Farmworker Mobile Market Feasibility Study

August 2012

Funding for this project provided by: UC Sustainable Agriculture Research and Education Program (SAREP) Competitive Grant Program

This report is available on the California Institute for Rural Studies Website: www.cirsinc.org
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Executive summary

In an effort to address high rates of food insecurity, poor diet and nutrition, and limited access to healthy food among farmworkers, we set out to test the feasibility of a mobile market model for rural farmworker communities in California. The purpose of this study is to determine the viability of a mobile market model that offers fresh fruits and vegetables as well as healthy prepared foods for quick consumption during the peak season. We were also interested in the feasibility of a partnership model with farmers or distributors to supply the mobile market with food donations or sales at cost or below in exchange for coupons that they could offer to their farmworkers to use at the market.

The first phase of this project included research on various mobile market models operating throughout the country. This research is detailed in a separate report. This project was funded by $10,000 awarded through the UC Sustainable Agriculture Research and Education Program (SAREP) 2010 Competitive Grants program.

The original concept of this project was to address the food access issues of farmworkers via a hybrid mobile market and hot prepared-food business model. However, early on it became clear that operating a hybrid mobile market selling fresh produce and hot prepared food - “taco truck” style vendor - would not be feasible due to the logistics of and the regulatory requirements for operating a prepared hot-food operation and a mobile market in the same vehicle. Therefore, we decided to focus our feasibility study on a mobile grocery model selling farm fresh fruits and vegetables, other grocery staples, and pre-packaged prepared foods.

Findings from several studies indicate that farmworkers suffer from food insecurity and diet-related diseases. Farmworkers experience several barriers preventing access to healthy food, including: low incomes, lack of transportation, lack of food storage and cooking facilities, lack of knowledge of how to prepare healthy food, variable schedules and lack of time, lack of availability of and poor quality of available fruits and vegetables.

Several factors limit the ability for the mobile market to meet the food access needs of farmworkers and would ultimately impact the demand for a mobile market:

- Lack of transportation and long distances to travel to a centralized location in rural communities
- Low wages and extreme price sensitivity
- Cultural perceptions and preferences of fresh produce
- Lack of readily available culturally appropriate foods
- Variable and long work schedules that dictate a wider window of shopping times

Farmworkers meet some food access needs through a few local resources:

- An informal economy of food vendors including room and board arrangements, co-workers, street vendors, and community members
- Fast food restaurants (although less common in the winter)
- Farms that allow farmworkers to take food home
- Emergency food banks
There are numerous challenges to partnering with farmers and distributors to supply the mobile market model with food donations, below-cost, or at-cost in exchange for coupons that farmers can provide to employees to use at the market. These challenges include:

- Logistical complexity of food distribution
- Limited participation levels from farms due to crop type and availability of product
- Burdensome coupon management requirements
- Inability to sustainably subsidize the cost of food.

Mobile markets are very complex operations that have many regulatory and licensing requirements and extensive organizational and logistical resources to operate. Although there is continued interest in addressing food access barriers in low-income communities among government and foundation funders, the dependence on these funding sources to sustain the program puts the program in an ongoing struggle to secure funds.

The income generation potential of a project targeting the farmworker community is very limited due to the extremely low incomes earned and price sensitivity in food purchasing. And the amount of supplemental income resulting from SNAP benefit utilization in a mobile market targeting farmworkers is likely to be lower than the amounts received in urban projects due to low utilization rates among farmworkers and immigrants in general. Given the level of resources required for a project like this, other strategies to address food access may be a better use of funding.

Several additional strategies for addressing food access barriers among farmworkers surfaced during this research. Some other potential strategies to investigate include:

- A rural “healthy corner store” distribution hub and network
- Food access programs through clinics and other community organizations, including “Veggie Rx” programs, subsidized community supported agriculture (CSA) food share boxes, and farm stands
- A program to support existing catering trucks and other mobile food vendors that offer and promote healthy food options
- Food business entrepreneur incubators to support business development among the informal food business sector
- Food bank distribution efforts that can increase the impact of food distributions to farmworkers by integrating promotora networks, offering culturally appropriate foods and services, and reducing registration requirements
Introduction

In an effort to address high rates of food insecurity, poor diet and nutrition, and limited access to healthy food among farmworkers, we set out to test the feasibility of a mobile market model for rural farmworker communities in California.

The purpose of this study was to determine the viability of a mobile market model that offers fresh fruits and vegetables as well as healthy prepared foods for quick consumption during the peak agricultural labor season. We were also interested in the feasibility of a partnership model with farmers or distributors to supply the mobile market with food donations or sales at cost or below in exchange for coupons that they could offer to their employees to use at the market.

The first phase of this project included research on the various mobile market models operating throughout the country. This research is detailed in a separate report (A Directory of Mobile Markets Addressing Food Access in Low-income Communities). This project was funded by $10,000 awarded through the UC Sustainable Agriculture Research and Education Program (SAREP) 2010 Competitive Grants program.

