Background on Food Insecurity in the United States

The USDA defines food security as access by all people at all times to enough food for an active, healthy life (USDA-ERS). Food insecurity, then, is understood as a lack of access to enough food to be healthy and active (USDA-ERS). In 2014, 14 percent of Americans were food insecure (Coleman-Jensen, Rabbitt, Gregory and Singh, 2015). Of those, 5.6 percent (or 6.9 million households) reported very low food security, which indicates reduced meals and disrupted eating patterns and hunger (Coleman-Jensen, et al, 2015). Rates of food insecurity are highest among households with children (19.2%); households with children headed by single women (35.3%); households headed by Black, non-hispanics (26%); and Hispanics (22.4%) (Coleman-Jensen, et al, 2015). Food insecurity is greatest in the South (15.1%), and in non-metropolitan (rural) areas (15.7%) (Coleman-Jensen, et al, 2015).

What happens when people are food insecure? Research has demonstrated that food insecure populations have higher health care costs, greater likelihood of heart disease, diabetes, increased rates of mortality, higher blood pressure and many other health concerns (Hossfeld, Kelly, Smith Waity, 2015). Indeed food insecure households’ health care costs are almost 50% higher than those households that are considered food secure (Tarasuk et al 2015). Food insecurity is of particular importance to Mississippi, whose food insecurity rate is 22.7 percent, the highest in the nation, well above the US average of 14 percent (USDA-ERS 2014).

Food insecurity is often associated with living in a food desert. Food deserts are defined by the USDA as areas “without ready access to fresh, healthy, and affordable food. Instead of supermarkets and grocery stores, these communities may have no food access or are served only by fast food restaurants and convenience stores that offer few healthy, affordable food options. The lack of access contributes to a poor diet and can lead to higher levels of obesity and other diet-related diseases, such as diabetes and heart disease.” While food deserts may not directly cause food insecurity, they are good indicators of areas where food insecurity is more likely (Morton et al., 2005). Recent research on the characteristics of food deserts finds that relative to other census tracts, food deserts tend to have smaller populations, higher rates of abandoned or vacant homes, and residents who have lower levels of education, lower incomes and higher unemployment and higher concentrations of minority populations (Dutko, Ploeg and Farrigan, 2012).
Poverty, Food Insecurity, and Access to Food in Mississippi

The population of Mississippi is 2,976,890 with a poverty rate of 23% (14.5% for the US). The median household income is $39,031 ($53,056 for the US). 57% of the state population is white, non-Hispanic; 37% is African American; and 3% Latino. 14% of the population is over 65; 24% is under 18 years old; and 7% is under the age of 5 (US Census 2014). The child poverty rate is 33.7% (22% for the US).

Of the 82 counties in the state, Mississippi has 50 counties that are considered persistent poverty counties. Persistent poverty is a USDA measure that captures the dimension of time; therefore, these are counties that have poverty rates over 20% over the last 30 years measured by the decennial census. In other words, 61% of Mississippi counties have deep, embedded poverty of 20% or more for over 30 years or more. Most of the state is considered rural, with only 17 metro, or urban, counties; 45% of the population lives in urban counties. Of the metro or urban counties, 9 are persistent poverty counties. There are 9 counties with population loss between the 2000 and 2010 Census and all of these are persistent poverty counties.

According to the USDA-FNS (2015), there are 668,624 Supplemental Nutrition Assistance Program (SNAP) recipients in Mississippi. Of these recipients, 64% are female, 61% are African American, and 37% are white. During fiscal year 2013, SNAP provided approximately $1 billion in food benefits to Mississippi recipients.

Mississippi has the highest food insecurity rate in the nation at 22.7%. 34 of the 82 counties in the state have food insecurity rates over 22% and all of these are considered rural except for four (USDA-ERS 2013). There are 11 counties in the state in which 20% of the population has both low income and low access to grocery stores; all but one of these are persistent poverty counties (USDA-ERS 2010). The food insecurity rate for the 17 urban counties in the state is 21%; the rural food insecurity rate is 23% (65 rural counties). The child food insecurity rate for Mississippi is 29% (population under 18 years old).

Mississippi has 167 census tracts that are considered food deserts by the USDA (using the original food desert measure) located in 63 counties (77% of the state). Of those 167 food desert census tracts, 103 have an additional characteristic of low vehicle access. Of the 63 counties with food deserts, 31 of the counties have African American populations of over 40%; 22 of these counties have African American populations over 50%; 15 of these counties have African American populations over 60%; and 10 of the 63 counties have African American populations over 70%.

