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IMPACTS OF THE POULTRY INDUSTRY IN MISSISSIPPI

by

Sara Watts

A Thesis
Submitted to the Graduate School,
the College of Arts and Sciences
and the School of Biological, Environmental, and Earth Sciences
at The University of Southern Mississippi
in Partial Fulfillment of the Requirements
for the Degree of Master of Science

Approved by:

Dr. David Cochran, Committee Chair

Dr. Dana Fennell

Dr. Joby Bass

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ABSTRACT

This thesis examines the impacts of the poultry industry in seven counties in the Piney Woods region of South Mississippi: Wayne, Jones, Forrest, Lamar, Jefferson Davis, Marion, and Pike. Current research indicates that the poultry industry has a significant impact on the cultures and economies of rural towns throughout the United States. There is no current research that examines the effects of the poultry industry on residents of the Piney Woods. This thesis addresses that gap in the research and contributes to current understanding of how the industry molds and impacts the lives of those intimately associated with it.

I interviewed thirteen individuals for this research, including farmers, former processing plant employees, and an association leader in the professional poultry community. I used snowball sampling to locate and identify these respondents and I developed an open-ended interview guide to elicit conversation about their experiences. I used their testimony to address three primary research questions: 1) What are the sociocultural effects of the poultry industry in Mississippi? 2) How does the poultry industry influence the physical landscape of the Piney Woods? 3) How did Covid-19 impact the poultry industry in Mississippi? My research findings indicate that the poultry industry has significant influence over the culture and landscape of rural communities in Mississippi and throughout the Southeast United States. It is my hope that by researching the relationship between the poultry industry and the Piney Woods agricultural communities, we can better understand how the large-scale commercial industry impacts the economic backbone of Mississippi.

ACKNOWLEDGMENTS

I would like to express my deepest appreciation to Dr. David Cochran for guiding me on my research journey and for being my mentor during a few of the toughest years of my life. I am incredibly grateful that you took me on as one of your graduate students and have continued to have faith in my abilities and my work. I would also like to thank my committee members Dr. Joby Bass and Dr. Dana Fennell for their patience and insight throughout my graduate career, as well as for their efforts and contributions to this project. Special thanks should go to Marshall McKellar for his unwavering support, advice, and encouragement. Mom, thank you for supporting my academic journey and for forcing me to apply to college nearly a decade ago. I never believed I was intelligent enough to receive both of my degrees, but your encouragement and love gave me the push I needed. Lastly, I would like to thank my father, who truly thought I was the most special kid in the world and is the reason I applied to graduate school - you are dearly missed.

DEDICATION

I would like to dedicate this thesis to the farmers, agricultural workers, and meatpacking employees across the United States that work incredibly hard to put food on our tables. Without you, this thesis would not have been possible.

TABLE OF CONTENTS

ABSTRACT ii

ACKNOWLEDGMENTS iii

DEDICATION iv

LIST OF ILLUSTRATIONS vii

LIST OF ABBREVIATIONS viii

CHAPTER I – INTRODUCTION 1

 1.1 Introduction 1

 1.2 Research Objectives 3

 1.3 Research Questions and Methodology 3

 1.4 Study Area 6

 1.4.2 Wayne County 11

 1.4.3 Jones County 12

 1.4.4 Forrest County 13

 1.4.5 Lamar County 14

 1.4.6 Jefferson Davis County 15

 1.4.7 Marion County 16

 1.4.8 Pike County 17

 1.5 Terminology 18

 1.6 Organization of the Thesis 19

CHAPTER II – LITERATURE REVIEW	21
2.1 Overview of Poultry Production in the United States.....	21
2.2 Vertical Integration of the Poultry Economy.....	26
2.3 Farmer and Contractor Production Relationship	28
2.4 Poultry Labor in the American Southeast.....	32
2.5 Mississippi’s Poultry Industry and Covid-19 Impacts.....	36
CHAPTER III – METHODOLOGY	39
3.1 Research Questions and Site Selection.....	39
3.2 Data Sources	39
3.3 Limitations	41
CHAPTER IV – RESULTS.....	43
4.1 Participant Population.....	43
4.2 Sociocultural Impacts of the Poultry Industry	45
4.3 The Poultry Industry Landscape of the Piney Woods	50
4.4 Covid-19 Impacts on the Poultry Industry.....	56
CHAPTER V – CONCLUSION.....	60
5.1 Conclusion	60
APPENDIX A – Interview Questions.....	65
APPENDIX B – IRB Approval Letter	68
REFERENCES	69

LIST OF ILLUSTRATIONS

Figure 1.1 Study Area and Top Poultry Producing Counties, 2022 8

Figure 1.2 Loblolly Pine Tree Stand in Lamar County, 2022 9

Figure 1.3 Little Black Creek in Lamar County, 2022 10

Figure 4.1 Sanderson Farms Processing Plant in Laurel, MS, 2021..... 51

Figure 4.2 Poultry Processing Plants in the Piney Woods Region, 2022 53

Figure 4.3 Sign Displayed at Mar-Jac Poultry Processing Plant in Downtown Hattiesburg, MS, 2022..... 55

Figure 4.4 Sanderson Farms Processing Plant in Laurel, MS with Covid-19 Checkpoint Outside of Entrance, 2021..... 57

LIST OF ABBREVIATIONS

<i>IRB</i>	Institutional Review Board
<i>MDAC</i>	Mississippi Department of Agriculture and Commerce
<i>MPA</i>	Mississippi Poultry Association
<i>NASS</i>	National Agricultural Statistics Service
<i>NCC</i>	National Chicken Council
<i>NDA</i>	Non-Disclosure Agreements
<i>USDA</i>	United States Department of Agriculture
<i>USDJ</i>	United States Department of Justice
<i>USM</i>	University of Southern Mississippi
<i>US</i>	United States

CHAPTER I – INTRODUCTION

1.1 Introduction

It is 5 a.m. on a Wednesday in Ellisville, Mississippi when an alarm goes off on a farmer's phone - another day working on the farm and caring for his flock begins. Two nights from now several eighteen-wheelers will arrive to load the flock into their cages in the dead of the night. The farmer's six chicken houses will empty out and more than 120,000 chickens will be taken a few miles down the road to a nearby processing facility. The farmer has a lot of work to do to prepare for this arduous task, but he is excited about his next paycheck given that his birds are a few pounds heavier than his previous flock. The farmer and his wife make their way to the chicken houses after seeing the kids off to school.

Down the road and later in the day, at a chicken processing plant in Laurel, Mississippi, two women climb into an old Ford Focus with their lunchboxes in tow and masks worn under their chins. They take a long, deep breath of fresh air after having spent the past nine hours wearing masks while working at the processing facility. The processing plant is understaffed because of Covid-19 and the slaughter crew has just received another flock of almost 120,000 broilers to process. One of the women expresses her frustrations that her line leader only speaks English, making it difficult for her to learn proper safety procedures. The other talks about how many people in her division were sent home with no pay after testing positive for Covid. After a short drive, they pull into their neighborhood. Their kids are out in front of their trailer homes, playing and laughing after a long day at school. The women get out of the car and quickly go inside to start preparing dinner for their families.

Not far away, a mother and her two sons pull out of the Laurel Sportsplex after a baseball practice that went 30 minutes longer than planned. With her husband working offshore and no time to spare for cooking, she takes her family to join the queue of more than twenty cars waiting in line at Chick-fil-A off Highway 15. “It smells like burning paper!” exclaims one of the boys as he pinches his nose and glares in the direction of the processing plant across the highway. Quickly the mom hushes the child as she orders dinner over the intercom, “Three deluxe chicken sandwiches with a large order of fries please.” As they make the journey home with their piping hot chicken sandwiches in tow, one of the boys says “This sandwich is bigger than the last time. Must have been a big chicken.” As they make their way down the road to their neighborhood, they pass a Ford Focus pulling into the trailer community on the right, a place that they often pass on their way home. They pull into their driveway a few streets beyond the trailer park, and the kids run inside with their smartphones in hand to their separate bedrooms.

Although the three people mentioned in the narrative above are strangers to one another, they share more than they realize. To begin with, they all live in Jones County, Mississippi, within a fifteen-mile radius of each other. Their lives are fundamentally different in many ways, but intricately connected by the poultry industry; one as a grower, another as a processor, and the third as a consumer. My direct observations, as well as the conversations I had with the people I interviewed, served as the foundation for this narrative. In rural communities throughout Mississippi, many people rely on poultry production, along with other agricultural industries, for their income and for the economic stability of their communities. The goal of this thesis research is to produce an ethnography of rural poultry industry communities in the Piney Woods of South

Mississippi and to document how this industry affects the human geography of the region.

1.2 Research Objectives

For the past two decades, the poultry industry has dominated the agricultural sector in Mississippi as the largest income-producing commodity (Tabler et al, 2017, 1). Mississippi has held another rank for much longer – the poorest state in the United States. An estimated 19 percent of the population of Mississippi, or approximately 565,468 individuals, live in poverty (U.S. Census, 2010). One of the leading chicken producers in the United States, Mississippi also ranks highly in the worldwide poultry agribusiness sector, with average yearly export sales totaling approximately \$16.2 billion (Dunham et al, 2018, 2). Given that poultry production accounts for nearly one third of the state’s revenue, I decided to conduct my thesis research on how the poultry industry affects rural Mississippi communities. The poultry industry has a widespread and outsized influence on the rural landscapes of the state. As a Mississippi native and long-term resident, I find it important to take a deeper look into an industry that is a central component of rural development in the state.

1.3 Research Questions and Methodology

A number of factors led to my decision to investigate the poultry industry in South Mississippi. First of all, I want to contribute to chronicling and sharing the experiences of those Mississippians who form an important backbone of the state’s rural economy and communities. Another reason is my wish to capture the poultry industry’s

impact on rural landscapes, and specifically the Piney Woods region of South Mississippi. There has been a dearth of geographical research in recent decades in South Mississippi, creating a significant gap in geographical literature on the American South. I chose the following research questions to fill current gaps in scholarly knowledge and to document contemporary impacts of Covid-19 on the poultry industry in South Mississippi.

- (1) What are the socio-cultural impacts of the poultry industry on rural communities in South Mississippi?
- (2) How has the poultry industry transformed Piney Woods landscapes over the last century?
- (3) How has the Covid-19 pandemic affected the poultry industry in Mississippi?

After identifying my research questions, I consulted the latest United States Department of Agriculture Census (2017) to determine which counties were most focused on poultry production. At present, the leading poultry production counties in Mississippi are Scott, Smith, Leake, Simpson, Jones, Neshoba, and Wayne. For the purpose of this study, I chose Wayne, Jones, Forrest, Lamar, Jefferson Davis, Marion, and Pike counties in the Piney Woods region of Mississippi since they were located within 100 miles of my home and university in Hattiesburg and because they are the counties that the participants of this study reside in.

I employed a mixed methods approach to address my research questions about the poultry industry in Mississippi. I began by collecting as many peer-reviewed sources as I could find from scholarly journals and information gathered online through the Mississippi Poultry Association and the Mississippi State Poultry Extension Center. The

literature I examined included topics on poultry production, rural development, rural sociology, poultry industry case studies, and immigration in the Southeastern United States.

I conducted semi-structured interviews with community members and leaders, former employees of the poultry industry, and poultry farmers who reside in rural communities where the poultry industry has a strong presence. By conducting interviews, I was able to compile narratives from individuals who have firsthand experience with this industry and its impacts. I followed a flexible list of open-ended interview questions and conducted all my interviews remotely with the approval of the Institutional Review Board at the University of Southern Mississippi.

While conducting interviews for my research, I also traveled around the study area to write descriptions of the scenery surrounding poultry processing facilities, chicken farms, and feed mills. As I investigated these communities, I collected photographs of what I saw to include in this thesis. In my interviews, I asked participants I interacted with during this research to describe how their farms and communities have evolved over the course of their lives in an effort to capture some of their thoughts and perceptions of the Piney Woods landscapes of their homes. As I traveled around my study area, I conducted participant observation and had informal conversations with locals, which helped shape the ethnographic component of the introduction of this thesis.

To assess the impacts of Covid-19 on the poultry industry in Mississippi, I asked a series of Covid-19 related questions to the participants. The responses I received from them shed light on the immediate consequences of Covid-19 on the poultry industry in the state of Mississippi. Monthly outlooks for livestock, dairy, and poultry from the

USDA Economic Research Service include information on Covid-19 and other livestock and dairy issues. These monthly outlooks include information on workforce closures in the United States as well as what industrial poultry enterprises are doing to ensure that they can continue operating throughout the pandemic.

