

Food Insecurity in the South: A Case Study of Hattiesburg, Mississippi

Annual Conference of
Mississippi Political Science Association

February 12, 2016

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Presentation Components

- To give an overview of food insecurity
- To provide an overview of food deserts
- Give a brief description related to both historical and current research related to food insecurity issues.
- Provide characteristics of food deserts
- Characteristics of a community garden
- Preview USDA' s Food Desert Web map Application
- Discuss the general approach to addressing the issue in the City of Hattiesburg, Mississippi
- Preliminary Findings related to the Edward's St. Fellowship Center
- Provide a framework for future research in the community.

Research Questions

1. *Does addressing food insecurity in communities lead to sustainable communities?*
2. *What makes communities more desirable for supermarkets?*
3. *Does the incorporation of food systems planning effectively improve access to fresh fruits and vegetables?*
4. *What measures can policymakers incorporate to adequately address food deserts and food insecurity?*
5. *Does the involvement of non-profits effectively address food insecurity in communities?*

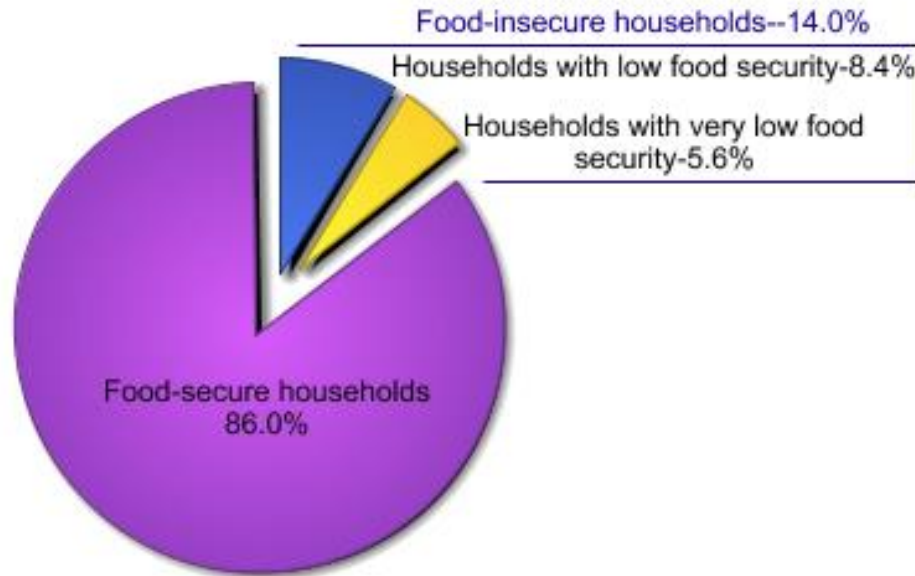
Food Insecurity

Food insecurity is limited or uncertain availability of nutritionally adequate and safe foods or limited or uncertain ability to acquire acceptable foods in socially acceptable ways.

(Life Sciences Research Office, S.A. Andersen, ed., "Core Indicators of Nutritional State for Difficult to Sample Populations," *The Journal of Nutrition* 120:1557S-1600S, 1990.)

Food Insecurity: By the Numbers

U.S. households by food security status, 2014



Source: Calculated by ERS using data from the December 2014 Current Population Survey Food Security Supplement.

Food Insecurity: By the Numbers

In 2014:

- 48.1 million people lived in food-insecure households.
- 12.4 million adults lived in households with very low food security.
- 7.9 million children lived in food-insecure households in which children, along with adults, were food insecure.
- 914,000 children (1.2 percent of the Nation's children) lived in households in which one or more child experienced very low food security.

Source: <http://www.ers.usda.gov/topics/food-nutrition-assistance/food-security-in-the-us/key-statistics-graphics.aspx>

Food Insecurity: By the Numbers

All households with children (19.2 percent),
Households with children under age 6 (19.9 percent),
Households with children headed by a single woman (35.3 percent),
Households with children headed by a single man (21.7 percent),
Black, non-Hispanic households (26.1 percent),
Hispanic households (22.4 percent), and
Low-income households with incomes below 185 percent of the poverty threshold (33.7 percent; the Federal poverty line was \$24,008 for a family of four in 2014).

What is a Food Desert?

- USDA Version (Specific):

Area in the United States with limited access to affordable and nutritious food, particularly such an area composed of predominantly lower-income neighborhoods and communities.

Source: USDA.

- Does Your Community Fit the Profile?

- To be considered a food desert at least 500 people and/or at least 33 percent of the census tract's population must reside more than one mile from a supermarket or large grocery store (for rural census tracts, the distance is more than 10 miles.)

Source: USDA , <http://www.usda.gov>)

Why is this research important?