14% of the adult population has diabetes (about the same as the US population) and over 35% of the adult population in Mississippi is considered obese (USDA 2013).
Local Food Activity in Mississippi

According to the Mississippi Department of Agriculture and Commerce (MDAC), there are 84 farmers’ markets in the state; 23 of which have SNAP-EBT capacity. 26 counties in the state do not have farmers’ markets.

The US Agriculture Census of 2007, lists 1229 farms in the state\(^1\) with direct farm sales and 191 CSAs\(^2\) in the state (USDA-2007 data). A CSA stands for Community Supported Agriculture and is defined by the USDA as a “community of individuals who pledge support to a farm operation so that the farmland becomes, either legally or spiritually, the community's farm, with the growers and consumers providing mutual support and sharing the risks and benefits of food production. Typically, members or "share-holders" of the farm or garden pledge in advance to cover the anticipated costs of the farm operation and farmer's salary. In return, they receive shares in the farm's bounty throughout the growing season, as well as satisfaction gained from reconnecting to the land and participating directly in food production. Members also share in the risks of farming, including poor harvests due to unfavorable weather or pests. By direct sales to community members, who have provided the farmer with working capital in advance, growers receive better prices for their crops, gain some financial security, and are relieved of much of the burden of marketing.”

USDA Agriculture Census lists two food hubs\(^3\) in Mississippi: one in Jackson County and one in Forrest County (Jackson County has 4 CSAs and Forrest County has 5 CSAs USDA-ERS 2007 data). Food hubs are resources for communities in that they organize aggregation and distribution of farm products from multiple farmers with the aim of creating a positive impact on the local economy through building the capacity of small and mid-sized farmers. It should be noted that Forrest County reports 3 farmers’ markets that accept SNAP-EBT. The capacity in Forrest County around local food seems promising and a potential location for a SNAP vegetable and produce promotion project. According to a phone interview with the Mississippi Department of Agriculture there is a new food hub in DeSoto County, 3 Rivers, and a new food hub operation in the Jackson area\(^4\).

\(^1\) An interview with Mr. Purvie Green, Mississippi Department of Agriculture and Commerce confirms this number (approximately).

\(^2\) An interview with the Mississippi Department of Agriculture suggests that the 2007 Ag Census data may not be current as the CSA count was too high based on actual current CSAs. Phone interview with Mr. Purvie Green, Mississippi Department of Agriculture and Commerce

\(^3\) An interview with the Mississippi Department of Agriculture and Commerce suggests that the 2007 Ag Census data may not be current as the food hub was not familiar with the two food hubs.

\(^4\) Phone interview with Mr. Purvie Green, Mississippi Department of Agriculture and Commerce
There is some organizing around local foods in the Northwest part of the state near Oxford. Currently the Oxford Farmers’ Market is successfully coordinating and utilizing EBT transactions. Two other markets that are also successful are in the McComb area and Copiah County Market. At the State Farmers’ Market in Jackson, individual producers are utilizing EBT transfers. A Wellness Project in Charleston, MS in Tallahatchie county that has a farmers’ market may be a point of opportunity in developing an incentive program as well. According to MDAC, the northwest, Delta, Central and South Mississippi may have areas of interest in expanding EBT use through incentive programs.

In July 2015, Alcorn State in partnership with Mississippi Department of Health, launched a mobile market in Utica due to the closing of a grocery store in the area. Tiffany Grant is the lead investigator in this project.

Four years ago, the Mississippi Department of Human Service revamped the process for vendors to obtain and utilize Electronic Benefits Transfer (EBT) machines. MDAC provided vendor sign-up trainings and access to free EBT equipment for Mississippi growers. During the first year about 84 vendors signed up and each subsequent year fewer vendors signed up, and currently less than ½ of signed up vendors are actually using the EBT machines. SNAP EBT sales receipts are very low at Mississippi Farmers’ Market overall. Some of the problems and barriers to increasing SNAP EBT include: 1) lack of knowledge by SNAP recipients that EBT is available; 2) transportation for SNAP recipients to farmers’ markets, especially for seniors; 3) lack of knowledge about what to do with fresh produce once purchased; 4) lack of interest by vendors/growers to use machines; 4) there are large group of growers who are no interested in technology; do not want to report income; not interested in EBT use.

Unlike other states, most farmers’ markets in Mississippi are volunteer-run. There is little support to train volunteer staff and thus incentive programs are difficult to implement primarily because the reporting, reconciliation and redemption of EBT receipts can be burdensome. The lack of paid Market Managers who are responsible for recruiting growers, over site of markets and EBT card use makes it very difficult to sustain incentive programs; very few markets have this type of needed infrastructure.