1.4 Study Area

The study area for this research includes seven counties in South-Central Mississippi, listed here from northeast to southwest: Wayne, Jones, Forrest, Lamar, Jefferson Davis, Marion, and Pike (See Figure 1.1). All of these counties have poultry processing facilities, feed mills, hatcheries, and broiler farms, but only two of them are among the leading poultry producers in Mississippi. Jones County ranks sixth and Wayne County ranks fourth among poultry producing counties in the state (USDA, 2017a). Although my other study counties are not top producers, poultry production is an important industry to residents given the relative absence of other employment opportunities.

The Piney Woods region is located in South Mississippi's Lower Coastal Plain, tucked above the Coastal Flatwoods and situated between the Loess Hills and Blackland Prairie ecoregions of Mississippi. The Piney Woods are part of a larger, pine-covered coastal plain that spans from the Atlantic coasts of Georgia and the Carolinas westward to East Texas. The soils of the Piney Woods include a mixture of weathered clay, sand, and gravel that are generally better for forestry and animal husbandry than for farming. The Piney Woods contains a variety of deciduous trees common across the American South, but it is most closely associated with conifers (Kushla et al, 2020, 6). The most abundant

vegetation in this region, and especially along upland slopes and ridges, are pine trees, notably longleaf, slash, and loblolly (See Figure 1.2). A primary reason that the Piney Woods are not well suited for agriculture is that the decomposition of pine needles produces organic acids that lower soil pH, rendering soils of the region relatively infertile.

Numerous rivers drain the Piney Woods, the most notable of which are the Leaf, Pascagoula, Pearl, Bouie, Bogue Chitto, and Chickasawhay. Low-lying areas along these rivers and their tributaries contain deciduous hardwood forests and alluvial soils that are fertile enough to support agriculture (See Figure 1.3). Although not widespread in the Piney Woods, these river-bottom areas support farmland for production of sweet potatoes, corn, watermelons, and other crops.

Native Americans, including the Choctaw, inhabited the Piney Woods for centuries before Old World peoples from Europe and Africa arrived in the region. Grasses and herbaceous plants that lived under and amongst the pines were fed to livestock by early European Americans who herded animals in the region from the colonial period onward (Wilson, 2017). The modern timber industry emerged in South Mississippi during the 19th century. Sawmills appeared along its major river systems and railroads connecting New Orleans and the northeastern United States to cities like Hattiesburg, Laurel, and Jackson contributed to the region's growth. Likewise, the construction of sawmills and rail lines created employment opportunities for rural Mississippians seeking a higher standard of living. The Piney Woods now houses large-scale poultry operations that nearby rural communities rely on for jobs. South Mississippi has a humid, subtropical climate with long, hot summers and short, mild

winters. There is plenty of precipitation, mostly in the form of rain, year-round. Such a climate is well-suited for the poultry industry given that chickens grow best in warm weather.

The eighteen counties of the Piney Woods have a combined 2020 population of 530,127 (US Census Bureau, 2020f). The following information for my study area found below comes from the USDA 2017 Census of Agriculture and from past and current population estimates by the U.S. Census Bureau.

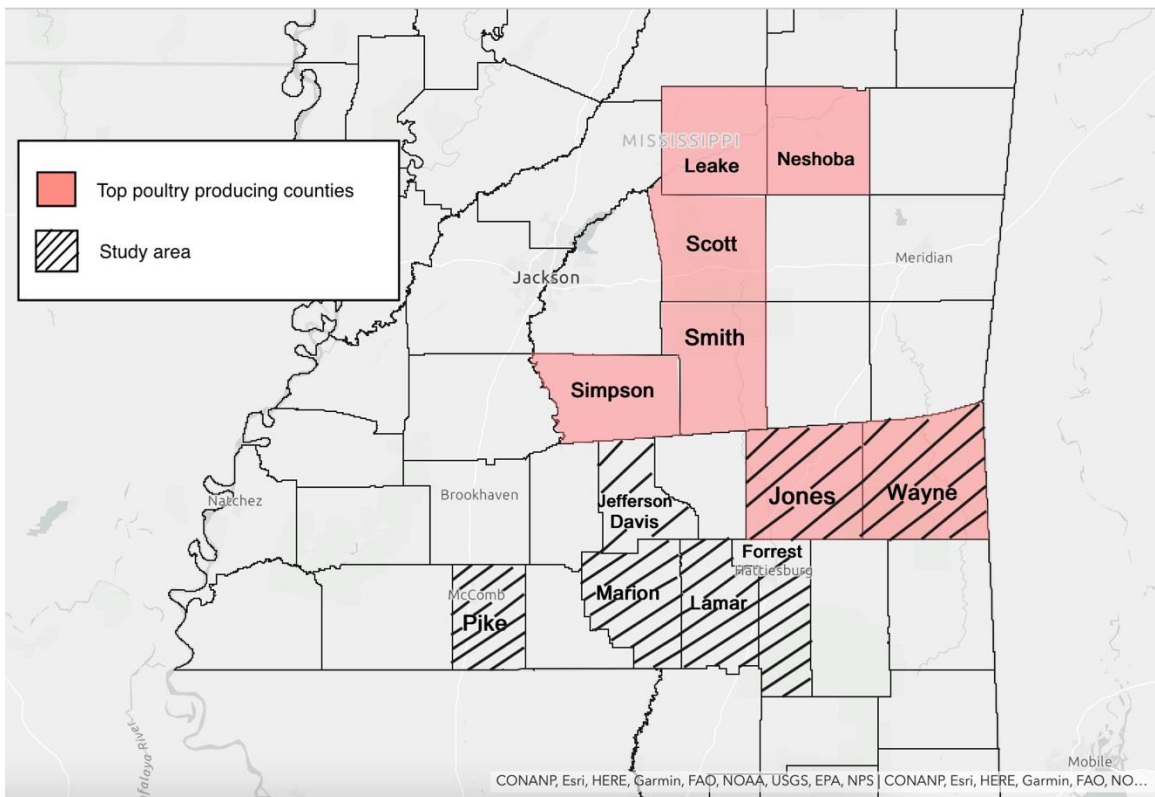


Figure 1.1 *Study Area and Top Poultry Producing Counties, 2022*



Figure 1.2 *Loblolly Pine Tree Stand in Lamar County, 2022*



Figure 1.3 *Little Black Creek in Lamar County, 2022*

1.4.2 Wayne County

Wayne County is located on the southeastern corner of the Piney Woods and shares a border with Alabama. The Leaf and Chickasawhay Rivers converge in Wayne County as tributaries of the Pascagoula River. Founded in 1809, Wayne County is one of the oldest counties in Mississippi and serves as an excellent example of rural southeast Mississippi's agricultural economy. Waynesboro, the seat of Wayne County, was incorporated by the state in 1876, thanks in part to the construction of the Mobile and Ohio railroad across the county (Mississippi Encyclopedia, 2017g). At present, the median household income in Wayne County is estimated to be \$37,706, the median age is 40, and the population is 19,779 (U.S. Census Bureau, 2020h). Wayne County is 58.6% white, 39.8% black, 1.6% Hispanic, and less than 1% Asian and American Indian. Only 15.3% of people in this county hold a bachelor's degree or higher, while approximately 22.1% of residents are estimated to live in poverty (U.S. Census Bureau, 2020h).

Wayne County ranks fourth in poultry and egg production amongst Mississippi's 76 producing counties, making data for this area especially important for the purposes of this research. The city of Waynesboro houses the Marshall Durbin Hatchery and administrative offices of Mar-Jac Poultry. Wayne County ranks 36th out of 3,007 poultry producing counties in the United States, which underscores its significance to state-level poultry production. In addition to poultry, nearly 15% of the population of Wayne County works in production and manufacturing. Contributing to these high production rates is the county's 11% overall increase in the number of poultry farms since the 2012 agriculture census. Also of interest is that 98% of farms in the county are designated as family farms and only 26% hire outside labor. The vast majority of farmers in Wayne

County are between the ages of 35 and 64, with a small percentage aged 65 and older (USDA, 2017j).

1.4.3 Jones County

Jones County was established in 1826 out of land from Covington and Wayne counties, and all three make up the top three poultry producing counties in the Piney Woods. During the Civil War, Jones County became known as “The Free State of Jones” due to its short-lived secession from the Confederacy (Bynum, 2016). Laurel, one the county seats of Jones County, occupies land that was once densely covered with longleaf pine, which made this county quite valuable during the height of the lumber industry in Mississippi in the 1920s.

The corporate headquarters of Sanderson Farms, the third largest poultry company in the United States, is located in Laurel. The largest poultry processing facility in Mississippi, operated by Sanderson Farms, is located off Interstate 59 in Laurel. Jones County has an estimated population of 67,246 residents with a median age of 37 and household income of \$41,775 (U.S. Census Bureau, 2020c). The people of Jones County are 68.1% white, 29.7% black, and 4.7% Hispanic, with fewer than 1% of Asian or American Indian ancestry. Although Hispanics make up less than 5% of the population it is noteworthy that Jones County has the largest Hispanic population of any county in the study area. A little over 18% of the population of Jones County live in poverty and only 20.8% hold a bachelor’s degree or higher (U.S. Census Bureau, 2020c).

Jones County is sixth in poultry and egg production – only two ranks below Wayne County. Jones County is 43rd in the United States, out of a total of 3,007 counties in chicken production. Despite its high performance in poultry production, Jones County

has experienced a 5% decrease in the number of farms since the 2012 agriculture census. In Jones, 99% of all farms are family owned and only 24% hire outside labor. Similar to Wayne County, most farmers in Jones County are between the ages of 35 to 64 with the remainder being 65 and older (USDA, 2017f).

1.4.4 Forrest County

Forrest County was once a railroad center and a regional leader in the lumber industry. Forrest County was originally part of Perry County until 1908 when it was created by the state legislature (Mississippi Encyclopedia, 2017a). The county seat of Hattiesburg is the largest city in the county and is a hub for business and development. Forrest has the largest population of all counties in my study area with an estimated 78,158 residents (U.S. Census Bureau, 2020a). The main campuses of the University of Southern Mississippi and William Carey University are both located in Forrest County. Forrest has several medical complexes such as Forrest General Hospital, Wesley Medical Center, and Hattiesburg Clinic which many people from the surrounding counties rely on for medical services. The county's median age is 32, making it the county with the youngest population in the Piney Woods, and the median household income for this county is \$39,840. The population of Forrest County consists of 59.2% white, 37.8% black, 3% Hispanic, 1.1% Asian, and 0.3% American Indian residents. Aside from the fact that this county is home to two universities, only 27.8% of the population has a bachelor's degree or higher. Nearly a quarter of the residents of this county (24.9%) live in poverty (U.S. Census Bureau, 2020a).

Forrest County does not have a large concentration of poultry farms but ranks 30th in poultry and egg production out of the 76 chicken producing counties in Mississippi and

608th out of all chicken producing counties in the U.S. Hattiesburg is home to Mar-Jac Poultry, a processing plant near downtown. Surprisingly, the 2017 agriculture census showed that Forrest County has seen a 5% increase in the number of farms since the last agriculture census taken in 2012. Out of all the farms in this county, 97% are designated as family farms and 26% of them hire outside farm labor (USDA, 2017d).

1.4.5 Lamar County

Lamar County was established in 1904 from land in Marion and Pearl River counties. The county was named after the only Mississippian to be an Associate Justice for the United States Supreme Court, Lucius Quintus Cincinnatus Lamar II. Purvis, which is now the Lamar County seat founded in 1886 and remains the county seat to this day (Mississippi Encyclopedia, 2017d). With an estimated population of 64,222 residents, Lamar County holds a good portion of the population of Hattiesburg, and the remainder of the county is largely rural. Forrest and Lamar counties have similar demographics and local economies with many people in Lamar commuting to Hattiesburg for work. The median age of the population in Lamar County is 35 and the median household income is around \$60,328 (U.S. Census Bureau, 2020d). Out of the seven counties in my study area, Lamar County has the highest proportion of white residents at 75.7%. Only 21% of the population is black, 2.9% Hispanic, 1.5% Asian, and 0.3% American Indian. Lamar County has the greatest percentage of citizens with a bachelor's degree or higher at 43.1%. Only 12.6% of Lamar County residents are living in poverty (U.S. Census Bureau, 2020d).