- According to the CDC, more than half of all Americans live with a preventable chronic disease and many are related to obesity, poor nutrition and physical inactivity.
- MS has the highest adult obesity rate in the nation. (Rate is 35.1 percent.. 2004-28.1 percent and 1990-15.0 percent)
- By 2030, the MS obesity rate is estimated to be 66.7 percent (Robert Wood Johnson Foundation)
- 15.4 percent of MS public high school students are obese.
- Over the next 20 years, Mississippi's obesity could contribute to 415,353 new cases of type 2 diabetes, 814,504 new cases of coronary heart disease and stroke, 751,568 new cases of hypertension, 487,642 new cases of arthritis and 111,069 new cases of obesity related cancer.

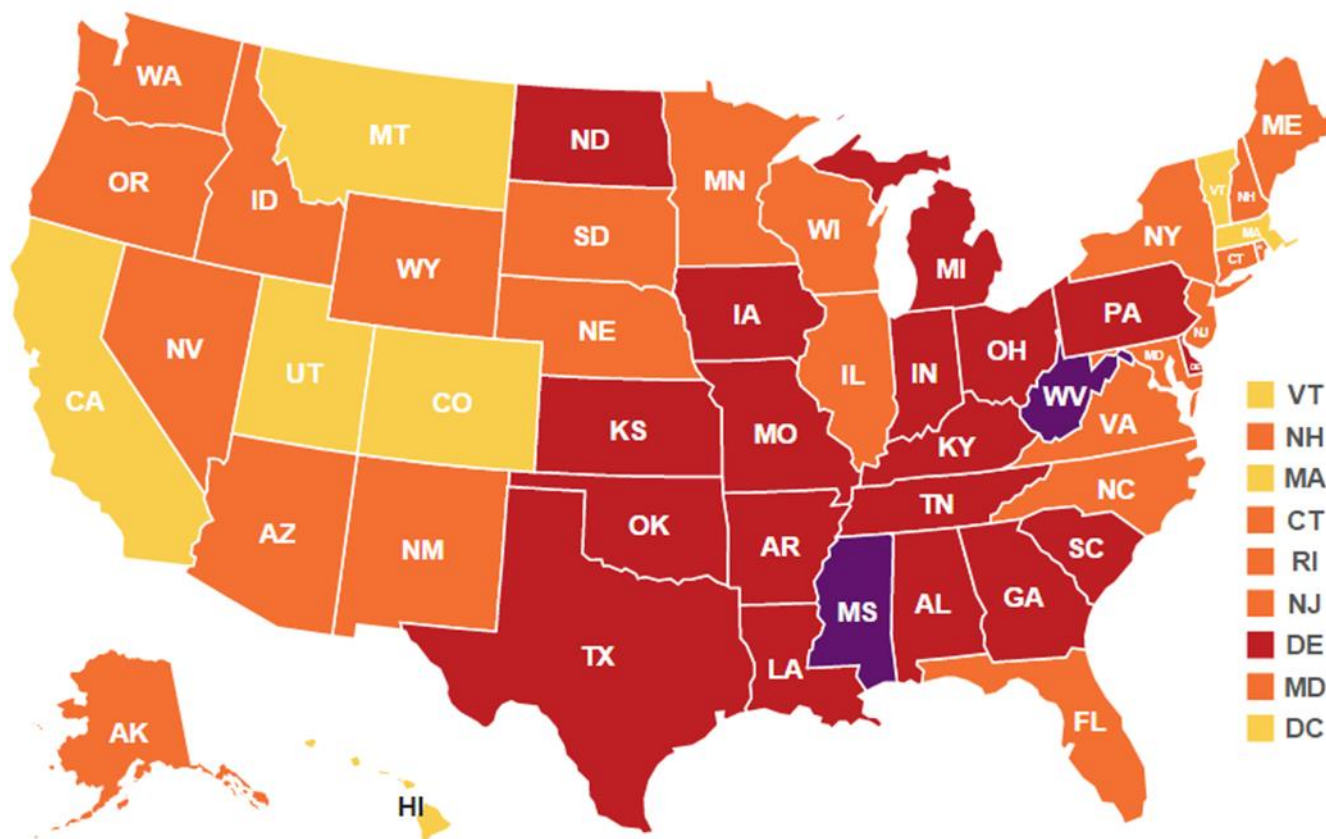
Why is this research important?

- Reduce the amount of medical costs associated with obese related illnesses. In 2008, MS spent \$925 million in health care costs directly related to obesity.
- Create healthy, sustainable communities.

MS Adult Obesity Prevalence

Percent of obese adults (Body Mass Index of 30+)

0 - 9.9% 10 - 14.9% 15 - 19.9% 20 - 24.9% 25 - 29.9% 30 - 34.9% 35%+



What Is A Community Garden?

