 2011). However, FMNP programs have capped annual federal allocations, are used as supplemental programs for specific populations (WIC recipients or seniors), and allow for very small individual amounts. Thus, the use of SNAP

⁵ There has been a history of efforts to link farmers with low-income consumers through government programs like WIC and SNAP. In the 1990s, pilot programs to help WIC recipients use special, additional benefits to access fresh fruit and vegetables at farmers' markets were created, called the Farmers Market Nutrition Programs (FMNP). They are subjected to annual appropriations processes, and in 2010 were authorized at \$20 million. It is important to note key differences between FMNP and more recent efforts to redeem SNAP benefits at farmers' markets. The FMNP was created as a *supplemental* program that used paper vouchers that already-qualified WIC (and later low-income seniors) participants could redeem at producer-only farmers' markets. WIC benefits themselves could not be used at the markets. Food stamps were the first nutrition program to be electronic and the technology was not available for a non-permanent farmers' market to have an EBT terminal to process these benefits--thus the attempt to create the FMNP as a way to model the possibility of using nutrition benefits at farmers' markets. As technology improved, many markets moved to capture the much larger base of SNAP recipients.

benefits (available to anyone who meets qualifying program standards) at farmers' markets has a much greater potential to increase farmers' sales.

Although farmers may have a generally positive attitude towards SNAP and incentive programs, there are no case studies or research done on specific farmers selling into low-income markets as a business opportunity. According to "Farmers' Markets for All," (Local Food Research Center, 2012) existing attempts to connect low-income consumers to farmers' markets have been primarily aided by government agencies and non-profit organizations. While EBT acceptance is a major opportunity for farmers to sell into low-income communities, the focus of most of the literature is on the consumer, and how it affects food access and their local economy. The farmer is infrequently addressed, and if they are, there is very little evidence to show the positive or negative impact that selling to low-income consumers has on their livelihood. For instance, input-output modeling was used to estimate that between 2.1 to 4.3 million dollars in economic activity was generated through SNAP incentive programs at farmers' markets affiliated with Wholesome Wave, Roots of Change, Fair Food Network or Market Umbrella, with an associated gain (or savings) of 23 to 47 jobs during 2011 and 2012 (Millett et al., 2013). While this modeling shows positive economic impact on the community, it is not specific to the farmers' livelihood. However, in the same study, farmers' market vendors did report increased revenue from the SNAP incentive programs. Exploring the impact of nutrition incentive programs on farmers and farmers' markets, Oberholtzer, Dimitri, and Schumacher (2012) said:

We know of no published research that has examined the impact of nutrition incentive programming on farmers. Often the focus of previous research has been on the participating consumer and the program's impact on health indicators, and most of these

studies are found outside of peer-reviewed journals.

Barriers to Farmer Participation: Qualitative Research

A few articles propose reasons why farmers are not participating in low-income markets. A frequently cited reason is that farmers need to make a viable income to support their livelihood, which may conflict with affordability for low-income consumers (Fisher, 1999; Guthman et al., 2006; Pilgeram, 2011). Farmers themselves are already often low-income, and price their food low enough to just break even (Pilgeram, 2011). Another theory considers the stereotype farmers may have about low-income communities. Food deserts occur because of the lack of willingness of food retailers to locate in low-income communities due to real or imagined concerns with the reputation of that area, such as issues with income, race, and safety (Fisher, 1999; Hagan & Rubin, n.d.; Markowitz 2010). The same may apply to farmers' markets, says Markowitz (2010), who examines the difficulty of recruiting farmers' markets to low-wealth areas because of income and parking safety concerns. Beyond these statements, no other research or evidence was obtained that addressed possible farmer bias against low-wealth areas in terms of safety in those communities.

To address the price-point concern, two articles compare the price of local food at farmers' markets versus conventional grocery stores using non-organic produce. These studies show that produce from farmers' markets, especially during peak season, is price-competitive with supermarket prices, meaning the farmers are sometimes charging similar prices as supermarkets (Flaccavento, 2011; Pirog & McCann, 2009). This indicates that consumers who can afford produce at retail stores could also afford local produce at farmers' markets. However,

research shows that the belief that prices at farmers' markets are higher than those at retail stores is still the primary reason why low-income consumers avoid farmers' markets and shop at retail stores instead (Local Food Research Center, 2012). Depending on the costs of direct marketing, since the farmer receives a greater share of the dollar when selling direct to consumers, selling into low-income communities could bring farmers a steady source of income, especially if EBT is accepted (Young et al., 2011). Thus it is critical for farmers' markets to educate consumers about pricing (Bell, Mora, Hagan, Rubin, and Karpin, n.d.; Millett et al., 2013; Local Food Research Center, 2012).