Similar to Forrest, Lamar County is also a leader in timber manufacturing and was even a major producer in the petroleum industry thanks to the Baxterville Oil Field,

which is shared by Lamar and Marion counties. Even though Lamar is not a major producer in the poultry industry, it ranks 21st in poultry and egg production out of the 76 poultry producing counties in Mississippi. In the United States, Lamar County ranks 296th out of 3,007 counties that produce chicken. With the population of Lamar County steadily rising, the county has seen a 16% increase in the number of farms since the agriculture census in 2012. Most farmers in Lamar County are between the ages of 35 and 64, and 96% of the farms in this county are designated as family farms with only 28% of them hiring outside farm labor (USDA, 2017g).

1.4.6 Jefferson Davis County

Jefferson Davis County was founded as a way to reduce the transportation distance between the two surrounding seats of Covington and Lawrence counties. The county was formed out of the two counties in 1906 by the state legislature. Prentiss, the county seat, was originally known as Blountville and was a part of Lawrence County until 1906, when the county was formed and its name was changed to Prentiss in honor of Seargent Smith Prentiss, a Mississippi House of Representatives member (Mississippi Encyclopedia, 2017b). Jefferson Davis County has an estimated population of 11,321 residents making Jefferson Davis the most rural county in the study area. It also has the largest percentage of black residents (59.6%) among the study area counties. The remaining population is 38.8% white, 1.9% Hispanic, and less than 1% Asian or American Indian. Only 14.1% of the population has a bachelor's degree or higher and 25.2% live in poverty. The average age of Jefferson Davis County residents is 44 years, which is older than the other counties of the study area. Jefferson Davis also has one of

the lowest household incomes in my study area with an average of \$32,116 (U.S. Census Bureau, 2020b).

Jefferson Davis County ranks 20th out of the 76 counties in Mississippi that are poultry and egg producers. It ranks 284th out of 3,007 poultry producing counties in the U.S. Jefferson Davis County has seen a 5% increase in the number of farms since the agriculture census in 2012. Some 96% of the farms in this county are designated as family farms and 26% of them hire outside farm labor. The majority of Jefferson Davis County's farmers are between the ages of 35 and 64, with the rest being 65 or older (USDA, 2017e).

1.4.7 Marion County

Marion County was established in 1809, eight years before Mississippi became a state, making it one of Mississippi's oldest counties. Columbia, the county seat, was named after Columbia, South Carolina, where many of the town's earliest immigrants are thought to have come from (Mississippi Encyclopedia, 2017e). The Pearl River runs through Marion County on its way to the Gulf of Mexico and has been an important element of the local economy. The Pearl River was a centerpiece of the local forestry industry and timbermen used to float logs downstream to sawmills and pulp mills. With the timber sector no longer as successful as it once was, the poultry industry, as well as cattle and manufacturing, are the most important industries today.

Marion County is predominantly rural and has an estimated population of 24,441 residents. Marion County's community is comprised of 66.5% white residents, 31.6% black residents, 1.8% Hispanic residents, and fewer than 1% Asian or American Indian residents. Some 12.3% of the citizens of this county have earned a bachelor's degree or

higher. Poverty affects 19.2% of the citizens in this county (U.S. Census Bureau, 2020e). The average age of residents is 40 years, and the median household income is \$32,090 (U.S. Census Bureau, 2020e). Marion county is ranked 14th out of 76 poultry-producing counties in Mississippi and 189th out of 3,007 poultry-producing counties in the U.S. Since the agriculture census in 2012, the number of farms in Marion County has decreased by 7 percent. Family farms account for 97 percent of the farms in this county, and 29 percent of them employ outside agricultural labor. The majority of Marion County's farmers are between the ages of 35 and 64, with the rest of the county's farmers being 65 and older (USDA, 2017h).

1.4.8 Pike County

Pike County is located in the southwest corner of the Piney Woods. It was formed in 1815 from land that originally belonged to Marion County. Its economy has been primarily agricultural since its inception (Mississippi Encyclopedia, 2017f). The population of Pike County is estimated to be 40,324 people, with the bulk of people living in the McComb Micropolitan Statistical Area (U.S. Census Bureau, 2020g). Pike County has the second largest percentage of black residents in my study area at 54.1%. 43.8% of residents are white, 1.6% are Hispanic, 0.7% are Asian, and only 0.4% are American Indian. Some 16.6% of Pike citizens earned a bachelor's degree or higher. Pike County has the highest percentage of people living in poverty in my study area at 26.5% (U.S. Census Bureau, 2020g).

The county seat of Pike County is Magnolia, while McComb is the county's industrial hub. Sanderson Farms has a poultry processing facility located just outside of McComb in Summit and it employs a large number of Pike County residents. Sanderson

Farms also operates a hatchery and a feed mill. Pike County ranks 18th in poultry and egg production in Mississippi and 224th in the United States. Since the 2012 agriculture census, Pike County has seen a 4% reduction in the number of farms. Some 98% of the farms in this county are designated as family farms and 22% of them hire outside farm labor. Most farmers in Pike County are between the ages of 35 to 64 and the remainder of farmers in this county are 65 and older (USDA, 2017i).

1.5 Terminology

This thesis makes use of a number of specialized terms that require clarification. Family farms are defined as an operation owned and operated by a single-family unit regardless of the size and capacity of the operation (Hamilton, 2014, 560; USDA, 2019, 558). Farms, as defined by the United States Department of Agriculture Economic Research Service, include any operation from which \$1000 or more value in agricultural products were produced and sold during the 2010 census year (USDA, 2019, 551). Farm income is comprised of cash receipts from farm earnings, federal government payments, value of farm homes, value of farm products consumed in farm homes, and other farm-related income (USDA, 2019, 551). A broiler is a young chicken raised for meat that is six to ten weeks old or is at the ideal size for slaughter (Hart, 1998, 65; USDA, 1995, 5). These young chickens are called broilers because they can be broiled, roasted, or fried with ease (Alexander, 2012, 359).

Agribusiness, a term coined by Harvard professor, John Davis, in 1955, was used to describe the large-scale agricultural businesses that arose after the passing of the Agricultural Adjustment Act in 1933 (Hamilton, 2014, 560). The term, agribusiness, was

a product of World War II when agriculture became increasingly mechanized, and operations began to be controlled by large, vertically integrated businesses. Vertically integrated businesses, where a single decision-making entity controls the stages of production usually through contracts with farmers, became the newly adopted business model for industrial agriculture during the mid-twentieth century (Hart, et al,1998, 69); Cunningham, 2009, 1). This business model gives poultry companies control over the farmers and chickens which helps standardize the product and encourages a steady supply of birds for processing facilities (Weaver, et al, 2014, 18). The term integrator derives from the vertical integration of poultry firms that began in the late 1950s. In this thesis, an integrator is defined as a corporation that controls the production, processing, and distribution of broilers (Alexander, 2012, 367).

1.6 Organization of the Thesis

In this chapter, I have outlined the objectives, questions, and methodology of my thesis and I have also provided a county-by-county summary of my study area. Chapter Two contains a literature review on poultry production in the United States and an overview of the contractual agreements between chicken farmers and poultry corporations, as well as a description of the geographical distribution of industrial labor in the study area. Chapter Three summarizes the research methodology and data collection techniques used during this research. It includes a detailed summary of the site selection process and the interview questionnaire, and highlights some of the limitations of the research. In Chapter Four, I present the results of this research. Aided by images of the poultry industry's impact on the Piney Woods' environmental landscape, Chapter

Four focuses on the sociocultural impact of the poultry industry and its effects on the people of the Piney Woods. This chapter ends with a discussion of the significant repercussions of the Covid-19 pandemic on the Mississippi poultry industry and the communities of the Piney Woods. Chapter Five provides a summary and discussion of the results of this thesis and explores some of the potential areas for further research. Following Chapter Five, I include Appendix A, which contains a copy of my interview instrument and Appendix B, which contains a copy of the Institutional Review Board permission letter for this study.

CHAPTER II – LITERATURE REVIEW

2.1 Overview of Poultry Production in the United States

The United States produces more chickens than any other nation on Earth, accounting for approximately one-quarter of global poultry output. On top of that, the United States is responsible for one-fifth of global chicken consumption, with almost 80% of domestically raised poultry eaten in America (Weaver, et al. 2014, 9; NCC, 2019). Many Americans rely on the chicken industry for their livelihoods. Some 355,000 workers are directly employed in the industry and another 1.2 million are indirectly employed (NCC, 2019). In 2020, the United States produced 9.2 billion broilers whose collective value totaled about \$21.7 billion (USDA, 2021, 5). Sales of chicken meat and eggs have grown far beyond the scale of the small, field hen farms of America's past and have developed into a major sector on which many people around the world depend.

Chickens have been an important household domesticated animal for thousands of years all across the world. Their production in the U.S. became commercialized a little less than a century ago and became large scale in the 1940s (Hamilton, 2014, 579). Poultry farms in the early 1900s focused less on chicken meat and more on eggs. Chicken meat was considered a delicacy and often only consumed for special occasions or holidays. Commercial poultry production began in the backyards of America starting in the early 1900s (USDA, 1995, 3). A small flock of 10 to 50 chickens produced enough eggs to sustain a small family. Whenever possible, family farms sold surplus eggs at local markets (American Egg Board, 2022; Hamilton, 2014, 579).

The commercial broiler industry got its start in the Delmarva Peninsula, which stretches from northern Delaware to Cape Charles, Virginia. This region is mostly flat, low-lying terrain bordered on the east by the Delaware River and the Atlantic Ocean, and on the west by the Chesapeake Bay (Williams, 1998, 1). The Delmarva Peninsula became known for its egg production in the 1920s. Several ambitious Delmarvans were already producing eggs to sell at local markets around the peninsula when Arthur Perdue established the first large-scale, commercial egg farm in this region. Perdue's table-egg farm later grew into Perdue Farms, one of the top poultry production companies in the United States (Williams, 1998, 9).

Just a few towns over from Perdue's commercial egg farm lived a woman named Cecile Steele, who is credited to have founded the broiler industry in the United States in 1925 (Williams, 1998, 11). Steele kept a modest flock of fifty chickens to help support her family and sell eggs to the community. Each flock cycle, she would order fifty chicks from Vernon Steen, the owner of the local hatchery (Williams, 1998, 12). By accident, Steen sent five hundred chicks instead of the normal fifty, leaving Steele with more chickens than she had room to raise. Instead of returning the chicks to the hatchery, she built another broiler house on her property. When the surviving chicks reached their market weight at sixteen weeks, she sold the entire flock to a local buyer, who shipped the birds north and sold them to restaurants (Williams, 1998, 13). Cecile Steele saw this arrangement as very profitable. She and her husband came to raise thousands of chickens and construct broiler houses large enough to hold ten thousand birds at a time. The success of the Steele farm spread across the peninsula and farmers across Delmarva quickly expanded their farms to increase their broiler raising capacity (Williams, 1998,

13). By the end of 1928, the Delmarva Peninsula had five hundred broiler farmers, making it the epicenter of commercial broiler production in the United States (Williams, 1998, 13).

Most broiler production now occurs in the American Southeast, with Georgia, Arkansas, North Carolina, Alabama, and Mississippi currently being the top producers (NCC, 2019). Commercial chicken production expanded geographically from the Delmarva Peninsula across the American Southeast as farmers sought climatic conditions favorable for broiler production, affordable land and water, and access to feed sources such as corn and soybeans (NCC, 2022). Prior to the 20th century, poultry production was more dispersed across the country, with chickens grown on tiny family-run farms in close proximity to local consumers (USDA, 1995, 7). With advancements in transportation and packaging, farmers in the American Southeast saw an opportunity to capitalize on the region's favorable climate by constructing large chicken houses with the capacity to house tens of thousands of birds.