Methods

Several sources of data inform this report including background research on mobile markets, key informant interviews, farmworker interviews, and focus group transcripts from the 2007 Fresno Farmworker Food Security Study. We conducted key informant and farmworker interviews between February 2012 and July 2012. The background research included reviewing secondary research data, project websites, blog postings and news articles featuring mobile markets and other food access projects throughout the county.

We conducted 28 key informant interviews with four groups: farmers and distributors (4), community based organizations serving farmworkers or other low-income communities (12), mobile food project practitioners (9), and three (3) organizations representing farmer/distributor based mobile food projects. Twenty-four key informant interviews were conducted by phone and four were conducted in person. We interviewed key informants using a semi-structured interview protocol with questions tailored to the specific farming operation, organizational activities, or project model operated by the key informant.

Originally we planned to conduct one focus group with farmworkers, but we decided that we would get a greater diversity of responses if we spoke to farmworkers individually. This enabled us to obtain interviews from men, women, and indigenous farmworkers, which would have been difficult to accomplish in one focus group. Using a convenience sampling approach, we conducted ten interviews at local laundromats in Chualar, California and Salinas, California. A Spanish-speaking community based interviewer conducted the interviews. We also reviewed the focus group the focus group transcripts from CIRS’s 2007 Fresno Farmworker Food Security Study, which provided insight into grocery shopping habits, cooking and eating patterns, and perceptions of healthful foods.
Need

**Key Questions:**

- What is the need for this project?
- What factors contribute to the need of this project?
- What factors contribute to lack of access to and consumption of healthy foods among farmworkers?

Findings from several studies indicate that farmworkers suffer from food insecurity and diet-related diseases. Agricultural workers are the backbone of California’s $37.5 billion-dollar agricultural industry and are responsible for producing many of the fresh fruits and vegetables that feed our nation and the rest of the world. Nonetheless, many agricultural workers are food insecure and suffer from hunger and poor diet and nutrition. In a study completed in 2010 in the Salinas Valley, CIRS found that sixty-six percent of the farmworkers surveyed were food insecure. Seventy-one percent of the respondents ate less than five servings of fruit and/or vegetables per day with 16% consuming less than two servings per day.

In addition to food insecurity, farmworkers exhibit high rates of diet-related disease, including high blood pressure, high serum cholesterol and iron deficiency. Despite their youth and the physical nature of their work, farmworkers are also more overweight than both the general population and other Hispanics. Findings from the California Agricultural Worker Health Survey indicate that 81% of male and 76% of female agricultural workers are overweight, while 28% and 37% respectively are obese.

The USDA defines food insecurity as limited access to adequate food due to lack of money and other resources. There are several measures for defining food access, but most measures take into account the proximity to healthy food retail establishments and affordability of healthy foods. Food access is limited by several factors including scarcity of retail establishments, lack of transportation and low-incomes.

The Fresno Farmworker Food Security Assessment conducted in 2007 identified several barriers preventing access to healthy food, including: affordability, lack of knowledge of how to prepare healthy food, lack of time, lack of availability and poor quality of available fruits and vegetables, and lack of transportation.

**Lack of transportation**

According to a 2009 USDA report on food deserts, “vehicle access is perhaps the most important determinant of whether or not a family can access affordable and nutritious food.” Lack of transportation is a significant issue for farmworkers. Data from the National Agricultural Worker Survey (NAWS) indicates that slightly less than half (49%) of California farmworkers reported that...

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1 (California Department of Agriculture 2012).
2 (Kresge, L. and C. Eastman 2010).
5 (USDA ERS 2009).
6 (Wirth, C., R. Strochlic, et al. 2007).
7 (USDA ERS 2009).
they did not own a vehicle. However, more recent data from California Rural Legal Assistance states that in California only 39% of all farmworkers drive their own cars. In a recent National Needs Assessment, Health Outreach Partners identified lack of transportation as the main reason that farmworkers do not access health care.

Consequently, farmworkers must rely on others for transportation needs. According to the NAWS, 27% of workers said they got rides from “raiteros” and four percent rode a labor bus. Among the farmworkers getting rides from “raiteros” or on the labor bus, 49% said they paid a fee and 38% said they paid for gas.

**Low incomes**

According to the 2003-2004 NAWS data, 22% of all responding California farmworkers earned incomes below the federal poverty level (18% of single farmworkers and 24% of families). The same study indicates that

> “75% of all individual farmworkers and 52% of all farmworker families earned less than $15,000 per year. Furthermore, an examination of the annual income figures reported by farmworkers in California in 2003-2004, shows that 43% of individual farmworkers and 30% of all farmworker families earned less than $10,000 per year.”

**Limited access to food storage and cooking facilities**

Many farmworkers live in shared housing situations – often living with people who are not family or friends. These housing conditions are often overcrowded and limit the ability to store food and easily access cooking facilities. Some focus group participants indicated that sharing cooking facilities limits their willingness to buy high quality foods due to concerns about theft.

**Lack of knowledge**

Findings from two CIRS farmworker food insecurity studies indicated a very strong interest in nutrition and food preparation education among farmworkers. In the 2007 Fresno Food Security Study, 49% of the respondents indicated that “I don’t know how to prepare healthy foods very well.” According to the 2010 Salinas Farmworker Food Insecurity Study:

- 77% of the participants indicated that they were very interested in learning how to prepare healthy foods
- 81% indicated they were interested in how to eat and prepare food to control and prevent diabetes, high blood pressure, and/or high cholesterol
- 82% indicated interest in learning how to eat and prepare healthy food inexpensively.