Examining the "price point of local food versus supermarket" theory, Pilgeram (2011) addresses the issue of class, wealth, and income among small-scale sustainable farmers in the Pacific Northwest, and the reasons why they sell into middle to high-income markets. Small-scale sustainable farmers are at a disadvantage to compete with large-scale vegetables farms that have economies of scale and cheaper inputs overall. Small-scale farmers rarely price food high enough to pay themselves for their labor, thereby subsidizing the cost of the food they are selling through self-exploitation (Pilgeram, 2011). Of the farmers interviewed by Pilgeram, many were uncomfortable with the fact that their client base came from primarily middle to higher-income areas. If possible, they would prefer a more diverse consumer base, but had to face market realities in pricing their food high enough to support their farm. One farmer's attempt to make her produce more accessible was to allow her CSA⁶ members to pay for their share on a monthly basis rather than in one lump sum at the beginning of the year, and she noted that this was

⁶ In a CSA (Community Supported Agriculture), customers pay the farmer at the beginning of the year for a "share" of the harvest, and receive produce from the farm weekly throughout the season. CSAs have become a widespread strategy for small-scale farmers to access necessary capital at the beginning of the growing season.

important to increase her customer base. Pilgeram concludes that the world of sustainable agriculture as it exists now may not be socially responsible, since one of its pillars⁷ is that farmers need to be able to support themselves:

...Whether they do this by earning money off the farm, by charging a premium for their products, by controlling what items go to the market, or by employing “interns” who can be paid significantly less than employees, the fact remains that farmers are forced to make a variety of choices that may not be socially sustainable (Pilgeram, 2011).

For Pilgeram, these farmers are part of a class system that forces certain sets of “choices” on would be sustainable farmers, such as their inability to pay fair wages for labor as well as to price their product to market in low-wealth areas.

The two research papers cited above provide contradictory conclusions on the barriers of entry to farmers to sell in low-wealth communities. First, Flaccavento and Pirog argue that farmers’ market produce is price-competitive with produce from supermarkets. However, low-income consumers still view price as a barrier to shopping at farmers’ markets. Second, Pilgeram argues that direct market farmers are set in the midst of an economic system that forces them to self-exploit their own labor to provide produce to upper-middle income at a price they will pay. Taken together, the studies’ conclusions could suggest that farmers are not paying themselves or others enough for labor in order to keep prices competitive with supermarkets, yet the benefits of such arrangements primarily accrue to upper-middle income consumers, while leaving out lower income consumers. Clearly, further research is needed to understand major barriers and opportunities from a farmer’s perspective that prevent or encourage them to sell into low-income

⁷ In the U.S., sustainable agriculture is assumed to rest on three pillars: the economy, the environment, and social and economic equity. USDA’s Sustainable Agriculture Research and Education program defines the social pillar as “quality of life for farmers, ranchers and their communities.” (See SARE.org).

communities, as well as the structural economic and market realities that make it such a challenge.

Market Characteristics and Vendor Motivations

Into this void steps Dru Montri, herself a farmer, who argues that research concerning motivation for farmers to sell into low-income markets is “diverse and fragmented” (Montri, 2012). Montri interviewed 32 farmers in three Michigan cities who were participating in early stage farmers’ markets located in low-income areas. Montri’s review of literature suggested that farmers participate in farmers’ markets for more than economic reasons. However, she found through her interviews that the motivations or reasoning for farmers to sell into markets affected their likelihood of staying at a certain type of market. Montri found four main categories of motivations, including two that consisted of primarily economic motivations, and two that comprised primarily lifestyle motivations. One group of farmers, the smallest, relied on farmers’ markets to support their livelihood, as the farm provided their household income. A second group regarded the markets as business opportunities, but did not rely on farmers’ markets as their sole source of income, having either off-farm jobs or savings. Still, about half of the farmers in this group were hoping to make farming a livelihood. The two other groups were categorized by lifestyle motivations, where farming is “closely aligned with their personal or organizational interests and passions.” (Montri, 2012:31) Farmers in the sample farming “for recreation” enjoy farming and identify primarily as ‘gardeners.’ A fourth group farms to accomplish their civic or community goals.