- Any piece of land gardened by a group of people. (American Community Garden Association).
- Is different from private garden by the type of ownership, access and its degree of democratic control (Ferris and Sempik, 2001).
- **People coming together for a common goal or set of goals.**
- **Benefits:** improving the quality of life; catalyst for community development; stimulates social interaction; encourages self-reliance; beautifies neighborhoods; produces nutritious food; reduces family budgets; conserves resources; creates opportunity for recreation, exercise, therapy and education; reduces crime; preserves green space; creates income opportunities; reduces city heat and provides opportunities for intergenerational connections (American Community Garden Association, 2008.)

A Brief History and Role of Community Gardens

Three Main Movements

- *Vacant Lots*
- *School Gardens*
- *Victory Gardens*

Literature review

Weatherspoon, Dave D., et al. "Will Long Term Food Desert Consumers Purchase Fresh Fruits and Vegetables?." Choices , Vol. 27, no. 3 (3rd Quarter 2012) pp. 1-4

- More than 500,000 people in Detroit in 2007 with more than half living in food deserts. Some areas have limited access dating back to 1969 riots.
- Last supermarket chain left the city in 2007 (Farmer Jack).
- Fringe retailers are 0.2 miles from households and mainstreams are two and three times that distance.
- 49 percent of those in study area of this study do not own a vehicle.

Literature review

Hendrickson, et al. "Fruit and Vegetable Access in Four Low Income Food Deserts Communities in Minnesota." Agriculture and Human Values , Vol. 23, (2006) pp. 371-383

- Food in urban neighborhoods was on average, more expensive than food in rural counties. Two-thirds of foods higher than the MBP in rural communities were not staple foods.
- The quality of food available in these areas is inferior and inedible in many cases.
- **Solution is better community planning and stronger infrastructure**

Research Approach

- Independent Variable: Implementation of community gardens and related programs and policies.
- Dependent Variable: Program participants
- Unit of Analysis: Users

Data Collection Methods:

- Existing research at facility
- Surveys
- Review of food and assistance requests (comparisons)
- Assessing strength of collaborative partnerships
- Statistical analysis of survey results (multivariate analysis)

GOAL: To survey participants pre-post exposure to community gardens.

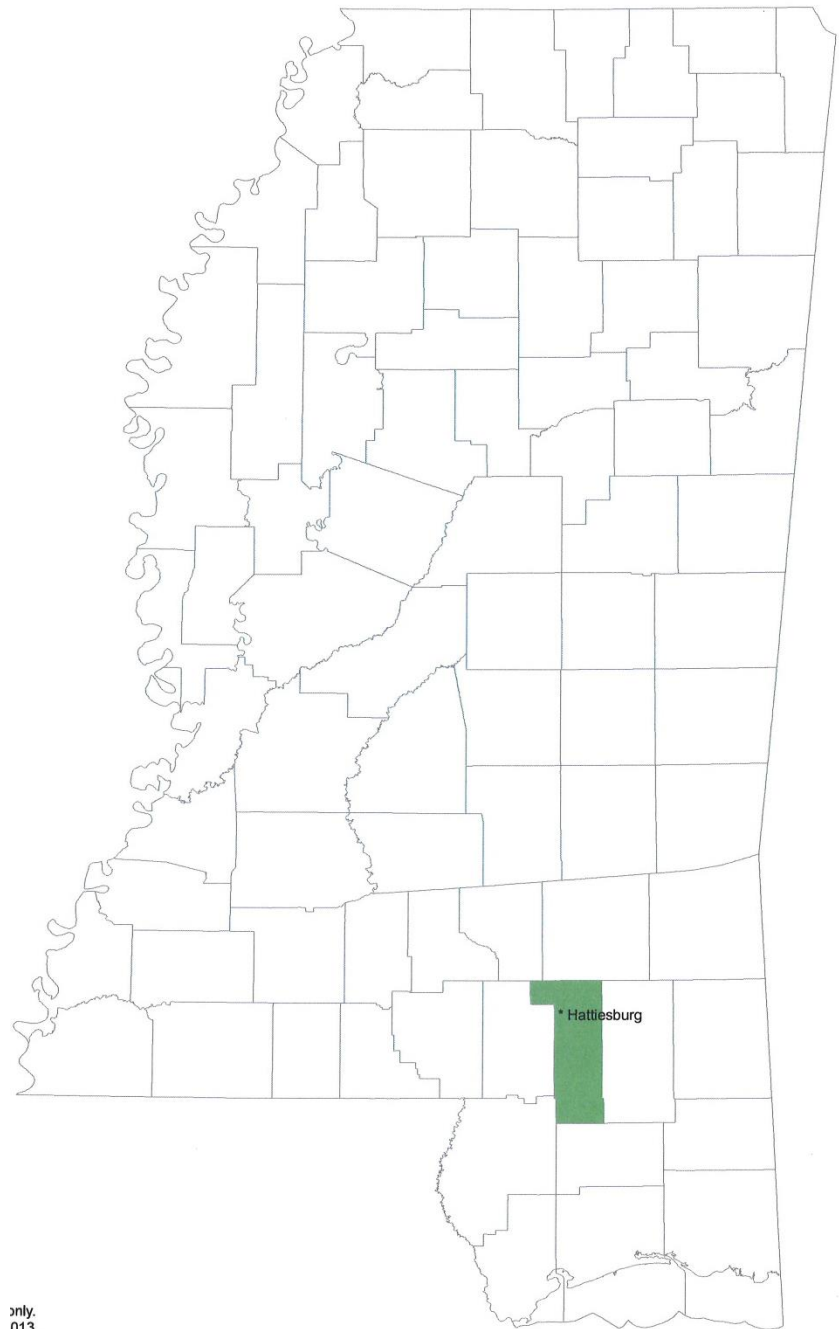
The Numbers Tell the Story: A Snapshot of Forrest County, MS