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8 (Aguirre International 2005).
9 (CRLA 2011).
10 (HOP 2010).
11 (Aguirre 2005).
12 Ibid.
14 (Kresge, L. and C. Eastman 2010).
Variable schedules and lack of time

Based on key informant and farmworker interviews, shopping and food preparation time presents a barrier to healthy eating for farmworkers. The nature of farm work dictates that workers often work a variable and unknown schedule thus limiting the ability for them to plan ahead for shopping and food preparation. For farmworkers without vehicles, depending on others for rides increases time and scheduling constraints since they are subject to the schedules of others.

Project Scope

The original concept of this project was to address the food access issues of farmworkers via a hybrid mobile market and prepared-food business model. However, early on it became clear that operating a hybrid mobile market selling fresh produce and hot prepared food - “taco truck” style vendor - would not be feasible due to the logistics of and the regulatory requirements for operating a prepared hot-food operation and a mobile market in the same vehicle. Therefore, we decided to focus our feasibility study on a mobile grocery model selling farm fresh fruits and vegetables, other grocery staples, and pre-packaged prepared foods.

Technical requirements and logistics

Key Questions: What is the business model that addresses the need? What is necessary for this business model to operate?

A business model addressing food insecurity among farmworkers must mitigate the food access needs and consumption behaviors barriers listed below.

- Location
- Cultural appropriateness
- Convenience (time and effort)
- Affordability (very low cost)
- Education

Organizational requirements

Based on background research and key informant interviews, we have identified several market start-up and operational requirements for a mobile market program. The specific requirements may vary depending upon the products delivered, local communities, partnerships, and program structure. (See Figure 1.)

- **Project administration**: business planning and development, organization administration, fundraising and development, communications, volunteer coordination, program evaluation
- **Market staffing**: Spanish speaking operations staff (sales and driver)
- **Facilities**: refrigerated inventory storage, equipment storage and parking
- **Truck and trailer or delivery truck**: retrofit for refrigeration, retail refrigerators and freezers, shelving for food storage, ADA ramp or other accommodation, external truck branding and design (subject to local food regulations)
- **Money handling equipment**: cash register, credit/debit card reader, EBT (SNAP) reader machine
• **Power equipment**: electrical cords, generator for refrigeration

• **Additional partnership requirements**: site partners for market stops; nutrition and fitness education partners; community leaders, organizers, and advocates; suppliers/distributors

**Figure 1. Mobile market development and organizational requirements**

**Permits and licensing requirements**

Each county in California permits and regulates mobile food vendors operating within their county. Permitting requirements may differ in each county. The type of permit and license necessary for a mobile food vendor depends on the type of food offered. Mobile food vendors selling hot food prepared on-site have the most requirements for operation (including hand-washing sinks, water, and food enclosures) while vendors selling whole foods (uncut fruit and whole frozen foods) have
fewer requirements. Often mobile food groceries are outside the parameters of existing vending license categories. In fact, a few mobile food projects have had to advocate for regulatory changes within their communities in order to operate as a mobile grocery. The following is a list of some of the health code requirements to operate a mobile food vending business.\textsuperscript{15} \textsuperscript{16}

- Operator must utilize (and check in once a day) an approved commissary facility to clean vehicle and prepare foods (requirement: signed verification of your contract (leased space) from commissary owner)
- Mobile food vendors (if parked in one spot for longer than one hour) need to have approval from a local business within 200 feet from the operating vendor for mobile food vendor customers to use the restroom (requirement: signed verification by local business owner of a restroom facility availability)
- Vehicle inspection by health department
- Vehicle must meet health code specifications
- Completed sanitization procedure form
- Vending permit
- Food handler’s permit
- Food safety permit
- Operator (and vehicle) identification
- Operational statement of business activities
- Approval from the county housing department
- City business license for each community in which the mobile food vendor plans to operate and to be in compliance with local zoning code.

Some additional permits and licenses required for operating a mobile food business include a commercial driver’s license (if operating a truck or trailer over specific weight limits) and a seller’s permit from the California State Board of Equalization. Also, a mobile food vendor must carry workers’ compensation insurance, property insurance and liability insurance. Many mobile food groceries have had some difficulty falling within the specific insurance categories and have had to negotiate with insurance carriers to find an appropriate policy.

Nationally, the recent trend of gourmet mobile food vendors has highlighted the onerous and often conflicting nature of the codes regulating mobile food vendors. Much of the conflict lies within the city councils that experience political pressure from bricks and mortar businesses and chambers of commerce. A few key informants expressed concern about the political climate of some of the Central Valley rural farming communities and the ability of a mobile market to obtain the business license to operate in those communities (or operate a project without continuous hassles). As the key informant explained, “I would be concerned about the challenge of getting buy-in with the local government. It is very political here. There are lots of issues with mobile food vendors. The attitude is to get rid of all of them. It is local politics – opposition from the mom and pop stores.”

