The Impact on Farmers 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 for farmers to provide fresh produce to rural and low-wealth 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 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, and if there are a sufficient number of outlets for direct and intermediated sales in rural areas to create a successful market for locally produced foods. If there are adequate markets, do farmers believe there is enough demand by low-income consumers to market specifically to them, and 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.

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Introduction

The local foods movement has been criticized for serving higher income consumers and communities (Hinrichs and Kremer 2002;DeLind 2011) and locating in higher 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 and 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 -- exists on how to increase consumer access to fresh fruits and vegetables, including farmers' markets, CSAs and food hubs (Community Science, 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 (see Allen 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 (Community Science, 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 SNAP 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 could find 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 difficult issue of rural food access.

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. As Winne (2008) argues, if there is no farmer, there will be no market. 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 (Grifin and Frongillo, 2003; Montri, 2011; Pilgeram, 2012). Because farmers' markets in low-income communities are more likely to fail (Fisher, 1999; Monri, Behe, and Chung, 2013), understanding what motivates a farmer to participate in a farmers' market in low-income communities or underserved areas is critical to broaden food access. Furthermore, 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 equipment to process wireless SNAP benefits, a significant start-up cost, while another strategy is to double the amount of purchasing power of the SNAP benefit itself through subsidization, a strategy that has now been formalized in the 2014 Farm Bill.

As we began our review, we anticipated finding research detailing barriers to entry for farmers to sell into low-income communities. We projected uncovering concerns 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 that would prevent farmers from selling into low-income communities, especially in rural areas. 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.[1] Multiple reports contain primary, mainly qualitative data, based on farmer

[1] This bibliography was developed by the University of California-Davis to help researchers and others interested in

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 of the major areas of data exists in research focused on Electronic Benefits Transfer (EBT) access at farmers' markets for recipients of the Supplemental Nutrition Access Program (SNAP, formerly Food Stamps). In 2013, over forty-seven million Americans participated in SNAP, with a total of more than 76 billion dollars allocated in benefits (USDA Nutritional Service, 2014). 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 8,144 markets existing in the United States today, only thirty-five percent are authorized to accept SNAP benefits (USDA, 2013)[2]. We examined the barriers to EBT

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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.

[2] Since SNAP benefits are electronic, farmers selling at farmers' markets must have access to a wireless device that can connect to the EBT account of the consumer. Anyone wishing to accept SNAP benefits must also apply and

implementation in farmers' markets, such as lack of funding, time constraints, and difficulty with training volunteers, vendors, and market managers on this system (Community Science, 2013; Local Food Research Center, 2012) in order to understand why there is such a large disparity between the number of markets and the number that allow EBT access. Lack of EBT access is an obvious barrier to low-income consumers attending farmers' markets, but the equipment is costly, and most markets do not have sufficient funding without outside support to implement and maintain the machinery (Community Science, 2013; Local Food Research Center, 2012). Fortunately, policy makers and community organizations are working to provide EBT access to all farmers' markets and vendors.

For instance, Maclovia (2014) shows that in 2013, the USDA provided an additional four million dollars (on top of four million previously allocated) to increase access of EBT to farmers' markets. In order to increase access more efficiently, the Food and Nutrition Service contracted a consultant, MarketLink, to recruit markets without access, train them on EBT devices, and provide the necessary equipment to implement EBT, free of charge. Founded in 2013 in partnership with the United States Department of Agriculture, MarketLink states that it has helped more than 3,000 farmers and markets accept electronic payments - including more than $1m in SNAP sales. There is little information to date on the efficacy of MarketLink and whether or not it is helping close the EBT acceptance gap at markets. Maclovia (2014) also provides state and nationwide data on SNAP redemption at farmers' markets.