There are very few farm to school programs in the state of Mississippi however there are indicators of increased awareness of the need for these programs and movement towards implementation. In 2014 USDA awarded three small grants to support farm to school initiatives in Mississippi: Choctaw Reservation Schools in Choctaw, MS (Choctaw County); The Partnership for a Healthy Mississippi in Flowood, MS (Rankin County); and The Partnership for a Healthy Mississippi farm to school activities in five school districts in MS (districts not identified). In addition, Mississippi has 8 Food Corps Service Members. Food Corps is a federal program (similar to AmeriCorps Vista) in which service members work in communities and schools to connect kids to healthy food. Food Corps Service members in Mississippi work in Shelby (Bolivar County), Jackson (Hinds County), Sunflower (Sunflower County), Greenwood (Leflore County), Oxford (Lafayette County), and Tupelo (Lee County). All of these locations have existing farmers’ markets.

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5 Phone interview with Mr. Purvie Green, Mississippi Department of Agriculture and Commerce.
Existing FINI Programs across the US

Pilot incentive programs to increase Supplemental Nutrition Assistance Program (SNAP) participants purchasing of fruits and vegetables have been implemented across the country. Most incentive programs focus on increasing the purchasing power of SNAP benefits for fruits and vegetables. Programs typically have an economic component and/or education component and/or and access component (i.e. mobile markets). All typically have a marketing component to inform SNAP users of the incentive programs. Points of contact include largely farmers markets and retailers (primarily grocery stores but also to lesser extent other retailers that that accept EBT). Few include a community supported agricultural (CSA) component. In addition few programs create new points of contact in communities to address access issues to local fresh foods (i.e. mobile farmers markets or CSA boxes).

- Various programs focus on
  - Increasing local fresh fruits and vegetables
  - Increasing targeted fruits and vegetables- which included fresh, canned, frozen and dried fruits and vegetables with added sugars, fats, oils or salt.

Programs typically have economic incentive component, some couple the economic component along with an education component and/or an access component.

- Economic incentives components delivered in multiple ways:
  - Proportion of funds per dollar spent on targeted fruits and vegetables put back on the EBT card
  - Coupon/Voucher/Token
    - A match, up to a limit (usually $10 or $20 a day)
    - Others provide a partial match, such as two dollars per every $5 in SNAP benefits used or the match maybe available for the entire season or for a portion of the season
  - Some of the incentives can only be used on more fruit and vegetables. Other stipulate the incentives can be used for any SNAP approved foods

- Education component included a range:
  - Reading materials
  - Cooking demonstrations
  - An innovated “Fruit and vegetable prescription program”

- Access component
  - Mobile farmers markets introduce into areas where traditional framers markets are located
  - CSA boxes
Research on Existing Incentive Programs

Healthy Incentives Pilot (HIP)
- The main goal of HIP is to increase participants’ consumption of targeted fruits and vegetables.
- The Healthy Incentives Pilot (HIP) provided SNAP households with a 30% incentive on purchases of targeted fruit and vegetables (TFVs). These TFVs include fresh, canned, frozen, and dried fruits and vegetables without added sugars, fats, oils or salt.
- After purchasing an eligible TFV in a retailer that participated in HIP, the 30% incentive was added back to the participant’s Electronic Benefit Transfer (EBT) card.
- HIP participants (adults aged 16 and older) consumed significantly more fruits and vegetables per day—almost a quarter of a cup-equivalent than non-participants.

Farmers’ Market Incentive Program
- In 2010-2011, the Philly Food Bucks program was implemented. This program provided $2 bonus incentive coupons for every $5 in SNAP benefits used. The coupons could only be redeemed for fresh fruit and vegetables at farmers’ markets.
- Program goals
  1) to bring new customers to markets in low income communities,
  2) to increase purchasing power for fruits and vegetables,
  3) to increase fruit and vegetable consumption among low-income consumers and,
  4) to increase use of SNAP at farmers’ markets.

- Philly Food Bucks were distributed one of two ways: 1) onsite at Farmers’ markets along with SNAP purchases and 2) by community organizations that serve SNAP-eligible populations. Coupons distributed by community groups could be redeemed without making a SNAP purchase (Young, Aquilante, Solomon, Colby, Kawinzi, Ny et al 2011).
- Participants in the Philly Food Bucks program were significantly more likely than nonparticipants to report eating more fruits and vegetables and trying new fruits and vegetables since becoming customers at the market.
- Markets that participated in the Philly Food Bucks program had larger increases in SNAP sales per market than were observed before the bonus incentive program (Young, Aquilante, Solomon, Colby, Kawinzi, Ny et al 2011).