- Fiscal Year 2013, 5,507 applications received for SNAP and 3,733 approved. **(1,411 denied)**
- SNAP benefit value for FY13 was \$25,642,724.
- SNAP Participation for June 2013 was 7,630 households and 16,487 persons with a benefit value of \$2,168,797.
- TANF Payments for FY13 was \$217,292.
- TANF for June 2013 was 133 households (217 children and 40 adults). Total amount of assistance was \$17,863. Min grant award of \$10 for 30 individuals and maximum grant award of \$338 to 266 individuals.
- TANF applications for FY13 was 234 with 5 approved and **212 denied.**

Location Map: Regional Perspective

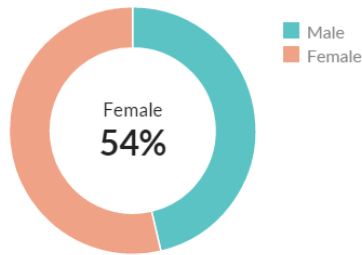


Location Map



Population (Race and Income)

Sex



Race & Ethnicity



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* Hispanic includes respondents of any race. Other categories are non-Hispanic.

[Show the data / Embed](#)

Table B01001 [View table](#)

Column	Census Tract 105		Hattiesburg		Forrest County							
Male	46.3%	±4.1%	1,529	±227	46.9%	±1%	21,924	±450	47.7%	±0.2%	36,267	±116
Female	53.7%	±4.4%	1,772	±257	53.1%	±1%	24,792	±454	52.3%	±0.2%	39,724	±116

Economics

† Margin of error is at least 10 percent of the total value. Take care with this statistic.

Income

\$18,879

Per capita income

about the same as the amount in Hattiesburg: \$19,358

a little less than the amount in Forrest County: \$19,736

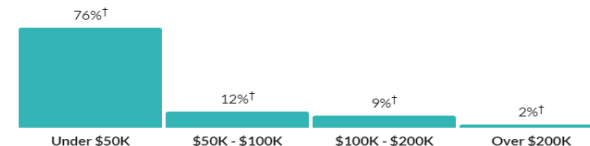
\$27,113 ±\$5,265

Median household income

about the same as the amount in Hattiesburg: \$27,609 ±\$2,169

about three-quarters of the amount in Forrest County: \$36,726 ±\$2,281

Household income



[Hide the data / Embed](#)

Household income (Table B19001) [View table](#)

Column	Census Tract 105		Hattiesburg		Forrest County							
Under \$50K	76%†	±13%	1,038	±203	70.6%	±4%	12,955	±840.8	62.5%	±3%	17,390	±912.9
\$50K - \$100K	12.4%†	±4.8%	169	±67.8	20.3%†	±2.4%	3,719	±449.9	25.8%	±2.1%	7,168	±595.6
\$100K - \$200K	9.2%†	±4.7%	126	±65.3	7.1%†	±1.1%	1,308	±206.8	10.2%†	±1.2%	2,846	±342.4
Over \$200K	2.3%†	±2.1%	32	±29	2%†	±0.6%	373	±118	1.5%†	±0.4%	418	±119

[Hide the data](#)

Population (Age)

Demographics

† Margin of error is at least 10 percent of the total value. Take care with this statistic.

Age

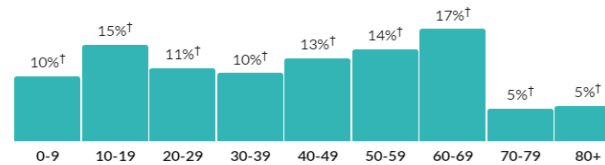
44.6

Median age

more than **1.5 times** the figure in Hattiesburg: 27.5

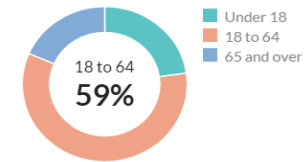
about **1.4 times** the figure in Forrest County: 31.1

Population by age range



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Population by age category



[Show the data / Embed](#)

Population by age range (Table B01001) [View table](#)