**Mobile market logistics**

The logistics of operating a mobile market are extremely complex and require extensive partnerships and organizational capacity. The supply side requirements include: supplier (farmer) relationship development and management, product ordering, product storage and stock replenishing, food transportation logistics, and food preparation. On the demand side, the

\textsuperscript{15}(Sacramento County 2012).
\textsuperscript{16}(Fresno County 2012).
requirements include: partnerships with community leaders and organizations, conveniently located market stop host sites (with large enough parking lot and potentially electrical connection for refrigeration units), communication mechanism (schedule) and mobile market promotion.

**Figure 2. Basic mobile market logistics model for one market site stop**

In addition to the logistical requirements, several other factors increase the logistical complexity in rural communities, including the following:

- Geographically sparse populations (farmers/suppliers and farmworker clients)
- Time required for traveling long distances between communities (greater time operating while not making sales)
- Labor hours for lengthy travel times
- Fuel requirements
- Limited windows of time to schedule multiple market stops

The logistical complexity and the resources required for operating the mobile market combined with the potentially low sales volume due to small populations in the service area presents a challenge to the viability of the mobile market for rural communities and the justification for the resources.
Market analysis

Target clientele

The target market for the mobile market is the farmworker communities in rural agricultural towns in California. Based on the California dataset from the Department of Labor’s 2003-2004 National Agricultural Workers Survey\(^\text{17}\), the following is a snapshot of some key demographic characteristics of California farmworkers, relevant to the study:

- Nearly all (99%) California farmworkers are Hispanic and the majority of farmworkers in California (96%) is from Mexico.
- An estimated 20% of farmworkers are of indigenous origin from the southern states of Mexico.
- Slightly more than half (51%) of all farmworkers interviewed lived with immediate family members.
- Seventy-five percent of individual farmworkers and 52% of farmworker living with families received earnings below $15,000 per year.

Demand

**Key Questions:**  
Does the proposed model address the need?  
What would negatively impact demand?

**Transportation and market site location**

Farmworkers without a vehicle depend on the will and timing of neighbors and co-workers to get a ride to the store or to work or pay for rides from a “raitero.” Many farmworkers take a labor bus to the specific field scheduled for work for the day. Twenty-six percent (26%) of respondents in the Fresno Food Security Study indicated that they got rides from others to go to the grocery store and 73% of them paid for the ride at an average of $20 per round trip.\(^\text{18}\)

Clearly, transportation is a significant barrier for the farmworker population. This poses a challenge for the mobile market model for scheduling market stops. In rural communities with widely spaced housing developments and farms, a centralized location as an access point for the proposed market does not remove this access barrier. For many farmworkers, consistent access to the market can only be achieved with door-to-door delivery. As one key informant explained, “Not everyone is coming from the same neighborhood. Even getting to one location is difficult without transportation...I guess it is possible to figure out the route and get a sense where the population is concentrated. You would have to drive along the main roadways.”

**Cost**

Poverty is very prevalent among farmworkers due to low-wages, migratory status, and seasonal variation in employment. Therefore, it is no surprise that data from farmworker interviews and focus groups indicate that farmworkers are extremely price sensitive. As one focus group participant stated, “We don’t eat a lot of fruits and vegetables because we don’t have enough money.” And another focus group participant agreed, “[If I had more money] I would buy

\(^{17}\) (Aguirre International 2005).  
\(^{18}\) (Wirth, C., R. Strochlic, et al. 2007).
vegetables, I would make fruit juice in the mornings, I would buy better meat, fish, shrimp, better chicken...Right now I buy the meat that is the cheapest.” This is supported by a comment from a key informant, “Even though farmworkers pick the crops, the wages they make are not enough for them to make ends meet to pay for expenses like clothing, food, and rent.”

Many farmworkers send money back to Mexico or other countries of origin. As one key informant noted, “They send as much money as possible back to their families in Mexico.” And according to another key informant, many farmworkers are, “Paying their debt with high interest that they accrued to come over to the US.”

The seasonal nature of work significantly impacts food-purchasing patterns among farmworkers. As one farmworker succinctly described, “In the summer, I spend around $30 to $40 dollars a week [on groceries], but I spend $15 to $20 dollars a week during times when there is little or no work.” To deal with the winter down time, some farmworkers leave for the winter and others migrate for different harvests. A few farmworkers mentioned that they save money from the summer to survive the winter and that some farms provide winter bonuses to help carry farmworkers through the winter.

In one focus group, some farmworkers reported that if people run out of money in the winter, they take loans from family members or friends (loan size can vary, but it can be $1,000 - $2,000 for 2-3 months) and interest rates are very high for these loans (10-12% per month). Once they return to work in the spring, a large portion of their paycheck goes to pay off these loans. Also, wages can be low in the spring for jobs such as grape pruning on piece rate wages, which can work out to be less than minimum wage (e.g. $50 for an 8-10 hour day). 19

Although many farmworkers qualify for Supplemental Nutrition Assistance Program (SNAP) benefits (CalFresh/Food Stamps), few farmworkers participate in the program. According to the NAWS, only 4% of the farmworkers participating in the survey received food stamps.20 The Fresno Food Security Study found that 48% of the eligible respondents reporting receiving food stamps.21 However, farmworkers are more likely to receive Women, Infants, and Children benefits.22

Farmworkers in the Fresno study cited a range of reasons for not using the SNAP benefits (CalFresh/food stamp program). Several feared that receiving benefits would compromise their immigration status and chances of gaining residency status. Others mentioned that they were unfamiliar with the eligibility requirements or application process.