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become authorized by the USDA's Food and Nutrition Service (FNS) to accept SNAP as a form of payment. It is expensive and time consuming for each market vendor to become authorized by FNS and to have their own device; thus many markets purchase the device as well as tokens that can be used at individual stands. An additional benefit for farmers is that some markets offer a similar token redemption system for customers who wish to shop using credit/debit cards. Markets must use a system of tokens which when spent at stands can then be redeemed for cash by individual farmer vendors at the market booth. The cost of tokens, an approved wireless device, combined with monthly wireless can be costly for a market, thus many states have subsidized markets wanting to implement EBT.

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As of 2013, SNAP users at farmers' markets redeemed $21.1 million of benefits, indicating that only .03 percent of benefits are redeemed at farmers' markets (USDA-FNS, n.d.). 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. Five programs, Wholesome Wave, Roots of Change, Fair Food Network and Market Umbrella implemented programs that offer SNAP participants an incentive to shop at farmers' markets by matching their produce purchases using SNAP benefits with funds from the incentive program. Most of these programs match SNAP purchases dollar for dollar (usually up to a certain limit) so that if a SNAP recipient spends $10 at the market, they 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 could have greater access to fruits and vegetables while attracting new customers who can support small farms and farmers' markets. An evaluation report on SNAP based incentive programs (Community Science, 2013) assessed the effect of the five programs mentioned above. Sixty-four percent of vendors 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. Seventy-three percent of incentives were redeemed in 2011, and ninety-six percent in 2012, indicating that market and program outreach improved, as well as increased customer interest in obtaining fresh fruits and vegetables. In 2012, of the 31 farmers' markets evaluated, vendors received between $49 and $328 SNAP benefits per month, and between $36 and $259 in SNAP incentives. The report did not indicate what percent of the total vendors' sales that SNAP represented.

Research examining farmers' attitudes toward a central terminal EBT program in Michigan found that farmers had a generally positive attitude towards these programs (Montri, Behe, and Chung, 2013). The forty-eight percent of farmers who viewed it as a positive change indicated that SNAP benefits were an important source of revenue for them. Another major reason for favoring this program was that farmers felt it 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 customer base to 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 and Rubin, n.d). Multiple sources reported the positive economic and social justice impact farmers' markets and healthy food has on communities. Flournoy (n.d.) talks 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, et. al, n.d.) Hagan, et. al. 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, et al (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. The authors argue that EBT acceptance is crucial to attract low-income customers, and the government should continue subsidizing the market to increase purchasing capacity on the part of consumers. USDA's Women, Infants and Children Farmers' Market Nutrition Program (WIC FMNP)[3] generated $20 million in farmer revenue (Young, et al., 2011). Because 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, using SNAP benefits at farmers' markets has a much greater potential to increase farmers' sales.

Although farmers may have a generally positive attitude towards these programs, there is no research or case studies done on specific farmers selling into low-income markets as a business opportunity. According to "Farmers' markets for All," (Local Food Research Center,

[3] 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. These programs were authorized for the first time nationally in the 1996 Farm Bill. They are subjected to annual appropriations processes, and in the last Farm Bill were authorized at $20.6 million. It is important to note key differences between the Farmers' Market Nutrition Programs 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 farmers' markets that were producer-only markets. WIC benefits themselves could not be used at the markets. For various reasons, food stamp benefits (now called SNAP benefits) were not considered for these initial programs, primarily because of the difficulty in redeeming food stamp benefits at farmers' markets. Food stamps were the first nutrition program to be electronic and there was not the technology 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. FMNPs are supplemental to other programs, such as WIC or low-income energy assistance, and subject to federal level annual appropriations, capped at $20 million per year. SNAP benefits are mandatory, in that whoever meets the qualifying program standards is eligible for these benefits regardless of appropriations. Thus, it is a much larger potential market for farmers oriented to local food production.