These categories are important to understand, because farmers who farmed as a livelihood strategy were more likely to drop out of the markets in low-income areas, since they

depended on farming as their sole source of income and needed to make a greater profit. Eighty percent of Montri's participants who were farming for a livelihood dropped out of the markets in the case study, because they were not making enough income to support their farm. The "recreational" farmers enjoyed the low-income markets because they were less intimidating and not as competitive, and because the farmers did not have the large volume of produce needed to sell at a larger, well-established market. Often these farmers considered themselves "gardeners" or "hobby farmers" that felt guilty about throwing their extra produce away, so decided to sell it directly. The farmers who were motivated by public good were the most committed to the low-income market, often through non-profit organizations.

In Schmidt and Gomez (2011), farmers selling into farmers' markets in a rural region of New York State were interviewed about their preferred type of market. Increased vendor satisfaction correlated with greater customer foot traffic, a higher number of vendors, and shorter distance traveled to sell at the market. Vendors also preferred to sell at a limited number of markets, at an average of three per week. While these results may not apply to all farmers, it is useful to see which market characteristics may recruit and retain farmers.

Aside from a few articles exploring motivations for farmers to market directly to customers, research on farmers' motivations for selling into low-income communities is, as Montri stated, very limited. It is evident that economic return is crucial for a farmer to sell into any type of community, and all other motivations for farming usually pale beside this important reality (Montri, 2012; Pilgeram, 2011). As Montri showed in her case study in Michigan, farmers who viewed farming as a livelihood or a potential livelihood were hard pressed to continue at farmers' markets in low-income communities. However, one limitation of her research is that the

six markets she examined were all early-stage markets in low-income areas. Thus, her findings may not apply to more established markets, markets that serve a wide-range of clientele, including low-income consumers, or farmers using market models other than farmers' markets, such as buying clubs, CSAs or delivery routes. It is clear that more research is necessary to understand the best ways to make direct marketing work in low-income communities, particularly rural communities. Qualitative research using interviews with farmers on this topic will likely provide valuable insight into how to approach this issue. Quantitative research, such as data on revenue for farmers at certain farmers' markets, will also help farmers understand the market potential for selling into low-income areas.

Although little research addresses the perspective of the farmer who is selling to low-income communities, it does not mean there are no farmers self-motivated to do so. In fact, many farms are feeding low-wealth areas without it being documented, and community based organizations and non-profits are getting involved to assist low-income consumers in accessing food from local farms. One increasingly common strategy is the sliding scale CSA (Community Supported Agriculture). The term "sliding scale" means that CSA members pay a fixed amount based off of their income. Higher-income members pay a higher amount at the beginning of the season for the same market basket of produce, enabling farms to charge a lower amount to their lower-income members. Many CSAs, such as Fairshare CSA in Madison, Wisconsin are implementing this plan in order to diversify their client base and allow low-income consumers fresh produce access (Pilgeram, 2011).

Donating leftover or blemished produce is also an option for getting farm fresh produce to low-income communities. In an article in *Growing for Market* called "Don't lower prices-

donate your extras,” Lyons urges farmers to donate extra produce that is leftover at the end of the market. For him, the main reasons to donate are that extra produce is heavy and stressful to deal with at the end of a market; there is a rewarding feeling of feeding your neighbors healthy, nutritionally dense food; and there is a potential tax deduction if the volume of the donation is large enough. Farmers can also work with gleaning groups, like the Society of St. Andrew, to harvest so-called ‘seconds,’ which is produce that is blemished or oddly shaped but still high-quality food, or to harvest produce that is not economically feasible to market for a variety of reasons.