Column	Census Tract 105		Hattiesburg		Forrest County	
0-9	9.9%† ±3.1%	325 ±108.8	12.6% ±0.9%	5,885 ±419.4	13.5% ±0.5%	10,221 ±411.3
10-19	14.7%† ±4.1%	485 ±147	13.9% ±1%	6,495 ±456.8	14.5% ±0.6%	11,035 ±420.1
20-29	11.1%† ±4.1%	367 ±142	27.8% ±1.8%	13,000 ±838.3	20.3% ±1%	15,421 ±729.9
30-39	10.4%† ±2.8%	342 ±101.1	12.4% ±0.9%	5,787 ±427.8	12.3% ±0.5%	9,331 ±404.9
40-49	12.6%† ±3.5%	417 ±125.2	9.2% ±0.8%	4,302 ±372.6	11.7% ±0.5%	8,904 ±405.1
50-59	14%† ±4%	462 ±143.6	8.9% ±0.7%	4,170 ±318.5	11.2% ±0.4%	8,480 ±316.3
60-69	17.1%† ±3.9%	563 ±144.9	7.1%† ±0.8%	3,295 ±358.9	8.6% ±0.6%	6,498 ±488.7
70-79	4.9%† ±2.4%	163 ±82.4	4.3%† ±0.6%	1,999 ±255.4	4.6% ±0.4%	3,499 ±302.1
80+	5.4%† ±2.5%	177 ±83.7	3.8%† ±0.6%	1,783 ±268.8	3.4%† ±0.4%	2,602 ±285.6

Population (Poverty)

Poverty

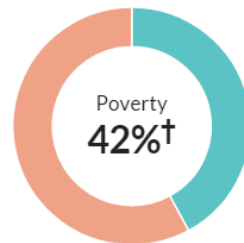
29.8%

Persons below poverty line

about 80 percent of the rate in Hattiesburg: 36.6%

about 10 percent higher than the rate in Forrest County: 27.7%

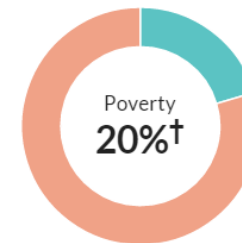
Children (Under 18)



Poverty
Non-poverty

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Seniors (65 and over)



Poverty
Non-poverty

[Show the data / Embed](#)

Children (Under 18) (Table B17001) [View table](#)

Column	Census Tract 105		Hattiesburg		Forrest County	
Poverty	42.1%†	±12.2%	311 ±117.9	50.5% ±3.9%	4,773 ±512.7	35.2% ±2.8%
Non-poverty	57.9%†	±12%	428 ±137.3	49.5% ±3.6%	4,675 ±486.5	64.8% ±2%
						6,221 ±591.2
						11,432 ±678.7

Poverty

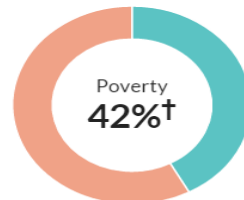
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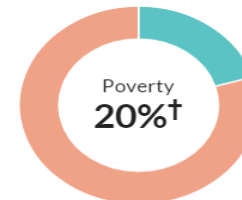
Children (Under 18)



Poverty
Non-poverty

[Show the data / Embed](#)

Seniors (65 and over)



Poverty
Non-poverty

[Hide the data / Embed](#)

Seniors (65 and over) (Table B17001) [View table](#)

Column	Census Tract 105		Hattiesburg		Forrest County	
Poverty	20.4%†	±12.3%	125 ±81.3	16.4%† ±3.6%	793 ±186.7	15.5%† ±2.8%
Non-poverty	79.6%	±6.4%	487 ±124.8	83.6% ±2.1%	4,052 ±338.8	84.5% ±4.7%
						1,332 ±245.5
						7,280 ±261.4