2012) all attempts to connect low-income consumers to farmers' markets have been 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 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, with an associated gain (or savings) of 23 to 47 jobs (Community of Science, 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, Dmitri 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 Entry: 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 (Dru, 2013; Fisher, 1999; Guthman, Morris, and Allen, 2006; Pilgeram, 2011). Farmers themselves are already often low-income, and pricing their food low enough just to break even (Pilgeram, 2011). Another theory considers the stereotype farmers may have about low-income and underserved 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 and 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 farmers' 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 (Flaccavento, 2011; Pirog and McCann, 2009). Essentially this indicates that consumers who can afford produce at retail stores could also afford local produce at farmers' markets; additionally, as a price-point indicator, farmers are sometimes charging similar prices as supermarkets. Plus, the farmer receives a greater share of the dollar when selling direct to consumers, indicating that selling into low-income communities could bring farmers a steady source of income, especially if EBT is accepted (Young et al., 2011). Research shows that a concern about higher prices is still the primary reason why low-income consumers avoid farmers' markets and shop at retail stores instead (Local Food Research Center, 2012); thus it is critical for markets to educate consumers about pricing (Bell, Mora, Hagan, Rubin, and Karpin, n.d.; Community Science, 2013; Local Food Research Center, 2012).

Comparing 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 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. Termed self-exploitation, farmers rarely price food high enough to pay themselves for their labor, thereby subsidizing the cost of the food they are selling (Galt, 2013; Pilgeram, 2011). Of the farmers interviewed by Pilgeram, many were uncomfortable with the reality that their clientele base came from mostly 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. For example, Community Supported Agriculture programs usually work by paying the farmer one lump sum at the beginning of the year, in order to pay for input costs on the farm. One farmer allowed CSA members to pay for their share throughout the month, and noted that this was important to increase her customer base. Pilgeram concludes that the world of sustainable agriculture[4] at the current time may not be socially responsible, one of its pillars::

> …these 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).

Social and economic equity is often forgotten in the public's understanding of sustainability so Pilgeram's reminder of how social sustainability comes into play in direct markets is important. 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 above research provides contradictory conclusions on the barriers of entry to farmers

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[4] 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).

to sell in low-wealth communities. First, Flaccvento 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 a capitalist 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 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 communities.

Who are the farmers?

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, 2011). 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 research 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, these farmers – about half the sample – were hoping to make farming a livelihood. Two 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, because they depended on farming as their sole source of income and needed to make a greater profit. Eighty percent of farmers 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 market because it was not as competitive, less intimidating, and they would not have a large volume of produce to sell to 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. These categories can help further research on what motivates a farmer to sell into low-income communities, and will also help market managers decide which type of vendors to add to their market.

In Schmidt and Gomez (2011) farmers selling into farmers' markets in a rural region of New York State were interviewed and data obtained on their preferred type of market. Increased vendor satisfaction correlated with greater customer foot traffic, a higher number of vendors, and lesser distance travelled 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, is very limited. It is evident that economic return is crucial for a farmer to sell into any type of community without markets being subsidized, 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 in farmers' markets in low-income communities. One problem with 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 markets that serve a wide-range of clientele, including low-income consumers; or farmers using market models other than farmers' markets like buying clubs, CSAs or delivery routes. However, it is clear that more research is necessary to understand the best ways to make direct marketing to low income communities, particularly rural communities, work. Qualitative research using interviews with farmers on this topic will likely provide valuable insight into how to make this concept work. 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.

Projects and Potential

Although little research addresses the perspective of the farmer who is reaching out to low-income communities, it does not mean there are no farmers self-motivated to do so, as Montri suggested in her research. 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. Multiple programs are becoming popular such as sliding scale CSAs (Community Supported Agriculture). The term "sliding scale" CSA means that CSA members pay a fixed amount based off of their income. Higher-income members subsidize lower income members by paying a higher amount at the beginning of the season for the same market basket of produce. Many CSAs are implementing this plan in order to diversify their client base and allow low-income consumers fresh produce access (Pilgeram, 2011).