The cost of food is a major barrier to food access among farmworkers. This extreme price sensitivity means that the market would have to be highly subsidized.

**Cultural appropriateness**

Cultural perceptions and preferences influence food purchasing decisions made by farmworkers. Many of the vegetables regularly eaten by farmworkers in Mexico are not easily available (in grocery stores) or they are very expensive. Some of the vegetables mentioned include purslane,

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19 These focus groups were conducted in 2004-2005.
20 (Aguirre International 2005).
21 Eligibility was determined based on survey variables including household size, household income and whether at least one adult in the family was documented and/or had children born in the U.S.
22 (Wirth, C., R. Strochlic, et al. 2007).
23 NAWS data indicates that 17% of farmworkers received WIC.
cactus leaves (nopales), and mustard greens. As one person explained, "You can buy a small bunch (of purslane) at the remate (flea market) for $1, but you need to buy at least 5-10 bunches to feed your family." Furthermore, many farmworkers mentioned that they were unfamiliar with various food items that are available.

Several key informants pointed out that eating vegetables is not a big part of the traditional Mexican diet. Findings from a focus group among indigenous farmworkers found that people were eating vegetables - even culturally appropriate vegetables – only 2x per week and even though they are aware of the importance of eating more vegetables and buy them (like carrots), they forget to eat them and they sit in the fridge for a very long time. On the other hand, a few farmworkers mentioned that they ate more fruits and vegetables in Mexico because they were more readily available.

An growing awareness of diet related diseases may be increasing interest in healthful food and nutrition. A few farmworkers mentioned making dietary changes due to diabetes. For example, one woman explained, "When my husband had to change his diet, it changed the diet for the whole family. Now we eat vegetables, but before we didn't like them."

Participating farmworkers expressed frustration with the availability and cost of fruit. Hence, a few farmworkers mentioned that they considered fruit a luxury. Many farmworkers emphasized that it was hard to find quality fruit – a factor that determined where a few farmworkers decided to shop.

Finding culturally appropriate foods may also pose a supply challenge since there may not be many farms - particularly farms in rural communities distanced from urban centers - that grow specialty crops to meet the demand of immigrant communities. It will be critical for a mobile market to offer cultural appropriate food that farmworkers are familiar with while educating farmworkers about preparing unfamiliar food and about diet related disease.

**Convenience**

Farmworkers interviewed for this study indicated that they choose where they shop for food based on convenience, including the ability to get everything they need in one place and proximity to home or laundry facilities; the variety of products; and specials offered. One key informant noted that a few stores in town offer to cash checks for farmworkers if they spend a certain amount of money on groceries.

During harvest and peak seasons, people often leave home very early in the morning and arrive home very late; this limits opportunities for them to go to the store (ability to find a ride, ability to get to the store before closing). Work schedules also pose a challenge to the ability for a mobile market to address the access needs of farmworkers. This is a critical issue for mobile markets in general, as one key informant explained,

“There are obviously challenges of a mobile market inherent to any geographical situation - one being that they tend to not operate on regular hours. It can be challenging for residents to settle into a particular kind of rhythm and habit of scheduling to be able to consistently patronize and get to the mobile market when it is available...We have heard from residents that they are very frustrated with the very limited window of time that the mobile market is available to them and what they wanted so that they could shop based on their own schedule.”
The scheduling and time barriers that farmworkers experience as a result of the unique characteristics of farm work present a challenge to the success of the mobile market in addressing farmworker food access needs. Although mobile markets can address the issue of convenience by operating on a regular and consistent schedule, farmworkers may not be able to make it to the market on days in which they are working late to meet a deadline.

**Farmworker interest in mobile vendors and coupons**

One goal of this study was to identify farmworker interest in purchasing food from mobile food vendors and utilizing coupons for purchasing food from these vendors. Data from the farmworker interviews reveal variable degrees of interest in mobile food vendors. Half of the farmworkers with whom we spoke indicated that they were very interested in a mobile grocery vendor, a few people were somewhat interested and a few were definitely not interested in purchasing food from a mobile food vendor. The farmworkers who were less interested mentioned that they don’t trust the products sold by mobile vendors because of concerns about the safety of the food, the quality of the products (because it sits in the truck all day), and the freshness (the fruit sits around for too long and it is too ripe). Some of this perception may come from observations of local fruit vendors that sell fruit out of their trucks. On the other hand, a few farmworkers were very excited about the potential of purchasing food that was fresh from the farm rather than the supermarket.

All of the farmworkers with whom we spoke expressed enthusiasm about the potential of receiving coupons that could be used to purchase items. Based on our interviews it appears that many farmworkers are very focused on specials and opportunities to save money. In fact, many farmworkers mentioned that the specials offered by stores were the primary reason they chose the store where they shopped.