Until the 1930s, small-scale family farm operations controlled local markets across the country with little government supervision. As farmers started to expand their farms and increase their egg and broiler sales, several challenges surfaced. It was common practice to allow a flock to walk freely outdoors in a small pen with a coop for roosting. Bad weather and predators, however, jeopardized the flock's health and stability which would, in turn, impact the broiler's development and egg producing capacity (American Egg Board, 2022). Poultry research in the early 1940s revealed that growing chickens indoors improved flock health for a number of reasons. First of all, indoor growing shielded the birds from predators and from dangerous weather and

temperature fluctuations. Indoor growing also allowed farmers to better manage the diets of their birds (American Egg Board, 2022). These improvements reduced chicken mortality, enabling farmers to incur fewer losses and make more money. Moving hens indoors, on the other hand, presented its own set of challenges, including waste management and sanitation. Agricultural research and advances in farming technology and poultry diseases would later facilitate farming chickens for commercial sales. Poultry experts in the 1940s found that placing elevated wire floors inside of hen houses significantly improved sanitation and the health of the flock (American Egg Board, 2022).

There is a substantial body of literature and media that focuses on the inhumane treatment of chickens and other livestock raised in an industrial setting for mass consumption by humans. The conditions in which chickens are grown for slaughter have come to the attention of the public in recent years. In order to meet consumer demand for affordable protein, industrialized poultry farming has moved birds from the open-air fields to confined spaces indoors. A chicken is raised for six weeks before it is slaughtered, during which time it is housed in dimly lit grow houses, frequently lying in its own excrement, until it is caged and transported to the processing facility (NCC, 2022). Although the focus of this research is on the experiences and well-being of workers in the poultry industry, the conditions in which chickens are raised is a topic worthy of further research.

Most family farms relied more on the physical labor of farm operators than on machinery, but advances in farming technology during the mid-20th century diminished the need for physical labor on the farm (American Egg Board, 2022). By the early 1960s,

farmers began to equip their hen houses with machinery such as conveyor belts to collect and transport eggs, feed and water lines running through the houses, and ventilation fans to control hen house temperatures (American Egg Board, 2022). Innovations in breeding methods, disease control, nutrition science, and management processes encouraged farmers to expand their operations and increase their profits by selling both the eggs and meat (USDA, 1995, 3). Poultry science advances in vitamin and antibiotic consumption through fortified feed made it easier for farmers to raise their chickens indoors while maintaining the health of their flock (American Egg Board, 2022). These scientific advancements, along with the increase in farming technology and mechanization, were responsible for the transition from small-scale farm production to large-scale commercial production.

By the late 20th century, family farms shifted to capital-intensive production with an individual chicken house operation having the capacity of 20,000 to 30,000 broiler chickens. With the expansion of family farms and commercial chicken production, the eating patterns of Americans began to shift and chicken consumption outpaced that of beef and pork (USDA, 1995, 3). Prior to the 1980s, it was a common practice to cook the whole bird for a meal. With growing popularity of fast-food chains in the United States in the 1980s, poultry companies started to process the chickens further by removing excess fat and organs and separating wings, breasts, and thighs to sell in convenient tray packs to meet the demands of the consumer (NCC, 2022; USDA, 1995, 3). Preparation, packaging, and marketing of processed poultry products have all contributed to the change in consumer preference for poultry products (USDA, 1995, 5). This rising consumer demand, along with advancements in farm technology, occurred at the same

time as the transition from chickens grown on independent farms to them being produced under a contract for a producer (Williams, 1995, 5).

Running a chicken farm now relies on these production contracts that connect farmers with hatcheries, feed mills, and processing plants. Since the 1960s, agricultural contracts have driven organizational changes in the poultry industry. Integrated poultry corporations now manage nearly 90% of broiler production in the United States through contractual obligations they arrange with farmers (Boyd, 2001, 635; NCC, 2022). In order to have a better understanding of how these industrial poultry operations grow and evolve over time, it is essential to consider how the vertical integration model adopted by poultry firms affects their farmers and lower-level employees.

2.2 Vertical Integration of the Poultry Economy

Prior to the establishment of vertically integrated poultry companies in the 1950s, the poultry industry consisted of independently owned businesses such as feed mills, hatcheries, farms, and chicken processors (NCC, 2022). These independent businesses then collaborated to develop a flock cycle that would govern the birds' growth and standardize broiler output (Hamilton, 2014, 579). For example, farmers entered into agreements with chicken processing facilities that could process the birds and transform them into a commodity that was marketable to the consumer. Such industrial agreements between hatcheries, processing plants, and feed mills developed a system in which farmers obtained loans to purchase the chicks and feed, and then sold their flock to poultry processors to repay the loans and make a small profit. A large portion of the commercial broiler industry in its beginning stages was controlled by independent

farmers funded by feed suppliers (USDA, 1995, 5). In the 1950s, before birds became a commodity transformed by processors and marketed to consumers, the most common method of selling chickens was at auctions (NCC, 2022; USDA, 1995, 5). Since most farmers could only produce four flock cycles of broilers in a year, this system quickly developed into a share contract to mitigate the high risk of losing money on one or more of the flock cycles (USDA, 1995, 5). This method resulted in the vertically integrated business model that is now prevalent across the commercial poultry industry and other industries in the United States. This model relies upon a single decision-making organization controlling all phases of production (Hart, et al. 1998, 69; Cunningham, 2009, 1). Vertical integration gives poultry farmers more control over their flocks, which in turn supports product standardization and ensures consistency in the supply of birds for processing facilities (Weaver, et al. 2014, 18). Poultry companies that adopted this vertically integrated business model include Sanderson Farms, Cargill, Perdue Farms, Tyson Foods, and Cal-Maine Foods, among others. These changes have led to the United States poultry industry increasing its output by nearly 7% each year since 1950, coinciding with a steady decline in the price of a broiler (Boyd, 2001, 634; Cunningham, 2009, 1).

To ensure this consistent supply, poultry corporations developed contracts with farmers to regulate the commodity from the beginning stages of hatching to final slaughter on the production line. This contractual arrangement safeguards farmers against the dangers inherent in procuring birds, feed, land, and equipment (NCC, 2022; Nguyen et al, 2015, 531). Typically, farmers are required to supply their own input resources, such as housing, electricity, land, and equipment, under these production

contracts (Macdonald, et al. 2004, 10). Production contracts with poultry farmers are typically negotiated by firms known as integrators. Integrators also facilitate contractual agreements with feed mills, hatcheries, shipping and providers, and other services related to the production process. Most broiler farms are located near their contractor's operations in order to save on transportation expenses for chicks and feed (USDA, 1995, 7). A variety of local support services including banking, real estate, veterinary care, and other vital businesses that service the poultry industry are found in the communities surrounding these poultry complexes.

With work in the poultry industry dominating the American Southeast, it is important to understand the varying tiers of production that control the poultry labor market. The production tier includes farmers who negotiate contracts with poultry corporations to raise chickens to be processed into poultry products. The processing tier is comprised of poultry processing facilities that clean, deconstruct, and package the chickens into various poultry products to distribute for off-premises sales. The wholesale and retail tiers involve the distribution of goods for off-premises sales and involves the steps taken to transfer products to the consumer (Dunham, et al. 2016, 4).

2.3 Farmer and Contractor Production Relationship

The production tier of the poultry labor market involves production contracts between farmers and integrators (also referred to as “contractors”) that aim to reduce overall costs for the integrator by professionally managing each stage of broiler production. For the company, production contracts enhance cost efficiency and allow for the production of uniform birds, which is important in competing effectively in the

marketplace (Cunningham, 2009, 1). Farmer-producers believe that by signing a contractual agreement they might gain more skills and knowledge, such as enhancing product quality and learning about different markets, which would contribute to their overall productivity (Nguyen, et al. 2015, 532). It is essential that both farmers and integrators make major contributions to the process for this relationship to be successful. Farmers often finance input purchases with their own earnings or savings, or, more frequently, with bank loans. Production contracts provide benefits to farmers, such as improving the quality of managerial inputs, providing access to new farming technology, giving farmers access to credit, and lowering income risks (Morrison, 2004, 1308; Nguyen et al, 2015, 532). The main advantage of farmers signing a contract is that they shift the market risks to the integrator (Cunningham, 2009, 1). These contracts have come to dominate the poultry industry, with integrators now supplying a majority of family farms with their chicks, feed, health services, and markets (Gardner, 2002, 70).

Farmers are obligated to follow a specific management program for their flock designated by the integrator (Cunningham, 2009, 3). Farmers will get weekly visits from corporate representatives as well as USDA inspectors to aid with management and quality control (Cunningham, 2009, 3). Most growers are paid based on their relative performance compared to other growers in their region (Ahearn, et al. 2002, 5; Cunningham, 2009, 1). Farmers who grow broilers are paid by the pound and this price is determined by the integrator when the flock is harvested and processed. All decisions concerning the harvesting of the flock are made by the integrator, including feed schedule, processing, and marketing of the flock. Farmers who have the best feed conversion ratios as well as the most up-to-date broiler houses and technology tend to

receive larger payouts, but they also accrue a substantial amount of debt from building and maintenance costs (Tabler, 2014, 2).

In the early years of the transformation of the poultry industry, broiler houses were roughly 16-foot-square coops with straight roofs and an outside enclosure where the birds could roam. Today, broiler houses might vary in size from 25,000 to 30,000 square feet and can hold up to 30,000 birds (Cunningham, 2009, 2). These grow houses are wired with automatic feeders, new ventilation systems, thermostats, and high-tech water lines that are all controlled from one central computer and command room. Each grow house costs hundreds of thousands of dollars to build, and most farmers have at least four or more as part of their operation (Leonard, 2014, 23). The expenses and operating costs of broiler housing, which includes site preparation, a construction team, equipment, wiring, and plumbing are at minimum \$220,000 per house (Cunningham, 2009, 2). Most farms have at least two broiler houses, but it is common to find farms with four or more. The typical farm might have \$800,000 or more invested in farming equipment and housing (Cunningham, 2009, 2). Farmers often must take out bank loans to finance their poultry operations and their debt payments are scheduled to match the life cycle of a flock of chickens, which corresponds to about every six weeks (Leonard, 2014, 24). On average, a 25,000 square foot broiler house can provide a gross income between \$45,000 and \$55,000 per year for a farmer (Cunningham, 2009, 2). The annual expenditures of each broiler house might fluctuate from \$35,000 to \$40,000 depending on the arrangement of the farm's loans with the bank (Cunningham, 2009, 2). With most poultry farmers operating on a 15-year mortgage payment period, farmers often do not begin to generate wealth from the farm until their payment period is over. Because of

loan repayment, nine out of ten family farms earned nearly 80 to 85% of their income from off-farm earnings and part-time jobs over the last decade (Broadway, et al. 2010, 44; Dimitri, et al. 2005,3; Gardner, 2002, 71).

Farmers were originally attracted to the vertically integrated poultry business model because of the promise of cutting production costs and dividing inputs and services between integrators and farmers. Many believed that this business model would alleviate pressures on the family farm by compartmentalizing production responsibly and distributing risk across multiple stakeholders. While the vertically integrated approach has proved effective at doing just that, some critics of the system note that the lion's share of responsibility and risk falls on the farmer rather than the bank, integrator, processor, or consumer-facing retailer. As previously noted, it is the farmer who takes on significant debt to initiate a poultry operation, maintain expensive grower facilities at very small profit margins, and bear the risk of insolvency when a flock fails. Notwithstanding that the average poultry farmer's barrier to entry would unquestionably increase if farmers were responsible for every aspect of the poultry market from the hatchlings to consumer sale, it is no secret that the vertically integrated system is governed by and for the ultimate benefit of the large poultry corporations. While farmers do benefit from those advantages facilitated by the vertically integrated system, said advantages are a by-product of systemization and uniformization. While systemization and uniformization reduce farmers' overall barrier to entry, it also diminishes farmers' capacity for growth, expansion, and profit realization, seeing as farmers are typically contractually limited from participating in the poultry market process beyond their role as a bird producer. Consequently, today's poultry farmer must often derive more than half

of their yearly income from second jobs (Broadway, et al. 2010, 44; Dimitri, et al. 2005, 3; Gardner, 2002, 71).