In an inquiry to the COMFOOD listserv about this literature review, we received a plethora of responses about different projects and farmers that focused on low-income consumers. A few noteworthy projects are mentioned here. “Mainers Feeding Mainers” is a combined effort between Good Shepherd Food Bank and the organization that connects farmers to the food bank. The food bank was formerly contracting major food retailers to stock their food banks, but with increased fuel cost and spoiled produce, they decided to turn to their own local farmers to contract for local produce. Three farmers, interviewed in a promotional YouTube video for this project, all pointed out that this program benefitted them because the food bank contracted with them on certain crops, so they would be guaranteed to receive payment, which is rare in the vegetable business. If a problem with growing that crop occurred, the food bank would take an alternative crop instead. The farmers also felt that they were giving back to the community, and that it was important for them to help others in need.

Mainers Feeding Mainers works through three channels to distribute produce. Produce can be directly picked up by the food bank from the farm, or sent to one of three warehouses,

then distributed to other food banks. The third option is for the produce to go straight to a mobile market, which drives it directly to low-income communities. Through these channels transportation cost is reduced, and less food is wasted. Mainers Feeding Mainers believes that if more farmers were involved, the program could have the capacity to feed those in need for the entire New England area. A few other cases of food banks connecting to farmers have also been observed.

Garden City Harvest grows produce on farms and community gardens in Missoula, Montana for low-income neighbors, while employing at risk youth and adults to work and build transferable skills. Other projects included faith-based organizations that seek out local farmers to obtain fresh produce and sell to low-wealth areas, senior citizens, or public schools. The inquiry we sent out asked for literature, case studies, or documentation of farmers reaching out into low-income communities. While the volume of responses to this topic was relatively large, little formal research or data was included. The majority of responses were projects that people were aware of or a part of. Collaboration between farms and faith-based or non-profit organizations such as food banks was a major trend among the responses. There were no formal research papers or examples of farmers selling produce directly into low-income or rural communities without some type of aid. While it is hopeful to know about these projects, there is substantial research still needed in order to take advantage of lessons learned and to draw conclusions about the viability of various strategies.

The Way Forward

In sum, in order for the sustainable agriculture and food access models to truly strengthen each other, research on the viability of the farmer should be conducted. It is clear from the

research we surveyed that there is little understanding of the revenue that can be generated for farmers in low-income areas. Evaluations of SNAP incentive programs anecdotally suggested that farmers appreciated the extra income, and that SNAP incentive programs had positive economic effects for the community (Millett et al., 2013). But the literature we found did not quantify revenue impact for farmers, nor were other models examined in which farmers could reach low-income communities, such as CSAs or food hubs. Quantitative research is needed on individual farmer revenue after SNAP EBT access implementation takes place at a farmers' market, how much this revenue contributes to a farmer's total sales, and if the farmer's revenue grows over time as SNAP EBT programs become more established. If the SNAP redemptions provide substantial contributions to a farmer's overall livelihood, it may encourage some farmers to sell into low-income areas; if not, alternative models will need to be investigated. Thus, research is necessary to better understand the barriers to income generation for farmers selling into low-income communities, and what market potential there is if the barriers are addressed. Qualitative research could focus on farmer motivations from across different geographical areas, and perceptions on price-point, rural food access, and self-motivation for farming. As Montri (2012) pointed out, understanding why each farmer chose their market, and what they have learned from selling in a certain area may help us better understand what creates a successful market in an underserved community. Given the examples that were gathered from the listserv request, documentation and research on projects that are trying to connect small- and mid-scale farmers with low-income consumers is critical. Exploring different models - such as the 'Mainers Feeding Mainers' program - that create linkages between farmers and low-income communities for both their economic and social benefit would be a fruitful research endeavor, especially if

such research explored both successful and struggling projects. Such research should provide descriptions of the kinds of models that exist, especially those that go beyond farmers' markets, what sorts of benefits they provide for farmers and low-income communities, and what challenges exist for their implementation. In addition, this kind of research should span both rural and urban areas. Very little information exists on what kinds of models may work in rural areas, especially in rural areas with high levels of food insecurity and low levels of food affordability.

Moreover, more research is necessary on the types of entities that may be strategic partners in linking small- and mid-scale farmers with low-income communities, especially in rural areas. There are many diverse community-based organizations, universities, government agencies, and funders involved with SNAP incentive programs at farmers' markets, and more research on how those organizations work together successfully would be useful. Which types of partnerships increase the number of farmers who can participate, particularly those farmers who depend upon farming for their livelihood? Which kinds of models and partnerships increase income generation for farmers, and encourage them to pay themselves and their workers fairly? Which kinds of models provide the best access for low-income or low-wealth communities? These questions are important to answer in order both to achieve food security for rural and urban communities and to enhance livelihoods for small- and mid-scale farmers.