**Competition**

*Key Questions: What are the existing strategies to address need?*

**An informal economy is a common source of food**

A few key informants and interviews with farmworkers revealed that many farmworkers eat meals, including packed lunches, which are provided to them as part of their room and board. One key informant, a previous fieldworker, indicated that she lived as a “rentero” when she first arrived in Salinas, California to work in the fields. Her rental agreement included a shared garage with three meals a day. She sought out this arrangement so that she would not have to spend the time to prepare food and instead could spend her spare time resting after long days working as a lettuce packer. Although her experience was positive, other key informants indicated that this practice could be part of a larger exploitive model in which farmworkers are indebted to other farmworkers, or crew leaders, in positions of power.

Additionally, according to key informants, some farmworkers will supplement their income by preparing lunch for their co-workers. In this case a farmworker, or farmworker’s spouse or other family member, will return home to prepare their lunch and lunches for their co-workers and then bring these lunches to the field the following day. Similar to the meal brought from home, burritos and tacos are the most common foods provided. Co-workers often exchange payment for this service on payday at the end of the week. Other examples of this practice, mentioned by key informants, include farmworkers who sell sodas and snacks to other co-workers and farmworkers who eventually leave farm work and return to the farm to sell breakfast or lunch to previous co-workers. Some of these field workers eventually become “loncheros,” or lunch truck operators.
In addition to “renteros” and co-workers, there are other informal businesses operating in the community. Street vendors and in-home businesses are a cultural practice carried over from Mexico and other Latin American countries. Although some farmworkers express concern about the safety of food sold by these local community vendors, they appear to play a large role in providing food for the farmworker community. According to some key informants and farmworker interviews, these local vendors offer a wide range of food items including soups, tamales, tacos, burritos, and traditional beverages.

**Fast food consumption**

Most farmworkers with whom we spoke indicated that they did not frequent fast food restaurants more than once per week. However, the farmworkers in the Fresno study mentioned that they do tend to go to fast food restaurants more often in the summer when they are busy with work and have more money. In that study, 15% of the respondents indicated that they eat fast food more than one time per week in the winter and 25% of the respondents eat fast foods in the summer more than once per week.

As one focus group participant indicated, “In the summer we work ten hours a day in the fields or packing houses and we don’t have a lot of time to cook. We eat at fast food restaurants two or three times a week. In the winter when I’m not working I try to prepare healthier meals.” Another focus group participant explained, “When you’re not working there’s more time to cook. When you’re working, there isn’t time; we eat pizza and fast food.” Providing convenient foods in the summer is an important element for the successful mobile market. One key informant noted, “fast food is cheaper and you don’t have to prepare anything, it is not good for the health of the community and it is clear to us that for the past 10 years this has been a huge issue in our community.”

**Other sources of food**

Many farmworkers shop at swap meets or flea markets for their produce. As one key informant explained, “The flea market vendors are where people go to buy produce and beans. Farmworkers won’t go to the farmers’ market because it is too expensive.”

Some farmworkers also receive food from their workplace. In previous research conducted by CIRS, 42% of participating farmworkers reported that they were allowed to take food home from the farm. However, 38% of the respondents were rarely or never able to take food home from the farm. And some focus group participants indicated that they felt that they were able to eat enough fruits because they could eat fruits while picking.

Our findings indicate that many have received emergency foods, often through a church or other community organization with which they are affiliated. The farmworkers who have received emergency food expressed appreciation for the food, but also explained that they are unfamiliar with many of the products (powdered milk, bread, canned foods). One key informant mentioned the same issue, explaining that farmworkers will often receive the canned food items and not know what to do with the products and they will eventually end up throwing the products away once they expire. On the other hand a few farmworkers reported that they do not use food bank programs because they are ashamed to do so.

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25 (Kresge, L. and C. Eastman 2010).
**Impact on local economy and existing community resources**

One significant issue that should be considered regarding introducing mobile food vendors into rural communities is the impact on the local economy, including local groceries and convenience stores, existing mobile food vendors, and the informal food sector. Although many farmworkers express frustration that the local stores are expensive and offer poor quality produce or limited selection, these local stores are important assets for the community. Moreover, introducing a mobile vendor in direct competition with these local groceries could cause a negative impact in the community by threatening the survival of these local permanent businesses.

**Supply**

*Key questions:*

1. **Is it feasible to partner with farmers and distributors to supply the mobile market model with food donations, below-cost, or at-cost?**
2. **Is it feasible to exchange food for coupons for employees?**

This study set out to assess the viability of a hybrid mobile food market selling fresh produce, grocery items and prepared-foods. One goal of this study is to determine the feasibility of partnering with farmers and distributors to supply the mobile vending business with fresh produce via donations or sales, at cost or below, in exchange for coupons that farmers can provide to employees to use at the market. Based on key informant and farmworker interviews, the selection of products should take into account the following factors: cultural appropriateness, food quality and freshness, and convenience.

**Logistics**

There are many barriers to partnering directly with farmers to supply the mobile market. Perhaps the greatest barrier to partnering with one or more farms to supply the mobile market is the complexity of procurement and distribution logistics.