Gleaning, 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 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. Gleaning groups, like the Society of St. Andrew, will also work with farmers to harvest so-called 'seconds,' which is produce that is blemished or oddly shaped that is still high-quality food, or to harvest produce that is not economically feasible to market for a variety of reasons.

In an inquiry about this literature review to the COMFOOD listserv, a plethora of responses came in 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 those less fortunate.

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, where it drives directly to low-income communities. Through these channels, transportation cost is reduced, and less food is wasted. A working paper, “Got Local Food? Understanding the Fresh Produce Supply Chain” gives insight to how backhauling and sourcing local decreases middleman and transportation costs, giving a fairer share to the farmer while keeping prices lower (Ata, Baris, Deishin, & Tongarlak, 2012). This backhauling strategy probably contributes to Mainers Feeding Mainers, helping them keep prices low in order to serve community members in need. 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.

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. 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. Urban Farmshare CSA in Rochester, New York is a non-profit organization that partners with a large organic farm to give CSAs at a discounted rate to lower-income shareholders. Fairshare CSA in

Madison, Wisconsin utilizes the “sliding scale” technique by allowing higher-income shareholders to subsidize lower-wealth customers.

The inquiry sent out called 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 apart of. Collaboration of farm with 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 knowing that these projects are out there is positive and hopeful, it would be much more beneficial for documentation to occur. There is substantial research that has yet to be done on projects like these, and in order to make them last, lessons learned and motivations are key.

The Way Forward

In sum, in order for the sustainable agriculture and food access models to truly coexist, research on the viability of the farmer should be addressed. An important research gap to fill is quantitative research on individual farmer revenue after SNAP EBT access implementation takes place, and how much this revenue contributes to a farmer’s total sales, and to track this over time as SNAP EBT programs become more established. If the SNAP redemptions are substantial for a farmer’s overall livelihood, it may encourage some farmers to sell into low-income areas.

Qualitative research should focus on farmer motivations from across different geographical areas, and perception 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 into a certain area may help us better understand what creates a successful market in an underserved community. One limitation of Montri's study is that she used early-stage farmers' markets to make up her case. These markets may not be established enough to draw the high amount of foot traffic or number of other vendors that Schmidt and Gomez (2011) found important from a farmers' perspective. It's highly like that foot traffic and the number of vendors is correlated with higher overall sales for a farmers' market which would potentially indicate that farmers who are pursuing livelihood strategies would be better satisfied.

It is also 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 (Community of Science 2013). But the literature we could find did not quantify revenue impact for farmers, nor were models other than farmers' markets for farmers to reach low-income communities examined. Thus, research is necessary to better understand the barriers to income generation for farmers selling into low-income communities, and what market potential is there if the barriers are addressed. The 'Mainers Feeding Mainers' model may be just the kind of activity that needs to be examined.

Given the examples that were gathered from the listserv request, documenting projects that are trying to connect small and mid-scale farmers with low-income consumers is critical. Exploring the different models used that create linkages between farmers and low-income communities for both their economic and social outcomes 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.[5]

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 and funders involved with SNAP incentive programs at farmers' markets, and more research on how those organizations work together successfully would be useful. But again, there are many models outside of farmers' markets that may exist (e.g. 'Mainers feeding Mainers' or the Missoula models). 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? Which kinds of models best serve food insecure families? 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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[5] 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 (forthcoming) 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.

References

Ata B., Baris L., Deishin L., & Tongarlak, M. (2012). "Got local food? understanding the fresh produce supply chain." Working Paper.

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 uses less reliance on mainstream, conventional retailers.

Bell, J., Mora, G., Hagan, E., Rubin, V., & Karpyn, A. (n.d.). *Access to healthy food and why it matters* (Rep.).

This review is the second installment of the research 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, Anne and Michelle Kaiser. (Forthcoming) An analysis of the differences in predictors of food affordability between rural and urban counties. Journal of Poverty.

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 people but struggle more with transportation. 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.