2.4 Poultry Labor in the American Southeast

The geographical shift in poultry processing is quite apparent throughout the American Southeast where major poultry firms have relocated to rural communities with small economies. Arable farmland is geographically fixed, which creates conflict in some counties where poultry farmers must deal with urbanization and the commodification of the countryside. Large-scale poultry production facilities are usually concentrated in relatively small areas that include feed mills and processing plants within a 35 to 50-mile radius, and consequently, integrators have a considerable amount of influence over the local markets and workforce (Tabler et al, 2014, 1). As rural areas are increasingly pressured by regional urbanization, public awareness of pollution and environmental degradation cause by poultry production facilities is on the rise (Tabler, et al. 2012, 2). A big issue that both farmers and neighboring communities face is the disposal of manure and dead birds. Poultry firms have shifted the waste burden to farmers by placing the regulatory compliance responsibility on them so that integrators avoid liability issues, which is another example of how the vertical integration places additional responsibilities and risks on the farmer (Molnar, et al. 2002, 89). Unless waste is disposed of properly, large-scale poultry operations can pose negative environmental consequences for local communities. Compromising water quality with high levels of phosphorous is often an unfortunate side-effect of land application disposal techniques for chicken waste (Molnar, et al. 2002, 97). Affected communities must also deal with an

increase in local water consumption, which can strain local water infrastructure and groundwater supplies given the large quantities of water needed to run poultry operations and dispose of associated waste.

It is necessary for poultry processing plants to be positioned in close proximity to grow houses in order to ensure that when a bird reaches market weight, it is killed and processed as quickly as possible. This is because of the potentially lethal (and therefore, revenue reducing) stress that the birds endure during transportation from the grow house to the processing facility (Alexander, 2012, 368). A flock of broiler chickens has a normal market weight of five pounds and a lifecycle of six weeks (MDAC, 2021). This is why many grow houses are located near interstates or highways with 18-wheeler truck access to allow for the seamless and quick transportation of the broilers to the processing facilities.

Considering the majority of poultry processing facilities and farms are concentrated in rural locations, it is common for a single poultry company to be the only significant employment opportunity available to the community (Alexander, 2012, 371). There are several potential impacts associated with the poultry industry moving into rural communities and dominating local labor markets. A few of these impacts include an increase in undocumented labor, low wages, strains on rural health care, increased crime, and pressure on social services (Alexander, 2012, 370; Fitzgerald, 2010, 63). Companies such as Tyson, Perdue, ConAgra, Sanderson Farms, Wayne Farms, and other poultry firms intentionally locate their processing facilities in the American Southeast because of the region's mild climate, cheap feed prices, low-cost labor force, and proximity to broiler farms (Alexander, 2012, 365). These five major poultry companies are present in

Mississippi and one – Sanderson Farms – has its corporate headquarters in the state and is the most prominent poultry company in Mississippi. Rural community leaders in the Southeast see these poultry firms and their processing facilities as an opportunity to increase local incomes, as well as provide more economic opportunities to residents (Goldsmith, 1985, 1127). The image of rural life has shifted in the United States from quaint local communities to large-industrial complexes engulfing rural landscapes. Poultry firms rely on regions with a surplus of rural labor to fill positions in their processing plants. Mississippi is known for its employer-friendly laws, low wages, and its status as a right-to-work state, all of which attract poultry companies that are seeking to keep wages low for their workforce and to operate without the presence of unions (Alexander, 2012, 365; Belk, 2014, 557).

In 1999, researchers Melissa Barfield and Lionel Beaulieu of Mississippi State University’s Southern Rural Development Center examined the labor opportunities of the Southeast and anticipated that occupations created in the Southeast would need little to no training or post-secondary education (Barfield and Beaulieu, 1999, 10). When comparing the distribution of young Southerners, between the ages of 24 and 34, who earned a post-secondary degree to those who only earned a high school degree or less, the former are less likely to live in rural communities (Barfield and Beaulieu, 1999, 19). Peripheral labor opportunities can be beneficial for residents of rural communities who lack higher education degrees or even high school diplomas because the poultry firms purposefully de-skill these jobs to make them interchangeable, accessible without training, and in high demand. In poultry processing plants, the workforce is largely made up of employees who are paid low hourly wages for performing dangerous tasks in

potentially hazardous conditions. In fact, poultry processing employees have one of the highest rates of occupational injury and illness across all economic sectors (Alexander, 2012, 360). The repetitive nature of the work, the high-speed motion of the lines, and the use of sharp blades in close quarters are all elements that contribute to the high risk of the industry.

Across Georgia, Arkansas, Alabama, and Mississippi, an estimated 225,000 jobs in the poultry industry are filled by immigrant workers (Alexander, 2012, 359; Winders, 2011, 604). The recruitment of immigrant workers is a big example of the de-skilling of labor in the poultry industry where fluency in English is not mandatory given the interchangeable nature of modern chicken processing positions (Alexander, 2012, 361; Fitzgerald, 2010, 63). Many Hispanic immigrants prefer rural areas because the agricultural labor market is not as saturated as many non-agricultural sectors. The Hispanic population in the United States rose by nearly 14 million people between 1990 and 2000 (Haverluck, et al. 2008, 87). A sizable portion of these migrants settled in rural communities of the American Southeast, adding to the ideal labor pool for poultry producers in the Southeast (Popke, 2011, 244; Winders, 2011, 597). The connection between Hispanic immigration and the poultry industry is evidenced by elevated competition amongst poultry producers to facilitate immigrant recruiting, a continuous surplus of industrial agriculture labor positions, and the poultry industry's growing investment in concentration production and processing infrastructure within reach of immigration hot spots in the Southeast (Alexander, 2012, 375; Kandel, et al. 2005, 466).

2.5 Mississippi's Poultry Industry and Covid-19 Impacts

The Covid-19 global pandemic caused many disruptions to the global supply chain, resulting in an estimated combined loss of \$400 million in the value of broiler production in Mississippi in 2020 and 2021. Despite the fact that many people across the United States transitioned to working from home, or struggled with unemployment at the height of the pandemic, farmers and processing plant employees were deemed essential workers and were expected to keep working. Generally, workers in the greater food and agriculture industries overall were deemed essential due to the need of feeding our population. These workers were at a greater risk of catching Covid-19 than the general population since workers in the food and agriculture industry are often immigrants and minorities who have limited income and, therefore, generally less access to healthcare (Lusk, 2021, 2). In 2020 several processing facilities in Mississippi reported a large number of Covid-19 cases. The Centers for Disease Control and Prevention (CDC) attributed the rampant spread of the virus to work and living conditions of processing facility employees, many of whom live in close quarters, multi-generational homes, or carpooled to work with other employees (Dyal, et al. 2020, 558). Restrictive medical leave policies and attendance incentives, which prohibit workers from getting sick pay and encourage them to report to work even if they are exhibiting signs of Covid-19, are another likely cause for the fast spread of the virus at poultry processing facilities (Dyal, et al. 2020, 558). For the majority of employees in poultry processing plants, employees must work in close proximity to one another in restricted quarters, making it difficult to maintain appropriate social distance to reduce the spread of Covid (Peters, 2020, 451). Weekly Covid-19 reports in 2020 indicated that rural populations are significantly more

vulnerable to Covid-19 than urban populations, with meat processing plants having among the highest rates of Covid-19 cases in the nation (Peters, 2020, 449). Covid-19 had a significant impact on rural communities in Mississippi because of pre-existing vulnerabilities, including a lack of rural health care services, a greater level of disability amongst residents, and a large number of people who lack health insurance altogether (Peters, 2020, 446).

For the past 21 years, the poultry industry has been the most profitable agricultural activity in the state (Tabler, 2017, 1). Mississippi's poultry industry operations include an estimated 1,237 poultry farms and a combined total of 50 processing plants, hatcheries, and feed mills scattered throughout the state, most densely located in the Piney Woods region (MDAC, 2021). According to the Mississippi Poultry Association and the Mississippi Department of Agriculture and Commerce, these poultry operations account for nearly a third of the state's revenue, making it a vital business for the state (MDAC, 2021; MPA, 2020). Mississippi is the fifth-largest producer of broilers in the United States and the tenth-largest producer of eggs (MDAC, 2021; NCC, 2019). Sanderson Farms and Cal-Maine Foods, two of the largest companies in the poultry industry, have their headquarters in Mississippi, with Cal-Maine Foods in Jackson and Sanderson Farms in Laurel.

As I conducted my research and spoke with Mississippians employed in the poultry industry, I learned that rural communities throughout the state rely on poultry production and other agricultural industries to support their livelihoods and local economies. The poultry industry directly employs more than 25,000 people and has generated or supported as many as 72,153 jobs in Mississippi concurrently (Tabler, 2017,

1; MPA, 2020). In the Piney Woods, a large number of nearby businesses are reliant on the poultry industry, which supports an estimated 46,885 employees in supplier and supporting services (Tabler, 2017, 1). Financial institutions, manufacturing companies, construction companies, and transportation companies are just a few of the enterprises that offer support services to the poultry industry (Tabler, 2017, 5). In Mississippi, the poultry industry has a total economic impact of \$18.36 billion and pays out \$3.9 billion in wages annually (Tabler, 2017, 6). The value of broiler production in Mississippi for the past decade has fluctuated between \$2.3 and \$2.6 billion. In 2019, the value of broiler production was estimated at \$2.3 billion and in 2020 the production value decreased to \$1.9 billion because of inventory disruptions associated with Covid-19 (MDAC, 2021; USDA, 2020, 4). The literature on Covid-19 and its influence on the poultry industry is still emergent, and this study adds to that knowledge gap.

CHAPTER III – METHODOLOGY

3.1 Research Questions and Site Selection

The purpose of this study was to answer three research questions: 1) what are the sociocultural impacts of the poultry industry in Mississippi, 2) how has the poultry industry transformed the Piney Woods landscape over the last century, and 3) how has the Covid-19 pandemic affected the poultry industry in Mississippi?

To answer these questions, I utilized snowball sampling to identify potential subjects for my research. These subjects consisted of poultry farmers along with former poultry industry employees residing in the six-county study area that was the focus of this research. The counties included in my study area were purposefully chosen because each county contained poultry processing facilities, hatcheries, and broiler farms located within 100 miles of Hattiesburg, Mississippi.

3.2 Data Sources

Public domain data from the United States Census Bureau and the United States Department of Agriculture's National Agricultural Statistics Service (USDA NASS) were utilized for economic and demographic data on the poultry industry in the United States and in Mississippi. The data utilized from the United States Census Bureau for this study included data from both the 2010 census and the most recent 2020 census. Specific data utilized from these censuses include demographics on the residents of my study area along with socioeconomic statistics. Data retrieved from the USDA NASS included statistical information from both the 2012 and 2017 Census of Agriculture. Information

included in this research from the Census of Agriculture included state and county level data in Mississippi in regard to the poultry industry.

The instrument used for this study was an open-ended interview guide that I created to ask anonymous respondents questions about their relationship with the poultry industry, their work motivations, and their relationship with their local community. The interview guide consisted of 28 questions addressing their experience with the poultry industry (see Appendix A for interview questions). Out of the thirteen people interviewed, ten were farmers, two were former poultry industry employees, and one was the leader of a local poultry organization. Farmers were asked about their decision-making process and overall approach to managing a poultry farm, their relationship with the integrator/contractor, and their relationship with other farmers and their community. Former employees were asked questions about their employment history, their typical workday, the advantages and disadvantages of working for the poultry industry, and their thoughts on how the poultry industry has impacted their community and landscape. I designed my interview questions in a way that my respondents could provide narratives that illustrated their experience with the poultry industry, allowing me to capture a better picture of how the poultry industry impacts their everyday lives.

Each interview lasted between two and four hours, giving considerable opportunity for conversation. With the exception of two interviews that were done through Zoom, a majority of the interviews were conducted over the phone. I obtained the participant's permission to conduct the interview before beginning, let them know that the audio of our conversation would be recorded, and assured them that their identities and any personally identifiable information that they would share with me

would not be revealed in the study's findings. All my interviews were recorded and transcribed, and my participants were assigned aliases to protect their privacy and ensure anonymity when I refer to them in this thesis.

I obtained permission from the Institutional Review Board (IRB) of the University of Southern Mississippi to conduct these interviews (See Appendix B for IRB approval letter). Given the limitations imposed by the shutdown associated with the Covid-19 pandemic, all interviews were conducted by phone or by Zoom. The recorded audio files of these interviews were then transcribed through Otter.ai, a software application that transcribes audio files, for analysis and participants were given a pseudonym to preserve their anonymity. Other forms of data collection included traveling to the study area to take notes and photographing those communities. A flyer created for distribution on social media platforms was used to find potential respondents (See Appendix C). After conducting interviews and transcribing audio files, common elements and pervasive themes were identified and grouped into categories in order to contextualize my findings.