Strategies for coordinating the transport of products from the farm to the mobile vendor storage facility include: pick-up at farms or farm delivery. For a farm to deliver, they need to have enough volume in an order to make it worth the time and resources to process the order and make the delivery. On the other hand, coordinating with multiple farms to pick-up produce greatly increases the logistical complexity for the mobile market. This challenge is exacerbated with long distances or sprawled farms – a reality of many rural farming communities in California.

A challenge of working with individual farmers to supply the mobile market is that not all farmers will have a consistent supply of product. Additionally, even if product is available, it can be difficult for a farm to take the time to process small amounts of product for pick-up or delivery.

Another potential strategy is coordinating supply pick-up with multiple farmers at a local farmers’ market, but the challenge is that farms are limited to what they can fit on the truck and they need to sell as much of that product as possible. As one farmer stated, “We really can’t afford for something like this to be in competition with our retail customers since we are basically breaking even.”
Farmer-coupon partnership model

As mentioned, this study set out to evaluate the potential of partnering with farmers and distributors to supply the mobile vending business with fresh produce via donations or sales, at cost or below, in exchange for coupons that farmers can provide to employees to use at the market. Key informants mentioned several challenges to operating this type of partnership program.

All key informants felt that it would be a logistical challenge for farmers to hold and distribute coupons. For example, it would require a farmer to manage a monitoring and tracking system in addition to all of the paperwork already required of farmers.

Many farms do not grow fresh produce for the marketplace (nursery, cut flowers, wine grapes and other processing crops) so farmworkers who work on these farms would not have access to the coupon program. Other farms may offer fresh produce for the marketplace, but may not be able to participate in the program at any given time due to a myriad of unforeseen circumstances. As one key informant explained, “Farming is very volatile and not easily controllable. There are so many factors that are beyond farmers’ control; for example, weather, pests, and the behavior of other producers.” These factors may affect the availability of product and the ability of a farmer to afford donating, or selling products at or below cost and thus, eliminating the coupon benefit for the farmer’s employees.

The model may only be appealing to some of the employees so it would be an inequitable benefit and opens up to the potential for conflict at work among employees or toward the employer. It would be better to connect the coupon to the educational component or implementation side of the program or to the use of WIC or EBT benefits so that the coupons are more likely to be utilized and linked to a support system. As one farmer succinctly put it,

“The barter and trade model takes a lot more effort because you have to chase stuff down and nobody – farmers or retailers – has time for that. It is a good idea in theory, but it seems like the amount of human resources and efforts to pull it off would be huge and the benefits not great. It is likely that only 25% of the coupons would ever be redeemed – maybe even less depending on how robust the system was. I would rather maximize sales to maximize wages and benefits rather than contribute to a system that is inefficient.”

A few key informants mentioned that many farmers are not in the financial position to provide free, below cost, or even at cost products to subsidize a mobile market project. As one key informant explained,

“We had discussions with a farmer for over a year before our first try about creating access of organic local food for the low-income community. And she taught me that farmers struggle as much sometimes as the low-income communities and that some farmers are low-income and that some farmers even use the local crisis food bank in town and that they shouldn’t be asked to provide their food for free, they should be compensated for their food. So that was one of the foundational requirements of our project. The farmers have to be paid.”

After discussing the break-even financial situation of his farm, another farmer explained that they needed to sell all viable products at full cost. They could not supply a project - no matter how much they would like to support the idea - with donated food or even food at cost. He explained, “We cannot put this project in direct competition with our retail customers. We need to sell our product – at this point to even break-even.”
For suppliers and distributors, the situation is the same. The profit margins of suppliers are not very high limiting their ability to sustainably subsidize a mobile market through discounts on food. As one key informant noted with regard to getting discounts from suppliers, “The onus is on suppliers to care about your mission and they can [give you a discount] for maybe a year or two but not on an ongoing basis. They are operating on very slim margins as well.”

**Prepared food options**

To address the time and convenience barriers that limit food access among farmworkers, it is important for a mobile market to offer culturally appropriate, pre-packaged or semi-prepared foods. However, offering healthy pre-packaged and semi-prepared foods increases logistical complexity and resource needs for a mobile market.

There are two strategies for supplying healthy, prepackaged or semi-prepared foods: identify outside suppliers or prepare and package foods in-house. Preparing prepackaged food in-house involves meeting additional regulatory requirements and resources, such as commercial kitchen space, labor, equipment, and supplies. Therefore, acquiring healthy, pre-packed or semi-prepared foods from a local supplier or distribution company is a more feasible approach given the resource limitations of a subsidized business model. Some of the mobile markets researched for this project incorporated innovative strategies to address this supply challenge by offering a variety of semi-prepared foods including:

- Meal-kits prepared in-house including a recipe card with all of the ingredients pre-portioned and ready to cook
- Semi-prepared frozen foods prepared through a partnership with local culinary training program
- Local restaurant items packaged to-go

**Other Supply strategies**

Based on our key informant interviews the model of partnering with farmers to supply fresh produce in exchange for discount coupons for employees to use at the mobile market is not feasible. But there are other strategies for meeting the supply needs of a mobile market.