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The fresh produce supply chain has many operational characteristics that may help or hinder the feasibility of a local food system. Short lead-time (proximity) of farms to retail stores help the farmer quickly deliver goods, yet most retailers use the local source as a back-up when their supply is low, hurting the local farm's profitability. A combination of manager's discretion, coordination, and backhauling, if possible, creates the highest profit for retailer and farmers, and relies less on mainstream, conventional retailers.
- Bell, J., Mora, G., Hagan, E., Rubin, V., & Karpyn, A. (2013). Access to Healthy Food and Why It Matters: A Review of the Research (Rep.). Retrieved from http://thefoodtrust.org/uploads/media_items/access-to-healthy-food.original.pdf
This review is the second installment of the research review done for healthy food access. The first review, "The Grocery Gap: Who Has Access to Healthy Food and Why it Matters," reviewed all of the research material on gaps in food access in low-income communities for the last two decades. This current review has three themes: how food access in low-income areas is still a challenge, how living closer to healthy food retail benefits the health of communities, and how healthy food retail can stimulate economic activity.
- Cafer, A. M., & Kaiser, M. L. (2015). An analysis of differences in predictors of food affordability between rural and urban counties. *Journal of Poverty*, 20(1), 34-55. doi:10.1080/10875549.2015.1094760
Constructs a food affordability index for rural and urban households in Missouri on a county level, using participation in federal food programs, access to food sources, demands on household income outside of the food budget, the price of food, and the geographic differences across geographically and economically diverse communities. Findings are that rural households have smaller incomes, spend larger percentages of their income on food, and on average have more affordable housing than urban counties while households in urban counties have more stores per 1000. Because rural households have lower participation in SNAP, but higher per household benefits from participating, SNAP has a large impact on food affordability for rural areas.
- Delind, L. B. (2010). Are local food and the local food movement taking us where we want to go? Or are we hitching our wagons to the wrong stars? *Agriculture and Human Values*, 28(2), 273-283. doi:10.1007/s10460-010-9263-0
Argues that the expansion of locally produced foods to mainstream food outlets like Wal-Mart, as well as an emphasis on locavores, are shifting the local foods movement from key concerns with equity, citizenship, democracy, place-building and sustainability.
- Fisher, A. (1999, January). Hot Peppers and Parking Lot Peaches: Evaluating Farmers' Markets

in Low Income Communities. Retrieved from

<http://www.eatbettermovemore.org/SA/enact/neighborhood/documents/community.farmersmarkets.tools.hotpepperspeaches.pdf>

Fisher's article, published in 1999, is quite old, yet is still cited because it is one of the few articles to mention, "There exists a fundamental tension between farmers obtaining a fair price for their product and low income consumers' ability to pay such a price." There are eight case studies within this article, four markets that were successful and four that were unsuccessful, and lessons learned from each.

Flaccavento, A. (2011). Is Local Food Affordable for Ordinary Folks? A Comparison of Farmers Markets and Supermarkets in Nineteen Communities in the Southeast. Retrieved from <http://www.ruralscale.com/resources/downloads/farmers-market-study.pdf>

Anthony Flaccavento, founder of Appalachian and Sustainable Development establishes key findings of a study on farmers' market prices compared to supermarket prices in the Appalachia and Southeast region. Produce at farmers' markets were generally price competitive to conventional retailers.

Flournoy, R. (2006, September 23). Healthy Foods, Strong Communities. Retrieved from https://shelterforce.org/2006/09/23/healthy_foods_strong_communities/

From the National Housing Institute, this article explains the economic and social justice benefits of healthy foods in grocery stores in low-income areas, as well as possible solutions driven by the community.

Farmers' Market Coalition. (n.d.) FMC's Free SNAP EBT Equipment Program. Retrieved from <https://farmersmarketcoalition.org/programs/freesnapebt/>

This site details the Farmers' Market Coalition's free equipment program.