3.3 Limitations

This study has two primary limitations. The first limitation has to do with the relatively small number of participants included in the study. Because the COVID-19 pandemic forced most in-person work and research to go remote, all participants identified for the study were recruited through various online platforms. This physical (and technological) separation limited the possibility of communicating with potential respondents who were not active on social media or not exposed to the flyer distributed

on other online platforms. Even connecting with those respondents who were willing to participate in this study proved difficult at times, considering the relative unpredictability of video/audio communication online. As stated in the IRB application, the original intent of this study was to recruit participants in-person by visiting processing facilities, community events, churches, and public businesses, all in addition to online recruiting. However, even though the actual study population utilized for this thesis was limited to thirteen respondents, the use of exclusively online communication tools facilitated the removal of traditional time constraints and allowed each respondent sufficient time to answer the study questions provided. This maximized opportunities to gain insight into the lives of each participant and their perspectives on the poultry industry.

The second limitation is the scarcity of poultry processing employees who are legally able to participate in this type of targeted research. Non-disclosure agreements (NDAs) are common in the poultry industry and are typically signed by prospective employees during the onboarding process for modern processing plants. Two former poultry processing employees consented to participate in the interview process for this research, but no current processing employees were willing to participate due to active NDAs. Although this research lacked the insights and experiences of current poultry processing employees, the fact that active employees in the industry were contractually prevented from participating in this study served as a meaningful data point when developing the results of this research.

CHAPTER IV – RESULTS

4.1 Participant Population

This study aimed to address three primary research questions: 1) What are the sociocultural effects of the poultry industry in Mississippi? 2) How does the poultry industry influence the physical landscape of the Piney Woods? 3) How did Covid-19 impact the poultry industry in Mississippi? I obtained data on age, residence, employment history, and income from each participant during their interviews. The interview questions were intentionally open-ended and designed to focus on the participants' experiences with the poultry industry, as well as their personal relationships with the communities in which they resided. Additional questions focused on the participants' experiences during Covid-19 and how the pandemic affected their sector of the industry. Twelve out of the thirteen participants in this study were formerly or currently employed by a prominent poultry company which will be referred to by a pseudonym, Happy Hens Farms, to preserve my participants anonymity. Of those twelve participants, nine were farmers who held production contracts with the company and two were formerly processing and production employees. One participant was the leader of a local poultry organization that represents farmers and contractors. Most of the participants in my study were over the age of 40, with the exception of two participants who were 30 – one a former hatchery employee and the other a farmer. The names of the participants listed below are pseudonyms to protect their anonymity. For the purposes of this study, I will refer to the participants as:

1. David Adams, 63 years old. He is a former Sales Manager for the Happy Hens Farms processing and production division and is currently a realtor.

2. Charlotte Banks, 50 years old. She is a farmer and currently operates a breeder farm for Happy Hens Farms. Her husband, 47, helps operate the breeder farm and also runs a side business.
3. Andrew Brown, 76 years old. A former Live Production Division Manager for Happy Hens Farms.
4. Ronald Davidson, 63 years old. A leader of a local poultry organization.
5. Marcus Goodwin, 31 years old. He is a farmer who currently operates a breeder farm for Happy Hens Farms alongside his father, mother, and sister. His family also sells produce in local markets to supplement the family's income.
6. Larry Holmes, 48 years old. He is a broiler farmer for Happy Hens Farms with his wife Margaret. He was a teacher before becoming a broiler farmer.
7. Margaret Holmes, 40 years old. She is a broiler farmer for Happy Hens Farms with her husband Larry. She is also enjoys teaching fitness courses.
8. Kelly Johnson, 39 years old. She is a breeder farmer for Happy Hens Farms. Kelly supplements her family's income by selling produce in her community.
9. Jorge Rodriguez, 30 years old. He is a former egg hatchery employee who now works in sales.
10. Jerold Smith, 50 years old. He is a broiler farmer for Happy Hens Farms who shares land with his father and brother, both of whom also own broiler farms.
11. Pamela Weathersby, 58 years old. She is a breeder farmer Happy Hens Farms and a cattle farmer with her husband who is 67 years old.

12. Savannah Williams, 68 years old. She is a broiler farmer for Happy Hens Farms.

13. Mary Jones, 38 years old. She is a broiler farmer for Happy Hens Farms. Mary's husband supplements the family's income by working in the offshore oil industry.

4.2 Sociocultural Impacts of the Poultry Industry

I came upon several themes while analyzing the data collected from the interviews. One of the early themes that emerged while analyzing the sociocultural impacts of the poultry industry was that every one of the study participants were first-generation farmers or poultry industry workers with no prior farming or industry experience. In fact, many participants had never lived in a rural community prior to establishing their chicken farms. Due to the way that industrial poultry farming is structured, it is not necessary for beginning farmers to have any prior experience in raising chickens. While the rural communities of my study area have a rich cultural heritage with long tradition of agriculture and farming, based on my observations, it is now more common to encounter poultry farmers within these communities with little to no generational farming knowledge or inherited expertise. Due to the general lack of industry-specific knowledge, the farmers interviewed solicited assistance from poultry farmers with a bit more experience.

The two former processing plant workers I spoke with both had bachelor's degrees in poultry science, including Ronald Davidson, the head of a local poultry organization. In contrast, four out of ten farmers I spoke with had bachelor's degrees in

fields unrelated to poultry science and agriculture. When asked about how she came into poultry farming, Savannah Williams said: “No, actually, it kind of was forced on me. I never thought I would do this. I didn't like the smell. I didn't like anything about it. I don't think anyone does. Feels like money to me now.” All of the farmers interviewed had similar ideas about owning a chicken farm. They wanted to raise chickens to gain financial independence, be their own boss, and live by their own schedule. When asked how she and her husband got into chicken farming, Mary Jones shared:

“My husband, he worked the pipeline, and we lived in Louisiana, but we are from Mississippi. When I was pregnant with our second child, and I didn't want to raise my children in Louisiana, we moved back to Mississippi. And at the time, that was when the pipeline and offshore stuff, wasn't doing very good. I knew where a farm was that had been shut down for like five years after it had been repossessed by the bank. And so we went to the bank and talked to them about it and talked to Happy Hens Farms - you know, we talked to a few people and tried to see if this was what we wanted to do. And we just kind of put all our eggs in the basket went forward. And that's how we ended up with it. And this was about four and a half years ago. I've never in my life pictured myself being a chicken farmer.”

Several of the farmers shared similar stories to that of Savannah and Mary regarding their unlikely and unexpected introduction to the poultry industry. All of the participating farmers had one thing in common: they all took over pre-existing contracts from prior farmers who were trying to sell their farms and leave the chicken industry. In fact, a few months after the interviews were completed, three out of the ten farmers shared that they were getting out of the industry by selling their farms and turning over their contracts to other farmers. This is a frequent practice among poultry farmers, many of whom have taken over the contracts of the previous farmer and are now attempting to sell their farm and operation to the next hopeful opportunist. Most production contracts

in the poultry industry have a duration between ten to fifteen years. All ten of the farmers interviewed were still within the ten-year window of their first production contract, and all but one had no intention of renewing their contracts or working in the poultry industry. All ten of the farmers that participated in this study required some form of supplemental income to support their family in addition to poultry farming, whether by taking on part-time work themselves or supporting their spouse in maintaining a second job outside of the farm. Ronald Davidson claimed that “Normally, a farmer in this industry would last for maybe ten years. If you don’t have a second job outside of farming, you just simply won’t make it. One or the other spouse is going to have to work outside the poultry industry to help pay for things.” This sentiment proved consistent across those participants interviewed.

All of the farmers claimed that being a poultry farmer had a negative impact on their social lives and made them feel isolated at times. It was quite clear that the farmers interviewed lacked community and fellowship in their profession and in their personal lives. Many of them reported feeling tethered to their farms and isolated with little social mobility, while at the same time expressing the independence of being their own boss. Being a poultry farmer can be quite isolating because of the endless responsibilities that come with this occupation. The farmers expressed frustration towards being unable to participate in community events, attend church, or travel more than an hour away from their property. Eight out of the ten farmers interviewed stated that they did not have any other close professional or social relationships with other farmers or poultry industry employees in their community. Among the numerous reasons expressed as to why these relationships did not exist, the most common referenced extreme occupational pressures

and the rural nature of the work. One of the farmers I interviewed, Margaret Holmes, had this to say when asked about her social life outside of the farm:

“We don't vacation and hardly socialize. We don't really ever get to take days off. We're literally on call for the farm for that 65-day period, and at any point, we have to drop whatever we are doing and go take care of our birds—Happy Hens Farms said you have to drop everything and be at this farm 24/7 for that 65-day period. For 65 days we have these birds, that's, that's pretty much our entire focus. And, you know, even after you don't have birds, you still have a lot of work to do. That's one of those things that you give up when you become a chicken farmer—you give up your freedom. Yeah... you give up all of your freedom.”

All of my farmer participants stated that running their chicken farm is 365 days a year, 24 hours a day, and 7 days a week job which limits their opportunities to socialize with other members of the community. One of the interview questions posed to both farmers and former processing plant employees was whether or not Happy Hens Farms provided educational or social opportunities for them – all twelve stated that they were never offered any educational opportunities or social opportunities from the company.

While analyzing the social and cultural impacts of the chicken industry in my study area, two major themes were identified. These themes include the absence of social connections and lack of rural development. With the exception of one, every farmer I spoke with expressed a desire to fulfill their contracts and relocate closer to the city in order to seek better employment opportunities and have access to a larger community. This desire to leave the industry and relocate, coupled with the absence of social networking, hampers the growth and development of rural communities.

It is also interesting to note that none of the farmers interviewed for this study made any mention of an affinity or passion for chickens themselves, something the average outsider might find odd considering these people dedicate years of their life and

great effort towards raising their flocks. While the interview questions utilized for this study did not specifically inquire as to the participants' thoughts or feelings toward chickens and their living conditions directly, the subject of general poultry conditions did arise during conversations with multiple participants. Despite indirectly acknowledging that the poultry industry is no paradise for chickens, these participants did allude to a sense of pride, at least professionally, in their adherence to high industry standards and regulations governing minimum hygienic and humane conditions for raising flocks. These farmers also called attention to their somewhat limited role in the ultimate fate of their chickens, seeing as farmers exclusively feed, house, and grow the birds until they are large enough for delivery to a processor for slaughter and packaging. Upon delivery, the flock is essentially out of the farmer's hands.

Considering that these farmers are paid by the quantity and weight of the birds delivered for processing, going above or beyond those minimum requirements leveraged by the integrator could lead to increased overhead and slower flock turnaround, which in turn reduces profit on an already narrow margin. There is little room for error or inefficiency in these tournament systems, providing little opportunity or incentive to cultivate better conditions for future flocks beyond what is required by corporate policy or government regulation. As such, it is no surprise that the farmers interviewed for this study, all of whom produced flocks for a major poultry company, made no indication of caring for the chickens beyond the bird's function in providing a living for the farmers and their families.

4.3 The Poultry Industry Landscape of the Piney Woods

Due to the nature of their work, all of the farmers lived in small, rural communities situated within a 50-mile radius of a poultry processing plant. Eight of the ten farmers interviewed were not native to the county where their farm was located – many respondents had moved to their current place of residence in the Piney Woods for the primary purpose of chicken farming. The distance to the processing plant and the contractor’s operation territory are elements of the decision-making process when farmers are deciding on suitable land to construct their chicken farms. Most contractors require that all poultry farms be located within 50 miles to a processing facility (See Figure 4.1). Farms are commonly found tucked away from sight on county roads that lead to the nearest plant. The President of a local poultry organization was interviewed for this study to gain perspective on the poultry community of the Piney Woods. He described the reasoning behind the location of poultry farms in the area. This participant is referred to as Ronald in this study.

“There are no poultry farms alongside interstates, you have to be on a country road somewhere. So it tends to be kind of hidden from people and that is largely because of disease, and the concern about it being brought on to a farm, not everybody can just walk up on a poultry farm. They have to be careful because most of the diseases that are going to be brought in can be found on somebody’s shoes and or some piece of equipment that maybe somebody borrowed to work on their poultry house. Many of the folks that live in town don't see or feel the impact of the poultry industry.”



Figure 4.1 *Sanderson Farms Processing Plant in Laurel, MS, 2021*

After Ronald described to me the geography of poultry farms in the Pine Belt, he then explained how the feed mills are situated within these industrial poultry complexes.