Community Science. (2013). SNAP healthy food incentives cluster evaluation. Retrieved from http://www.fairfoodnetwork.org

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 this program: including fundraising, marketing the program, manager and vendor training, and community networking.

DeLind, Laura B. (2011) "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 28:273-283.

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. Hot peppers and parking lot peaches. (1999). 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, November 1). Is local food affordable for ordinary folks? 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. (n.d.). Healthy Foods, Strong Communities. Retrieved from http://www.nhi.org/online/issues/147/healthyfoods.html
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.

Griffin, M.R., Frongillo, E.A. (2003). Experience and perspectives of farmers from upstate New York's farmers' markets. *Agriculture and Human Values, 20, 189-203.*
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, M., & Allen, P. (2006). Squaring farm security and food security in two types of alternative food institutions. *Rural Sociology 71(4), 662-684.* Retrieved from http://caff.org/wp-content/uploads/2012/06/Rural-Soc-food-farm-security.pdf
The goal of this journal is to see the extent that farmers' markets and CSA's are addressing food security, and whether the goal 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 needs to be guaranteed entitlements (such as from SNAP) that will allow consumers to spend their benefits at farmers' markets.

Hagan, E., Rubin, V. (n.d.). Economic and community development outcomes of healthy food retail. (pp. 12-18). Retrieved from http://www.policylink.org
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 Nathan, Jennifer Evans-Cowley, Jason Reece, Christy Rogers, Wendy Ake, and Casey Hoy. (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 5(1):105-127.
In a 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, Clare and Kathy S. Kremer. (2002) Social inclusion in a Midwest local food system. Journal of Poverty 6:65-90.
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, Clare and Liz Charles. (2012) "Local Food Systems and Networks in the US and the UK: Community Development Considerations for Rural Areas." Pp. 156-178 in M. Shucksmith, D. Brown, S. Shortall, J. Vergunst and M.E. Warner (eds) Rural Transformations and Rural Policies in the US and UK. Routledge: London.
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. (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.
Maclovia Q. (2014). SNAP redemption at markets continues 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.
Markowitz, L. (2010). Expanding access and alternatives: Building farmers' markets in low-income communities. *Food and Foodways,* 18:1-2, 66-80.
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, Steve, Michael Hand, Michelle Da Pra, Susan Pollack, Katherine Ralston, Travis Smith, Stephen Vogel, Shellye Clark, Luanne Lohr, Sarah Low, and Constance Newman. (2010) Local Food Systems: Concepts, Impacts and Issues. USDA – ERS. ERR 97.
Serves as primer on local food definitions, concepts and challenges, and includes pertinent data. Report was updated in January 2015.
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 to 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., Behe, B.K., Chung, K. (2013). Using a case approach to assess farmers' attitudes regarding central terminal model electronic benefits transfer.
This case study conducted in Michigan interviews farmers opinion 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*. 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 to 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 consumers vendors.

Pirog, R., McCann, N. Is Local Food More Expensive? A Consumer Price Perspective on Local and Non-local Foods Purchased in Iowa. (2009). Retrieved from http://www.leopold.iastate.edu/pubs/staff/prices.html
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 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 an ample return on their product. Most farmers had to subsidize by not paying themselves for their labor or using interns.

Schmidt, T.M., Gomez M.I. (2011). Developing viable farmers' markets in rural communities. Retrieved from http://dx.doi.org/10.1016/j.foodpol.2010.10.001
This article takes a vendor survey of satisfaction at farmers' market, 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 trend 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. n.d. 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. (2012). 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*. 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 creating jobs, transferable skills, and work ethics into 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 is a special issue in the Community Development Journal that looks at the challenges and opportunities of the Farmers' Market Nutrition Program (FMNP), such as WIC and SNAP redemption, on the viability of the farmer. This article gives more relevant data than most about the rate of redemption of WIC and SNAP at markets, as well as the potential for much greater revenue with increased redemption.