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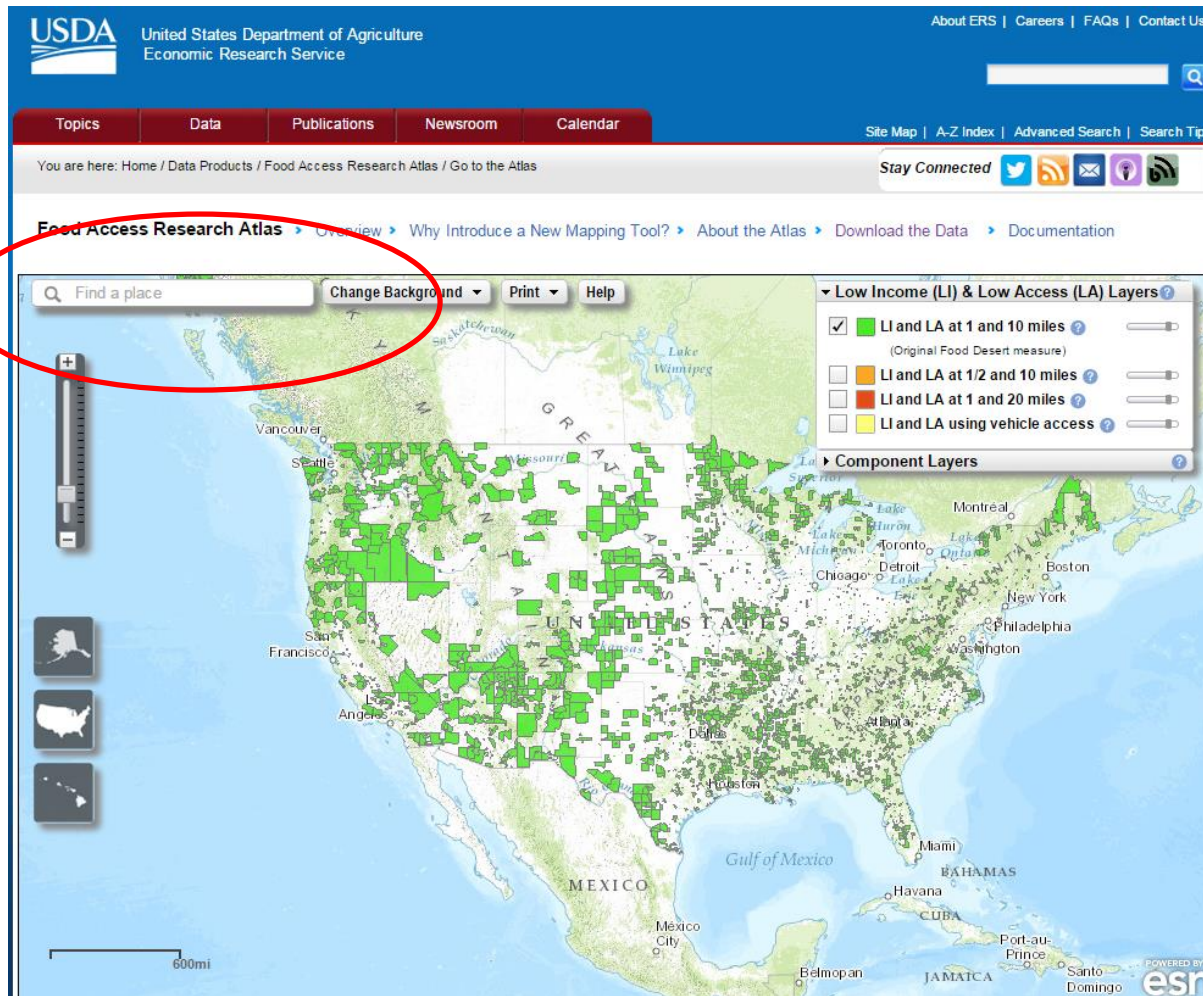
Source: Census Reporter, 2015 .

<http://censusreporter.org/profiles/14000US28035010500-census-tract-105-forrest-ms/>