“Every feed mill is beside a railroad track. And the poultry companies in Mississippi do buy a lot of locally grown corn and soybeans for chicken feed, which are the two main ingredients in chicken feed, and Mississippi grows a lot of both. Poultry companies will often buy fresh corn and soybeans during the summer, late fall, late summer, or early fall. The rest of the year it generally comes from the Midwest by train. So the poultry industry spreads wealth all throughout the state's economy.”

The locations of these poultry farms are intentionally calculated by the contractors to ensure the prompt and safe delivery of chickens to the processing facility. Aerial images of chicken farms surrounding a processing facility illustrate both the scale and isolation of this industry. Processing plants are often located in industrial zones next to a railroad and are often coupled with low-income neighborhoods. Many observations were noted while driving through these communities. Most of the housing in the vicinity of processing plants includes subsidized units and mobile home neighborhoods. Three of the processing plants in the study area were situated next to historically black neighborhoods. These processing plants were found in Forrest County near Downtown Hattiesburg, Jones County near the intersection of Interstate 59 and Highway 11, and Pike County in Summit, MS off of Highway 44 (See Figure 4.2). The three processing plants observed for this study were all found on either dead-end roads or they were tucked away behind an airport with little to no traffic in these areas. Things observed while driving in these communities situated next to the processing plants included a stronger Hispanic influence with many signs written in Spanish and several Hispanic American grocery stores and

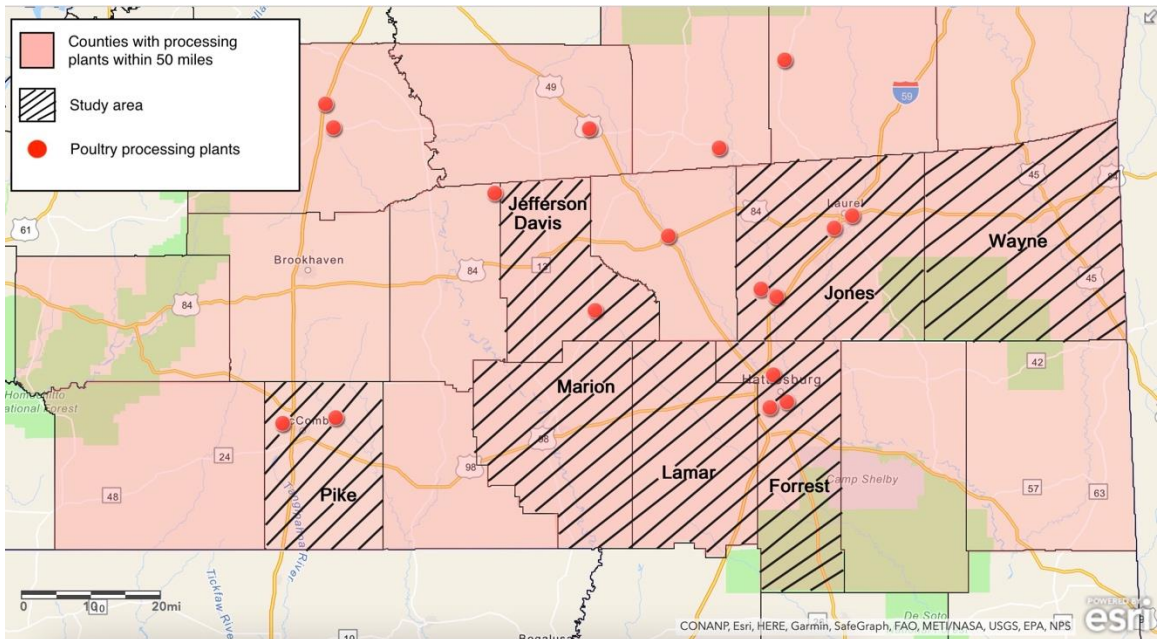


Figure 4.2 Poultry Processing Plants in the Piney Woods Region, 2022

restaurants. Small churches situated conveniently next to dive bars, convenience stores on every other block, and an overwhelming odor consuming the air. At first the odor was indistinguishable but after an interview with a former hatchery employee, a better understanding of the stench was formed. Jorge noted that the smell of the poultry farms and processing facilities were from the chicken litter as well as the chemicals utilized in the production process. When asked about the stench, he commented,

“It's awful. I mean, you, you could smell it, no joke, driving up the long driveway off the main road. It's like 100 to 200 yards away. As soon as you're in line with the fans, that like keep the temperature regulated for the chicken house, I mean, it doesn't matter how far away you are. The fans blow the smell hundreds of yards.”

The impact of these processing plants on neighboring communities is substantial and have left a lasting influence on the real estate and development of these areas. Industrial zones are commonly situated in communities where many are suffering the effects of generational poverty, and it comes with no surprise that poultry processing line positions are some of the riskiest and lowest paying jobs in the poultry industry (See Figure 4.3). Whether by way of convenience or necessity, the poultry industry of the Piney Woods is effectively hidden from the people and culture of its surrounding communities. Nonetheless, the poultry industry remains, churning away behind the gravel roads and sprawling industrial complexes of rural Mississippi.



Figure 4.3 *Sign Displayed at Mar-Jac Poultry Processing Plant in Downtown Hattiesburg, MS, 2022*

4.4 Covid-19 Impacts on the Poultry Industry

During the course of this study, none of the respondents described devastating impacts or losses due to Covid-19; however, the Mississippi poultry business as a whole was most certainly impacted by Covid-19. During the height of the pandemic in 2022, wait times between farmers selling their chickens and receiving a new flock of chicks were extended and processing plants struggled to staff their operations. Since wait times were extended between flocks, many farmers in Mississippi earned dramatically less income in 2020 than in previous years. One of the respondents in this study, a farmer who will be referred to as Pamela, described how the pandemic impacted their family farm financially.

“I know as a farmer during the first year of the Covid-19 pandemic, they picked our birds up a little early and extended our wait times between flocks, but we really did suffer economically paycheck wise. You know, I'd say overall, we lost probably \$30,000 maybe like \$30 to \$40,000.”

With eyes glued to personal devices and the television, many Americans across the country become aware about the struggles of the essential workers of our nation. Many processing plant employees were required to provide their own masks or face shields and were encouraged to come to work or face penalties while the rest of the country sat on their couches and watched from afar. Processing plants were determined to keep moving forward and many processing plants throughout the country had to restructure day-to-day operations in order to continue production (See Figure 4.4). Some of this restructuring included adding plastic dividers on the processing line, temperature

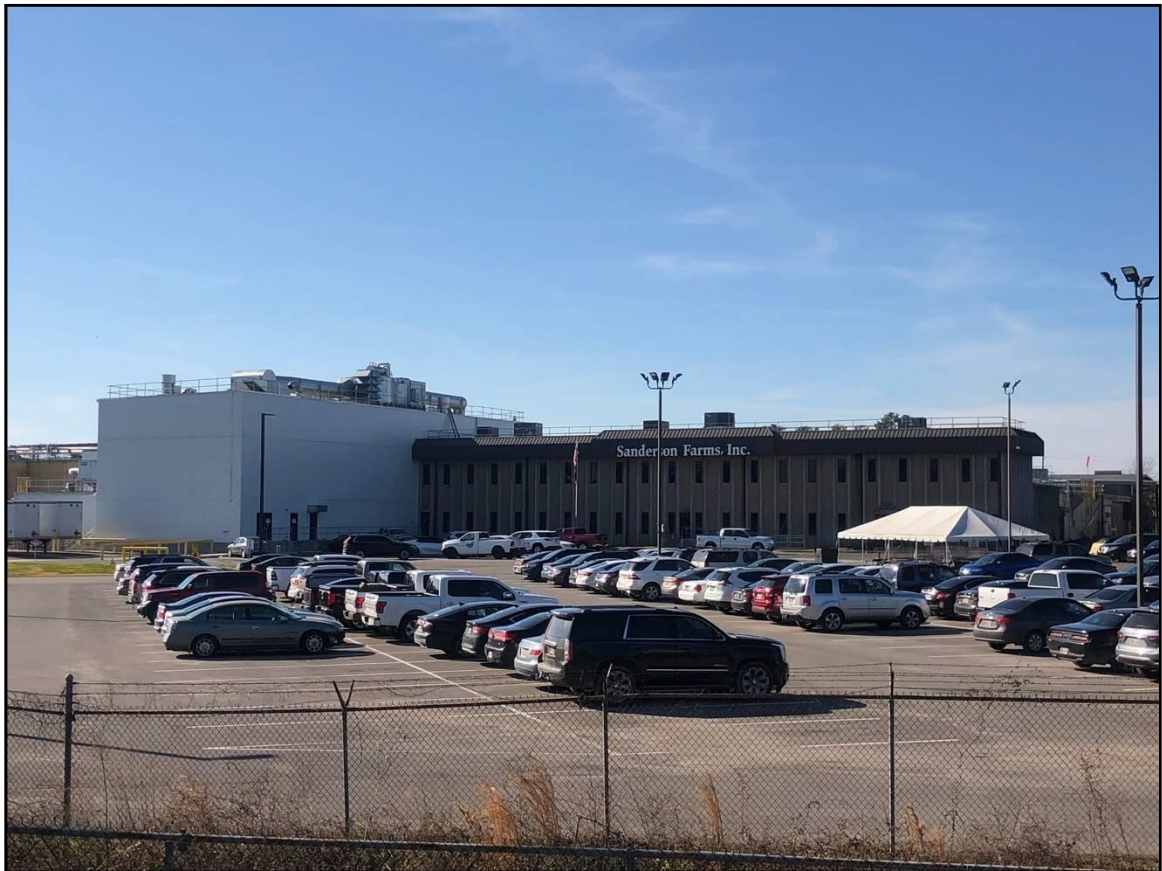


Figure 4.4 Sanderson Farms Processing Plant in Laurel, MS with Covid-19 Checkpoint Outside of Entrance, 2021

checks at the entrance, and breaks transitioning from small indoor break rooms to outside benches under large tents. Ronald, the participant who leads a poultry organization, briefly described these operational changes that were reported to him by affiliates of the organization.

“At the start of the pandemic, the country did not need as many chickens because of the major customer loss from the restaurants closing. Major adjustments had to be made for production, so companies were processing poultry and storing the products in giant freezers to be sold at a later date. Processing plants have gone and they have put up plastic dividers between each worker so that the workers stay separated and they perform all the temperature checks and increased the cleaning that they do and other things to keep Covid-19 cases down at the plants. So far, we have not had a complete shutdown of any plant in Mississippi during this pandemic.”

While discussing the individual impact Covid-19 had on Marcus Goodwin, a poultry farmer, he said “I mean, I personally have not felt the impact of Covid-19 that much because I still have to go to work. I still have to pick up eggs, I still have to, you know, I still have things to do not matter if we’re in a lockdown or not.” A year after conducting the initial interviews for this study, I had the opportunity to reconnect with four of my respondents in the relative aftermath of the Covid-19 pandemic. I had reached out to several of my respondents when learning of the news that Sanderson Farms, the largest poultry corporation in Mississippi, was being sold to Cargill and Continental Grain Company. I wanted to see how or if this transition was affecting their farm operations. Interesting to note for this research, many of the farmers I previously interviewed had already left the poultry business by either selling their farms and transferring their contracts to another farmer, or by fully executing their contracts and switching professions entirely. These participants in particular expressed gratitude and excitement both for leaving the poultry industry and for moving out of the rural

communities in which they had lived. For better or for worse, while the world fell silent behind closed doors and the pandemic raged, poultry farms and processing plants forged ahead through sickness and reduced demand, all but unnoticed by the residents of surrounding communities.

CHAPTER V – CONCLUSION

5.1 Conclusion

This study aimed to investigate the sociocultural impacts of the poultry industry on rural communities in the Piney Woods region of Mississippi, as well as how this industry influences the physical and cultural geography of the rural landscapes in the Piney Woods. This research also sought to examine how the Covid-19 pandemic affected the Mississippi poultry industry at large. The results of this study suggest that the poultry industry greatly influences rural development and impacts the residents of the Piney Woods in many ways, both negative and positive. With few notable exceptions for larger cities like Hattiesburg (Forrest County) and Laurel (Jones County), Piney Woods communities that host poultry industry infrastructure are largely dependent on this industry for employment opportunities and economic growth. On the coattails of the poultry industry also comes a host of logistics, infrastructure, and support businesses that also depend upon the continued vitality and growth of the poultry industry, providing additional jobs for areas where alternative industries and opportunities are few.