Mobile Farmers’ Markets
- Mobile Markets improve access to healthy, affordable food regardless of where you live. Mobile Markets tend to schedule regularly stops in low-income, food-insecure communities. They offer high quality locally grown farm products at affordable prices.
- Mobile markets accept several forms of payment such as SNAP benefits, Bonus Bucks, and cash. They also provide educational resources for how to prepare the Market’s offerings in nutritious and cost effective ways.
- Arcadia Mobile Market in DC retrofitted a school bus that operates as a mobile farmer’s market during the period of May through October.
• Researchers have examined this market’s efforts to bring nutrition education to low income students
• The Arcadia Mobile farmers’ had three educational objectives:
  • Exposing students to local fresh produce via demonstration farmers market
  • Nutrition education focused on the USDA MyPlate, taste tests
  • Agricultural education emphasizing sustainable farming practices and local farming characteristics
• 408 middle schools students in the DC Area were given a six question multiple choice pre and post survey which targeted two educational objectives relating nutrition and agriculture
• Pre-test was administered by teacher before leaving the classroom. Post-test was administered immediately following the mobile market experience
• The nutrition scores increased from 58% in the pre-test to 74% in the post-test
• Mobile market provided an effective environment for teaching nutrition concepts.
Previously funded FINI Multi-Year Large-Scale Projects

Source: http://nifa.usda.gov

- **Ecology Center**, Berkeley, CA  
  $3,704,287 | California Market Match offers dollar-for-dollar matching of SNAP benefits, designed to simultaneously reduce diet related illness among California's low-income shoppers and stabilize farming communities in some of the nation's most economically devastated farming regions.

- **Wholesome Wave Foundation Charitable Ventures, Inc.**, Bridgeport, CT  
  $3,775,700 | Wholesome Wave will increase purchases of fruits and vegetables by SNAP consumers by providing incentives at the point of purchase in 17 states and the District of Columbia, reaching approximately 110,000 SNAP consumers over three years. The project will benefit 3,400 small and mid-size farm vendors, work with 364 Farmers Markets, 23 CSA programs, and 38 mobile markets. Many of the projects are located in underserved communities, Promise Zones, and Strikeforce communities.

- **AARP Foundation**, Washington, DC  
  $3,306,224 | Implement innovative, replicable incentive programs in 22 Kroger Stores and 31 Farmers Markets in Mississippi and Tennessee designed to increase the purchase and consumption of fresh fruit and vegetables by SNAP participants.

- **Florida Certified Organic Growers and Consumers**, Gainesville, FL  
  $1,937,179 | Fresh Access Bucks enables farmers markets to accept EBT and allows SNAP users to purchase double their food dollars for fresh, Florida-grown fruits and vegetables at farmers markets. Fresh Access Bucks intends to expand to 50 markets over a three year period in at least 21 counties throughout Florida. The benefits will reach 18,564 SNAP participants.

- **Massachusetts Department of Transitional Assistance**, Boston, MA  
  $3,401,384 | Expand the Healthy Incentives Program to provide a dollar-for-dollar match for each SNAP dollar spent on targeted fruits and vegetables purchased at Farmers' Markets, Farm Stands, Mobile Markets, and CSAs statewide.

- **Fair Food Network**, Ann Arbor, MI  
  $5,171,779 | Expand the Double Up Food Bucks program from farmers markets to retail grocery, from seasonal to year-round (in select locations) and from tokens to technology
as a means of processing transactions.

- **International Rescue Committee, Inc.,** New York, NY
  $564,231 | Increase availability of locally-grown, culturally appropriate fruits and vegetables among refugee and immigrant populations in Salt Lake City, Phoenix, Baltimore and Charlottesville by distributing Fresh Fund Incentives to 3,100 participants at all market venues in these four cities.

- **Washington State Department of Health,** Tumwater, WA
  $5,859,307 | Offer a variety of cash incentives in 21 counties to SNAP shoppers at supermarkets and farmers markets to increase their purchases of a variety of fruits and vegetables; a social marketing and promotional campaign will raise awareness about the incentive programs. The program involves 168 Safeway stores, 86 Farmers Markets and CSAs and includes a fruit and vegetable prescription program, known as Veggie RX, at participating stores.
Potential Outlets for food insecurity projects

- Incentives
  - Double Dollars
  - $ Grocery Stores

- Farmers’ Markets
  - Need infrastructure development

- Affordable Produce Box
  - CSA

- Mobile Fresh Markets

- Increase Fruit and Vegetable Purchases among SNAP participants
  - Improve nutrition and health status

- Farmers/Growers
  - Farmers’ Markets
  - SNAP participants

- Education Component
  - How to ensure sustainability?

- Existing Resources
  - Farmers’ Markets EBT
  - Community Kitchens
  - FOOD CORPS Projects
  - Backpack Program
**Literature Cited:**