Griffin, M. R., & Frongillo, E. A. (2003). Experiences and perspectives of farmers from Upstate New York farmers' markets. *Agriculture and Human Values*, 20(2), 189-203. doi:10.1023/a:1024065526440

This article is relevant to the topic because it focuses on farmer's motivations for selling into markets. The social and economic motivations seem to be intertwined, with the farmer's necessity to make a living combined with the enjoyment of interacting with customers.

Guthman, J., Morris, A. W., & Allen, P. (2006). Squaring Farm Security and Food Security in Two Types of Alternative Food Institutions. *Rural Sociology*, 71(4), 662-684. doi:10.18411/a-2017-023

The goal of this article is to see the extent that farmers' markets and CSA's are addressing food security, and whether the dual goals of food access and sustainable farm income can be met. The authors argue that in order for low-income areas and farmers' markets to prosper as a pair, there need to be guaranteed entitlements (such as from SNAP) that will allow consumers to spend their benefits at farmers' markets.

Hagan, E., & Rubin, V. (2013). Economic and Community Development Outcomes of Healthy Food Retail. (pp. 12-18). Retrieved from http://www.policylink.org/sites/default/files/FINAL_HER_ECONOMIC_WHITE_PAPER_FINAL_1%2018%2013.PDF

This article focuses more on economic benefits to healthy food retail, including farmers'

markets and food hubs, in low-income communities. It encourages researchers and policymakers to document the economic impacts of SNAP and WIC benefits, as well as other healthy food initiative programs. More quantitative examples are given to show that healthy food access has many economic benefit possibilities.

- Hilbert, N., Evans-Cowley, J., Reece, J., Rogers, C., Ake, W., & Hoy, C. (2014). Mapping the Cost of a Balanced Diet, as a Function of Travel Time and Food Price. *Journal of Agriculture, Food Systems, and Community Development*, 105-127.
doi:10.5304/jafscd.2014.051.010

This study of three Gulf Coast Mississippi counties finds that the costs of obtaining a balanced diet vary significantly with place. Costs were generally lower in more populated places on the coast, and higher in more rural inland areas. Transportation costs also affected food costs.

- Hinrichs, C., & Kremer, K. S. (2002). Social Inclusion in a Midwest Local Food System Project. *Journal of Poverty*, 6(1), 65-90. doi:10.1300/j134v06n01_04

Examines role of class and community in efforts to include lower-income people in local sustainable agricultural projects; data from interviews with 41 member-households in a 1997 case study of a community supported agriculture project.

- Hinrichs, C., & Charles, L. (2012). Local Food Systems and Networks in the US and the UK: Community Development Considerations for Rural Areas. In *Rural Transformations and Rural Policies in the UK and US* (pp. 156-176). New York, NY: Routledge.

Compares and contrasts the development of local food systems in the US and UK, particularly in rural areas. Explores the place of community development in helping local food systems.

- Local Food Research Center, Appalachian Sustainable Agriculture Project. (2012). Farmers Markets for All: Exploring Barriers and Opportunities for Increasing Fresh Food Access by Connecting Low-Income Communities with Farmers Markets. Retrieved from <http://asapconnections.org/downloads/asap-farmers-markets-for-all-full-report.pdf>

Low-income consumers may face barriers to initially attending farmers' markets. These include lack of awareness about existing markets, market convenience, pricing issues and cultural disparities (like language or absence of appropriate produce) and most importantly, the inability to accept SNAP benefits. This article gives recommendations on how to effectively raise awareness about existing farmers' markets, and how to resolve these issues.

- Markowitz, L. (2010). Expanding Access and Alternatives: Building Farmers' Markets in Low-Income Communities. *Food and Foodways*, 18(1-2), 66-80.
doi:10.1080/07409711003708512

Markowitz investigates the possibilities and difficulties of establishing farmers' markets in low-income areas using a case study in Louisville, Kentucky. The introduction of this paper talks about how farmers, who need to make a return that reflects production costs, and consumers, who can only afford lower prices, conflict.

- Martinez, S. (2010). Local food systems: concepts, impacts, and issues. U.S. Dept. of Agriculture, Economic Research Service.

Serves as primer on local food definitions, concepts and challenges, and includes

pertinent data. Report was updated in January 2015.