Other innovative product sourcing strategies used in mobile markets reviewed for this study or suggested by key informants include:

- Order core products through a local distribution company (potentially at a discount) and work with local farmers to supplement with extra produce, as available
- Partner with local consumer food co-op for coordinating all supply and storage logistics, placing orders with distribution companies, and placing special orders for mobile market clients
- Partner with an education or demonstration farm to supply fresh produce
- Purchase fresh produce at farmers’ markets
- Partner with food banks to coordinate transportation and distribution logistics
- Coordinate with one or multiple community supported agriculture (CSA) farms to receive a few box shares a week to supply fresh produce needs (potentially work with the farms to get the shares donated by CSA subscribers)
Financial analysis

**Key question:** Is this a sustainable model?

The start-up and operating costs to develop a mobile food vending project vary significantly depending on several factors including: the specific business model, products sold, partnerships, existing infrastructure owned or operated by project partners, type and source of vehicle, amount of required retrofits for vehicle, and access to volunteers.

**Sales income**

The income generation potential of a project targeting the farmworker community is very limited due to the extremely low incomes earned and price sensitivity in food purchasing. Food assistance program benefits are a significant source of income in mobile markets operating in urban communities. There are several barriers that prevent farmworkers from utilizing food assistance benefits including, fear of government and misperceptions about the consequences of applying for food stamps, misperception about eligibility, application process, and documentation requirements, and seasonal income fluctuations that can affect income eligibility, and a misunderstanding of the renewal process. Hence, the amount of supplemental income resulting from SNAP benefit utilization in a mobile market targeting farmworkers is likely to be lower than the amounts received in urban projects due to low utilization rates among farmworkers and immigrants in general.

**Sustainability of subsidy**

As discussed previously, it is not feasible for farmers to subsidize the mobile market model through food donations or sales at or below cost. Given the limited income potential from farmworkers and federal food program benefits and limited ability for farmers to subsidize the cost of inputs, this mobile market model will require a continuous source of subsidy from foundation and government grants. Moreover, the logistics of operating a mobile market in sparsely populated rural communities increases the operating costs for a program model that is already stretched to break-even. As one key informant noted,

“This approach is very labor intensive. It is hard to think of any long-term options for the sustainability unless you are able to identify a sustainable approach meeting an emerging need that will grow for a while. The infrastructure in rural communities is so limited.”

Although there is continued interest in addressing food access barriers in low-income communities among government and foundation funders, the dependence on these funding sources to sustain the program puts the program in an on-going struggle to secure funds. As summarized by one key informant,

“The problem for any mobile market in any context is the lack of viability financially of the market to sustain itself. That largely has to do with the simple way that retail works as a low-margin business requiring fairly significant volumes in order to generate sufficient margins to cover operating costs...What this means [sic] inherently and what we are finding with every other mobile market around

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the county is that they are perpetually and structurally subsidized and they have to be in order to succeed.”

**Evaluation**

In this feasibility study we have found that mobile markets are very complex operations that require extensive resources to operate. We have identified several challenges to operating a mobile market in rural farmworker communities in California. Although not all of the challenges presented in this feasibility study are insurmountable, there are a few challenges that limit the viability of this mobile market model.

The questionable extent to which the mobile market will actually address the food access barriers of convenience and transportation among farmworkers is a significant barrier to the viability of this model. As one key informant reflected, “The availability of operating hours is really critical. People want to shop when it is best for them and that is obviously all over the map. For everybody it is different...Mobile markets are inherently unable to satisfy that particular outcome.” Furthermore, the transportation logistics both on the supply side and the demand side pose significant barriers to the feasibility of the mobile market. If the transportation barriers were adequately addressed, the tax on resources to do so would jeopardize the feasibility of this model.

Many mobile market operators acknowledge that mobile markets are an interim solution and not economically sustainable. As one key informant summarized, “There is a growing consensus that mobile markets are not financially viable and that they tend to have very minimum impact relative to the scale of need in any given situation. What is really problematic about that growing consensus is that it is including a lot of funders.”

Given the amount of resources required for this project, other strategies to address food access may be a better use of funding. Several additional strategies for addressing food access barriers among farmworkers surfaced during this research. Some other potential strategies to investigate include:

- A rural “healthy corner store” distribution hub and network
- Food access programs through clinics and other community organizations, including “Veggie Rx” programs, subsidized community supported agriculture (CSA) food share boxes, and farm stands
- A program to support existing catering trucks and other mobile food vendors to offer and promote healthy food options
- Food business entrepreneur incubators to support business development among the informal food business sector
- Food bank distribution efforts that can increase the impact of food distributions to farmworkers by integrating promotora networks, offering culturally appropriate foods and services, and reducing registration requirements

Possible next steps:

- Monitor the strategies for financial sustainability among existing mobile market projects with a focus on the rural projects that have recently launched.
Conduct research among farmworkers on:
- Shopping patterns, preferences and other factors that impact convenience
- Eating habits (via dietary records and food journals)
- Changes in dietary behaviors from nutrition education efforts combined with food access programs
- Informal food economies within the farmworker community to try to identify potential economic development and nutrition intervention strategies

References