Edwards St. Fellowship Center-Location

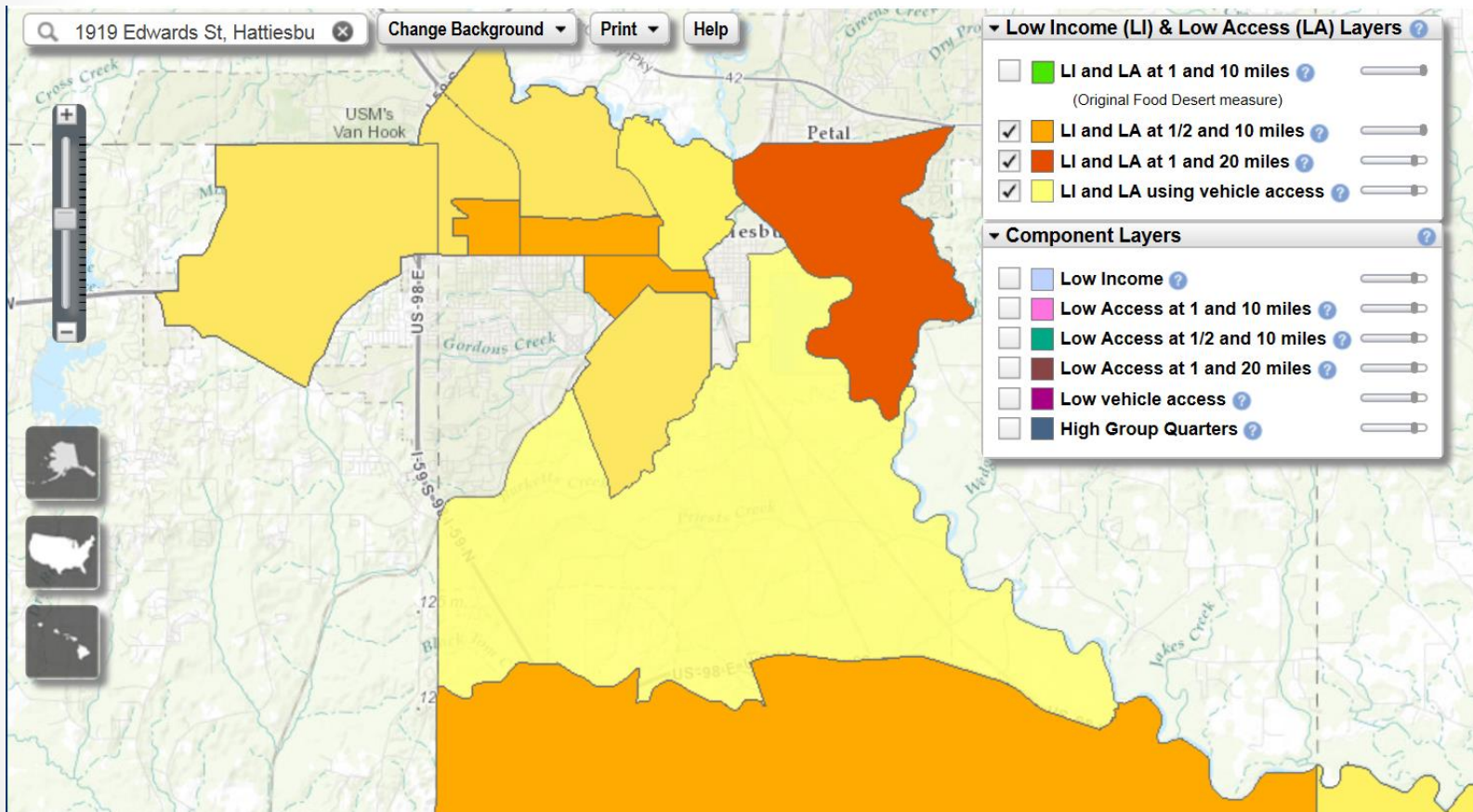


Location, Location, Location



<http://www.ers.usda.gov/data-products/food-access-research-atlas/go-to-the-atlas.aspx>

Food Desert Classification— USDA Web Application



Edwards St. Fellowship Center

- In 1979, on the southeast edge of Hattiesburg, Mississippi, a closed United Methodist Church was vacant.
- The Hattiesburg District of the United Methodist Church opened the closed church as Edwards Street Fellowship Center (ESFC) and began after-school and weekend programs for children and youth.
- Financial support for the ministries of ESFC is developed through the contributions of the Mississippi Conference of the United Methodist Church, area churches, businesses, private foundations, school and civic groups and individuals.
- **The mission of Edwards Street Fellowship Center (ESFC) is to provide services to struggling families who are confronted by life circumstances beyond their capacity to overcome without a helping hand. The ministry is centered on a commitment to strengthening families and meeting special needs in the greater Hattiesburg area.**

Source: <http://www.esfcntr.org/>

Edwards St. Fellowship Center



A Snapshot of the ESFC Food Pantry

9-4 Thursdays & Fridays = hours/days of food distribution

14,019 = number of households served during the past 12 months

4 = number of consecutive months pantry has served > 1,300 households (Aug.-Nov. 2014)

36,096 cups of dog food & 12,768 cups of cat food = distribution since pet food bank opened in March 2014

1 time per month = maximum frequency of clients' visit to pantry

18% = clients served in 2014 > 60 years of age

\$292 per week = maximum single-person household income for food pantry eligibility



Source: <http://www.esfcntr.org/>

Edwards St. Fellowship Center Garden

- Started in 2009 with the assistance of a local master gardener.
- Goal was to increase community involvement and provide fresh food for the pantry.
- Those that obtain services of the pantry must meet USDA guidelines.
- 800-900 families are served each month.
- Plans to expand which include additional 2.5 acres.
- Obtained grant to add high tunnel garden.

Source: <http://www.esfcnt.org/>



Edwards St. Fellowship Garden

2.0

High Tunnel Garden Construction Project Completed

Gardening in our newly installed high tunnel is amazing. The Georgia Blue collards and broccoli plants have grown at twice the rate of plantings outside the high tunnel. Our introduction to the high tunnel came about through Bill McGraw, Urban Conservationist with the Forrest County Soil and Water Conservation District. The high tunnel extends the vegetable growing season, increases productivity by controlling water and fertilizer through drip lines, and reduces problems with insects and other pests.

Sources of funding for the high tunnel came through the Forrest County Soil and Water Conservation District (\$500), a grant written by Bill McGraw to the Mississippi Association of Conservation Districts (\$500), and a grant from the Hattiesburg Junior Auxiliary (\$3,000). The high tunnel prefabrication work was done by Mitchel Summers with Tubular Structures of Lucedale. We are grateful to Bill, Mitchel, and the supporting work crew who came on September 5 to assemble the 20'x60' structure on our property.

Among the crew members were volunteers from the National Resource Conservation Service, Forrest County Soil and Water Conservation District, Mississippi State Coastal Research and Extension Service at Beaumont, and several area churches.