- Millett, R., Woods, L., Chavis, D., Paek, M., Golden, A., St. Jean, A., & Hyra, A. (2013). SNAP Healthy Food Incentives Cluster Evaluation 2013 Final Report. Retrieved from http://www.fairfoodnetwork.org/wp-content/image_archive/2013%20Cluster%20Evaluation%20Final%20Report_%20final_10.4.13_Dec2013.pdf

This Healthy Food Incentive Cluster Evaluation reports findings on consumer and vendor spending through SNAP incentive benefits. This report also identifies key strategies for implementing programs, including fundraising, marketing the program, manager and vendor training, and community networking.

- Montri D. (2012). Sustaining farmers' markets in low-income, urban areas. Retrieved from <http://search.proquest.com.proxy.mul.missouri.edu/docview/1282407600>. Also available at <http://etd.lib.msu.edu/islandora/object/etd%3A1013/datastream/OBJ/view>.

Although this dissertation explores farmers' markets in urban areas, it is one of the only papers exploring motivation for farmers selling in low-income areas. It also states that markets are more likely to fail in low-income communities, and little research focuses on how to develop markets specifically in underserved communities. Generally, farmers who wanted to make a living by direct marketing had an 80% drop out rate. Farmers who chose markets in low-income areas for life-style reasons were more committed to the market.

- Montri, D. N., Behe, B. K., & Chung, K. (2013). Using a case approach to assess farmers' attitudes regarding central terminal model Electronic Benefits Transfer (EBT) programs at selected Michigan farmers markets. *HortTechnology*, 23(1), 38-43.

This case study conducted in Michigan interviews farmers on the implementation of Electronic Benefits Transfer (EBT) at farmers' markets using a central terminal system. Farmers viewed EBT benefits as positive, however their reasons differed. 48% of vendors stated that allowing EBT was an important source of revenue for them. Other farmers who viewed it positively believed it was important for the market in general, because the fundamental purpose of a market is to "support the community needs around them."

- National Association of Farmers' Market Nutrition Programs (NAFMNP). Farmers' market support program services. Retrieved from <http://www.nafmnp.org/wp-content/uploads/2014/01/FMPSS-Program-One-pager-12-2013.pdf>

The NAFMNP received four million dollars in grants to assist farmers' markets in implementing EBT, thereby broadening access to SNAP users. The links give insight to how the program plans on reaching out to farmers who do not already accept EBT benefits.

- Oberholtzer, L., Dimitri, C., & Schumacher, G. (2012). Linking farmers, healthy foods, and underserved consumers: Exploring the impact of nutrition incentive programs on farmers and farmers' markets. *Agriculture, Food Systems, and Community Development*, 2(4). Retrieved from <http://dx.doi.org/10.5304/jafscd.2012.024.002>

This article talks about how while there are many successful programs that incorporated farmers' markets into the goal of healthy food access, there is little published research that evaluates the impact of these programs on farmers. There are many important factors

to the farmers' market that will affect the success of these programs and therefore the impact on vendors.

- Pirog, R., McCann, N. Is Local Food More Expensive? (2009). A Consumer Price Perspective on Local and Non-local Foods Purchased in Iowa. *Leopold Center Pubs and Papers*, 63. Retrieved from http://lib.dr.iastate.edu/leopold_pubspapers/63

Marketing and outreach of this information could be essential for farmers who want to show that local food is competitive with regular grocery store prices. Produce, especially in season, is in many cases less expensive than produce found in grocery stores.

- Pilgeram, R. (2011). The only thing that isn't sustainable is the farmer: Social sustainability and the politics of class among Pacific Northwest farmers engaged in sustainable farming. *Rural Sociology*, 76(3) 375-393. doi:10.1111/j.1549-0831.2011.00051.x

Although not specifically about farmers reaching into low-income communities, this article addresses problems with class and equality issues with the farmers themselves. The farmers interviewed sold mostly to middle class or high-income families, and pointed out their discomfort with this fact. While they wished they could sell to a more diverse set of consumers, they needed to make a sufficient return on their product. Even so, most farmers had to attain lower prices by not paying themselves for their labor or by using interns.