As previously discussed in Chapter II, modern poultry production jobs are intentionally de-skilled to be interchangeable and generally accessible without special training, making them widely attainable for residents of rural communities who lack a college education or even high school diplomas. These jobs are consistent and typically in high demand, potentially constituting the sole source of income for entire communities in rural areas of Mississippi, including those with sizable Hispanic immigrant populations. The various logistics, peripheral infrastructure, and support ventures that often accompany poultry production also provide many accessible (albeit, low income)

jobs for both skilled and unskilled workers in physical labor, trucking, packing, mechanical and electrical engineering, air conditioning services, construction, lighting, veterinary services, craft services, and many other areas. Many immigrants settling in Mississippi, both documented and undocumented, find a new start in America through the poultry industry. From a certain point of view, the poultry industry is a cornerstone for many rural Piney Woods communities, providing the primary source of meaningful income and access to a higher standard of living for generationally poverty-stricken areas. In addition to its socioeconomic contributions at the individual, local, and state-wide level, the vertically integrated Mississippi poultry industry has also generated millions of tons of affordable protein for hundreds of millions of people around the United States and the world, has produced a staple food commodity for both rich and poor across national and cultural boundaries. If the poultry industry disappeared from the Piney Woods, it is difficult to imagine which industries would or could replace it in Mississippi's economy.

While there are undoubtedly some positive effects of the poultry industry on the Piney Woods, the results of this study suggest negative impacts outweigh the positive for many of those who are directly tied to it. As explained in Chapter IV, the poultry industry provides direct and indirect employment to low-income, rural areas of Mississippi, the compartmentalized nature and competitive business practices of this industry also contribute to maintaining the relative isolation and impoverishment of the communities it inhabits. For example, whereas poultry farming was once a multi-generational profession, modern poultry farmers are predominantly first-generation novices with little or no farming experience. One consequence of this trend is that a high

percentage of these novice farmers sell out and leave the profession either during or immediately after completion of their first contract. This facilitates a general lack of community, communication, industry knowledge, and capacity for wealth-building across the poultry farming sector. To make matters worse, many farmers and their spouses must work multiple jobs to make ends meet. This unfortunate reality drives down labor rates in a domino effect to the bottom of socioeconomic spectrum. The information gathered for this study indicates a high percentage of Mississippi poultry farmers are overworked, overstressed, disconnected, and underpaid, carrying undue burdens of risk, debt, and liability for too little reward. This problem is catalyzed by the industry's strict contractual and cultural compartmentalization, effectively separating producers, processors, distributors, and consumers in such regimented fashion that any one category may never meaningfully communicate with the others. The Covid-19 pandemic only exacerbated this issue by further veiling and isolating each compartment of the industry, helping ensure production would continue at whatever cost.

While it is not the purpose of this research to suggest all poultry corporations are inherently nefarious, there are undoubtedly companies that intentionally seek to develop the dependency of rural communities on their industry, trapping these communities in an unending cycle of poverty by burdening farmers with astronomical levels of debt and paying processing plant workers abysmally low wages. For example, on Monday July 25, 2022, nearly two years after this research first began, the United States Justice Department filed a lawsuit against data consulting firm Webber, Meng, Sahl & Co. (WMS), as well as Cargill, Sanderson Farms, and Wayne Farms concerning a conspiracy in which information about the wages and benefits of processing plant employees were

exchanged amongst competitors to artificially drive down compensation for employees – a direct violation of the Sherman Act (USDJ, 2022). The Sherman Antitrust Act is a piece of legislation signed into law by the United States Congress in 1890 designed to prevent companies from establishing monopolies in certain markets, promote economic fairness, and prevent businesses from colluding with one another to eliminate market competition and gain market power (Sherman Act, 1890). The Justice Department lawsuit also states that the above companies, all of which have major operations in Mississippi, have violated the Packers and Stockyards Act by encouraging the “tournament system,” which effectively pitches farmers against each other in a competition to receive higher compensation. The Packers and Stockyards Act was enacted in 1921 with the intention of providing protection for those working in the livestock, meat, and poultry industries from being taken advantage of by businesses that engage in unethical pricing manipulation and the promotion of unfair business practices (Packers and Stockyard Act, 1921). With one notable exception, the farmers I interviewed expressed frustration about this potentially illegal tournament system, expressing how it allowed for a single “winner” in any given region, driving up revenue for a single producer and driving down revenue for everyone else. The single farmer who expressed a positive opinion of the tournament system just so happened to be considered the best producer in their county, and therefore exclusively benefited from the system. Nonetheless, a system built on a single benefactor cannot remain sustainable in the long term, especially when generating billions of dollars in gross sales each year.

In conclusion, my hope is that this study provides an initial bases for further investigation, a starting line from which future researchers might expand our

understanding of the poultry industry and its physical, social, and economic impacts on the rural communities that support it. These often-invisible farmers, processing plant workers, and support infrastructure personnel provide an incalculable value to hundreds of millions of Americans who rely on easy access to chicken protein for their everyday lives. Poultry industry farmers and factory workers deserve a voice, regardless of how rural their location or their level of education. As shown in this study, there is not only a general lack of understanding and awareness on the part of the general public toward poultry farmers and factory workers, but there is also a general lack of communication and awareness amongst poultry farmers and processing plant workers themselves. Whether intentional or unintentional, the regimented compartmentalization of the poultry supply chain and strict enforcement of anti-transparency business practices by large corporations unquestionably facilitates isolationism amongst the various factions of the poultry supply chain. The end result is an industry that is hidden not only from the outside world, but also from its own workers. While this study sheds some light on the effects of the poultry industry on the Piney Woods of Mississippi, my hope is this research will assist others in their own exploration of this important under-researched area.

APPENDIX A – Interview Questions

Interview Questions for Current Employees

1. What is your professional title and what branch of operations do you work in?
2. What company do you work for and where is it located?
3. Describe to me what a typical workday at your job looks like.
4. Where is your residence located in proximity to your workplace?
5. Why do you choose to live in this location?
6. Did you move to accept this position?
7. If yes, where did you move from?
8. Is this your first time working in the poultry industry?
9. If yes, what encouraged you to apply for the position?
10. If no, what other jobs have you held in this industry?
11. If the interviewee is a seasoned employee: Have you transferred positions within the company, or have you ever received a promotion?
12. Did you work for another company?
13. If yes, where was its location?
14. If yes, why did you leave this position with the company?
15. Are you part of a union or alliance?
16. If yes, which union or alliance are you a part of?
17. If no, would you consider joining a union or alliance?
18. Do you hold a part-time job?
19. Are you the head of your household?
20. Does anyone live with you?
21. If married, does your partner work in the poultry industry as well?
22. How many people do you know that are employed in the poultry industry in your community?
23. How do you think the poultry industry benefits your community?
24. Does the company you work for sponsor any local events?
25. Has the company ever provided you or someone in your family with financial assistance or education opportunities?
26. Now I would like to ask you a few basic demographic questions.
 - a. What is your age?
 - b. What is the highest degree or level of school you have completed?
 - c. What is your household income?
 - d. How many children do you have?
 - e. Are you registered to vote?
 - f. How would you describe your political views?
27. Do you have any final thoughts or comments on your job or the poultry industry in Mississippi?
28. Who should I speak with next?

Interview Questions for Farmers

1. What is your professional title and the name of your business?
2. Tell me a little bit about how you got into this business.
3. Can you describe your current operation?
4. Are you in a contractual agreement with a local producer?
5. If yes, who? If no, where do you sell your commodity?
6. How many employees do you manage?
7. Are your employees members of your community?
8. Do you have any family members that help with business operations?
9. If yes, can you list their professional titles?
10. What led you to this line of work? Family business history? Financial opportunities?
11. What does the contractor/company provide you with? Vet tech services? Feed? Technology? Chicks?
12. What do you provide on your farm? Buildings? Water? Employment?
13. Are you looking to expand your establishment?
14. If so, what additions do you seek to make?
15. If planning on downsizing, why?
16. What are some of the best parts of being a poultry farmer?
17. What are some downsides to being a poultry farmer?
18. How many other poultry farmers do you know in your community?
19. Are you aware if they all work for the same contractor/company?
20. Do you hold a part-time job?
21. If yes, what position and what line of work?
22. If yes, why did you decide to get a part-time job?
23. If married: Does your spouse hold a job outside of the farm?
24. What are the benefits of having a farm or working in the poultry industry?
25. If in a production contract, what do you believe are the benefits of being in a contractual agreement?
26. How many people do you know that are employed in the poultry industry in your community?
27. Does the company you work for sponsor events in your community?
28. How would you feel if you had a child who wanted to get into this business? What response or advice would you give them?
29. Do you, or are you able to, sponsor events and members of your community?
30. If so, what kind of sponsorships?
31. Now I would like to ask you a few basic demographic questions.
 - a. What is your age?
 - b. What is the highest degree or level of school you have completed?
 - c. What is your household income?
 - d. How many children do you have?
 - e. Are you registered to vote?
32. How would you describe your political views?
33. Who should I speak with next?

Interview Questions for Former Employees

1. Which company did you work for and what branch of operations did you work in?
2. What was your professional title when working for this company?
3. Describe to me what a typical workday at this job looked like.
4. Do you still work in this industry or for the same company?
5. Are you currently employed? If so, what is your current occupation?
6. If retired, what year did you retire?
7. If retired, why did you choose to retire?
8. Where did you live while holding this position?
9. Why did you choose that location?
10. How long did you work in this position?
11. Did you ever transfer or receive a promotion?
12. If so, where was your transfer/to what position did you get promoted to?
13. Were you part of a union or alliance while working in this position?
14. Were there opportunities for further skill development?
15. Did you hold a part-time job during this position?
16. What do you believe are the benefits for those who would be interested in having that position or working in the poultry industry?
17. How many people do you know that are employed in the poultry industry in your community?
18. How do you think the poultry business affects your community and local economy?
19. While employed with (refer to company name here) did they sponsor events or businesses in your community?
20. If yes, what kind of events? What businesses?
21. Now I would like to ask you a few basic demographic questions.
 - a. What is your age?
 - b. What is the highest degree or level of school you have completed?
 - c. What is your household income?
 - d. How many children do you have?
 - e. Are you registered to vote?
 - f. How would you describe your political views?
22. Do you have any final thoughts or comments on the poultry industry in Mississippi?
23. Who should I speak with next?

APPENDIX B – IRB Approval Letter

Office of
Research Integrity



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Modification Institutional Review Board Approval

The University of Southern Mississippi's Office of Research Integrity has received the notice of your modification for your submission Impacts of the Poultry Industry in Mississippi (IRB #: IRB-20-467).

Your modification has been reviewed by The University of Southern Mississippi Institutional Review Board in accordance with Federal Drug Administration regulations (21 CFR 26, 111), Department of Health and Human Services regulations (45 CFR Part 46), and University Policy to ensure:

- The risks to subjects are minimized and reasonable in relation to the anticipated benefits.
- The selection of subjects is equitable.
- Informed consent is adequate and appropriately documented.
- Where appropriate, the research plan makes adequate provisions for monitoring the data collected to ensure the safety of the subjects.
- Where appropriate, there are adequate provisions to protect the privacy of subjects and to maintain the confidentiality of all data.
- Appropriate additional safeguards have been included to protect vulnerable subjects.
- Any unanticipated, serious, or continuing problems encountered involving risks to subjects must be reported immediately. Problems should be reported to ORI via the Incident template on Cayuse IRB.
- The period of approval is twelve months. An application for renewal must be submitted for projects exceeding twelve months.

PROTOCOL NUMBER: IRB-20-467

PROJECT TITLE: Impacts of the Poultry Industry in Mississippi

SCHOOL/PROGRAM: Geography & Geology

RESEARCHER(S): Sara Watts ,David Cochran

IRB COMMITTEE ACTION: Approved

7. Research on individual or group characteristics or behavior (including, but not limited to, research on perception, cognition, motivation, identity, language, communication, cultural beliefs or practices, and social behavior) or research employing survey, interview, oral history, focus group, program evaluation, human factors evaluation, or quality assurance methodologies.

PERIOD OF APPROVAL: July 19, 2021

Donald Baccofe

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