Southern Pipe of Hattiesburg generously donated the PVC pipe for the irrigation line to the high tunnel. On September 28, Herb Stonebrook led a work team in installing the irrigation line.

Several weeks later, Mike Ely and Thomas Freeman returned with a work crew to prepare and cover the planting beds with plastic and install the water drip lines. With this last step completed in the construction of the high tunnel garden, our newly extended planting season has begun.



Volunteers place the final plastic panels on the high tunnel garden to complete the structure.

Edwards St. Fellowship Center: Clinic



Fellowship Health Clinic
Community Caring for Community

[Home](#) [About Us](#) [Dental](#) [Pharmacy](#) [E-mail](#)

Fellowship Clinic

Fellowship Clinic

Fellowship Health Clinic


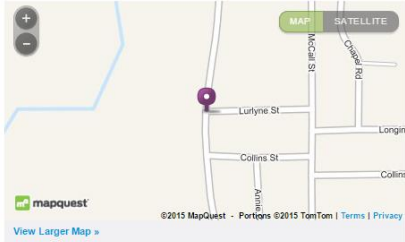
Mission Statement:

Fellowship Health Clinic is a nonprofit organization whose mission is to marshal volunteer lay and professional resources to provide high quality medical, dental and pharmaceutical care at no cost to eligible uninsured and underinsured residents of Forrest and Lamar counties in Mississippi. More [About Us](#) .

Contact Information **Operating Hours**

Fellowship Health Clinic
P.O. Box 17532
1919 Edwards St.
Hattiesburg, MS 39404-7532
(601) 255-5077

[Dental Screening:](#) Thursdays from 10:30 AM to 11:30 AM [Video](#)
[Pharmacy:](#) 3rd Friday of every month from 9:30 to 11 AM



Source: <http://www.esfcntr.org/>

Edwards St. Fellowship Center Garden—Previous Survey

How long have you been receiving services from ES?

60 (24.3%) clients have been receiving services from ES for just a few months

69 (27.9%) clients have been receiving services from ES for about a year

89 (36%) clients have been receiving services from ES for 1 - 5 years

29 (11.7%) clients have been receiving services from ES for more than 5 years

How many people are in your household?

85 (34.4%) clients had 1 person in household

58 (23.5%) clients had 2 people in household

40 (16.2%) clients had 3 people in household

29 (11.7%) clients had 4 people in household

19 (7.7%) clients had 5 people in household

6 (2.4%) clients had 6 people in household

1 (.4%) client had 7 people in household

2 (.8%) clients had 8 people in household

2 (.8%) clients had 9 people in household

Edwards St. Fellowship Center Garden—Previous Survey

Would you be interested in getting fresh fruits or vegetables from ES?

245 (99.2%) clients would like to get fresh fruits or vegetables from ES

Do you get any fresh fruits or vegetables in your diet?

56 (22.7%) clients got fresh fruits and vegetables in their diet all the time

123 (49.8%) clients got fresh fruits and vegetables in their diet some of the time

34 (13.8%) clients did not get much fruits and vegetables in their diet

33 (13.4%) clients never got fresh fruits or vegetables in their diet

Edwards St. Fellowship Center Garden—Previous Survey

If yes, what types would you want to get?

169 (68.4%) clients would like to get any (all) types of fresh fruits and vegetables from ES

78 (31.5%) clients listed individual fruits an/or vegetables

Fruit Listed Most Often:

20 (8.0%) clients would like to get apples

20 (8.0%) clients would like to get bananas

15 (6.0%) clients would like to get oranges

Vegetables Listed Most Often:

18 (7.3%) clients would like to get greens

9 (3.6%) clients would like to get okra

5 (2.0%) clients would like to get tomatoes

Results: Perceived Barriers

- Apathy
- Crime
- Lack of established customer base (market)
- Location
- Lack of transportation
- Elitism
- Lack of information
- Perception
- NIMBY
- LULU

Discussion: collaboration

- Chamber of Commerce and local area development agencies
- Local USDA and NRCS offices
- County extension office
- City and county governments
- Local neighborhood associations
- Local garden club
- Farmer cooperatives
- MS Department of Health
- White House's Lets Move Campaign
- MS Department of Agriculture

Action Steps towards solution

1. Partner with community organizations and governmental agencies
2. Inventory of existing area (transportation which includes sidewalks, mass transit, etc.); tracts of land.
3. Work with local economic development agency (ADP) to determine what prospective grocers are looking for to make location attractive. Afterwards, create packet.
4. Incentives to entice new stores(market driven opportunity—see the gap and fill it.) Includes grants and low interest loans
5. Work with farmers to incorporate farmers' markets, community gardens and similar programs. (Consider allowing green carts to visit the community and sale produce.)
6. Vendors that are willing to accept SNAP at market days, etc.
7. Work with local health department and hospital on creating neighborhood event towards fighting obesity.
8. The incorporation of a microgrocery or similar store that sells FFV.

Questions