- Quintana, M., & O'Brien, J. (2014). SNAP Redemptions at Markets Continue to Increase, and New Federal Support is on the Way. Retrieved from

<http://farmersmarketcoalition.org/2014-snap-update/>

In the last four years, SNAP authorized farmers' markets increased 63%. In 2013, 21.1 million dollars of SNAP benefits were redeemed at farmers' markets. However, there is still a large disparity between the number of markets existing today and the number that can accept SNAP benefits. In addition, this article reports data on SNAP authorized markets as well as spending.

- Schmidt, T.M., Gomez M.I. (2011). Developing viable farmers' markets in rural communities. *Food Policy*, 36(2), 119-127. Retrieved from

<http://dx.doi.org/10.1016/j.foodpol.2010.10.001>

This article takes a vendor survey of satisfaction at farmers' markets, but provides a disclaimer that it is hard to generalize, due to the wide variety of situations in geography, populations, community, etc. This study found that farmers prefer to sell to fewer markets, prefer to travel a shorter distance to the market, and are more satisfied in larger markets with many vendors.

- Tessman, N., Fisher, A. (2009). State implementation of the new WIC produce package. Community Food Security Coalition. Retrieved from <http://foodsecurity.org/pub/WIC-FarmersMarketReport.pdf>

The overwhelming trending cause of a market's inability to accept WIC or SNAP benefits is limitations on time and resources to implement EBT. The report gives data on vendor revenue from WIC and SNAP redemption, and explains the relationships between all federal nutrition programs.

- Trauger, A., Sachs, C., Barbercheck, M., Brasier, K., Kiernan, N.E. (2009, January). "Our market is our community": women farmers and civic agriculture in Pennsylvania, USA.

Agriculture and Human Values, 27, 43-55. doi: 10.1007/s10460-008-9190-5

It is interesting to note that women are more likely to engage in “civic agriculture,” using their farm to promote sustainability and environmental and social justice. The women interviewed used their farm to engage in their community, such as providing on farm education, nutrition education, or reaching out to minorities or low-income areas. This also added value to their farm and increased profits.

U.S. Department of Agriculture. SNAP Retailer Management Report 2013. Accessed at <http://www.fns.usda.gov/sites/default/files/snap/2013-annual-report.pdf>

U.S. Department of Agriculture. SNAP 2015 Year End Summary. Accessed at <http://www.fns.usda.gov/sites/default/files/snap/2015-SNAP-Retailer-Management-Year-End-Summary.pdf>

U.S. Department of Agriculture. (2016). FY13 through FY16 *National View Summary*. Accessed at <http://www.fns.usda.gov/pd/supplemental-nutrition-assistance-program-snap>. The FY13 through FY16 National View Summary contains national participation numbers and benefits totals for several years of the SNAP program.

U.S. Department of Agriculture Agricultural Marketing Services. Local Food Directory, National Farmers Market Directory. Accessed at <https://www.ams.usda.gov/local-food-directories/farmersmarkets>

This national online database tracks farmers markets and local food outlets, and can be sorted by state, type of payment accepted, and other market characteristics.

U.S. Department of Agriculture. Retailer and policy management division 2012 annual report. Retrieved from <http://www.fns.usda.gov/sites/default/files/2012-annual-report.pdf>

In the past five years, the number of SNAP authorized markets increased from 753 to 3,114. Out of these markets, 51% are located within ten states. The average purchase amount of SNAP customers was \$17.68.

Vitiello, D., & Wolf-Powers, L. (2014). Growing food to grow cities? The potential of agriculture for economic and community development in the urban United States. *Community Development Journal*. 49 (4): 508-523. doi: 10.1093/cdj/bst087

Many studies show the effects of urban agriculture and community gardens on economic wealth, but this study shows that it may have the most amount of productivity in social enterprise. Investing in low-income areas by providing jobs and transferable skills for at-risk youth, ex-prisoners, and other citizens will in turn increase economic wealth.

Young, C., Karpyn, A., Uy, N., Wich, K., and Glyn, J. (2011). Farmers' markets in low income communities: impact of community environment, food programs and public policy. *Community Development*, 42:2, 208-220. doi: 10.1080/15575330.2010.551663

This article in the Community Development Journal examines the Farmers' Market Nutrition Program (FMNP) and SNAP redemption at farmers' markets, and the opportunities and challenges these programs present to the farmer. This article gives more relevant data than most about the rate of redemption of WIC, FMNP, and SNAP at markets, as well as the potential for much greater revenue with increased redemption.